



The way to a low CO₂ future. Smarten up!

Climate Change, Greenhouse Gases and Global Warming

Climate Change. The global increase in average temperatures. There has been a measurable increase in average temperatures of 0.7°C in the last 100 years and there is a strong link to this rise and increased catastrophic weather events such as droughts, bushfires, storms and floods.

The Greenhouse Effect. The sun warms the earth and that heat energy in turn is re-radiated outwards. Gases in the earth's atmosphere trap some of the heat and make the earth habitable.

Greenhouse Gases (GHGs). Human activity is increasing the levels of methane, oxides of nitrogen, water vapour and particularly carbon dioxide, exacerbating or "enhancing" the natural Greenhouse Effect and raising temperatures. This is called **Global Warming**.

Concentrations of GHGs. Parts per million (ppm) is a measure of the atmospheric concentration of GHGs. Scientists use this critical measure to predict climate change and its likely impact. The most recent scientific reports indicate that to maintain a safe climate, as we have experienced over the last thousand years, levels need to remain in the 300-350ppm range. Levels are currently over 380ppm, and climbing. Urgent action is needed to reduce the concentration of GHGs.

Energy and Global Warming

Australian homes use more fossil fuel than any other energy resource. In Victoria, this includes brown coal for electricity, oil for transport and natural gas for heating and cooking.

These fuels emit Greenhouse Gases when they are burned, which contributes to Global Warming. The oceans and atmosphere have warmed by about 0.7°C over the last century. On average, Australian temperatures have risen by 1.0°C, a faster rate than

scientists would have expected through natural causes alone.

The world's climate scientists have come to a broad consensus: human activities are changing the global atmosphere, causing Climate Change. The projections are that such changes could lead to a drastic and irreversible transformation of the world's climate.

The time for waiting for governments to act has passed. We can all do our bit.

References

Websites:

- www.climatechange.gov.au/climate-change/science.aspx
- For MASG activities and resources, go to www.masg.org.au

Books:

- *We are the Weather Makers* – Dr Tim Flannery. Text Publishing, 2005.
- *Climate Code Red. The case for emergency action* – David Spratt & Phillip Sutton. Scribe, 2008.
- *Climate Action, A campaign manual for greenhouse solutions* – Mark Diesendorf. UNSW press, 2009.
- *The CSIRO Home Energy Saving Handbook* – Wright, J, Osman, P, Ashworth, P. Pan Macmillan, 2009.

Film documentaries.

- *An inconvenient Truth* – Al Gore. 2006. (Available on DVD)

Locally

Join MASG, a great source of information, activities, festivals and activism, and a strong community group of over 1000 members working on these problems.