

Support material #2:

Sustainability starts at home

The production and use of energy has environmental impacts, the most significant being greenhouse gas emissions.

Climate change and energy

In the beginning greenhouse gases such as carbon dioxide and methane absorbed the sun's warmth, making life on Earth possible. As more greenhouse gases are released into the atmosphere, global warming and climate change continue.

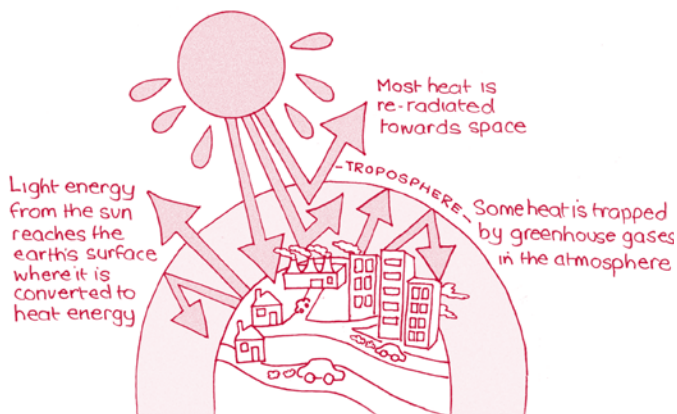
Over the past two centuries, increased industrialisation and energy consumption have led to significantly higher levels of greenhouse gases being released into the atmosphere.

The average temperature of the Earth rose by 0.6°C during the twentieth century and sea levels rose by 10–20 centimetres. It is now widely recognised that human action, particularly the burning of fossil fuels (coal, oil and natural gas) and land clearing, are increasing the concentrations of greenhouse gases and creating the prospect of faster global climate change. This is known as the enhanced greenhouse effect.

It is hard to predict precisely what the impacts of continued global warming will be and where they will occur because the global climate is a complicated system. But most scientists have concluded that the Earth's surface temperature could increase by up to 6°C within 100 years. Global warming will have an impact on the distribution of plants and animals, the frequency of storms and floods and the spread of weeds, pests and diseases.

Some effects of global warming are already apparent in the rapid melting of glaciers and Arctic Sea ice and the declining health of coral reefs.

Can you think of any other effects that are being experienced in your area (e.g. to the environment, flora and fauna species, weather patterns, different industries)?



The greenhouse effect as illustrated above keeps the Earth's temperature at a level necessary to support life.

Per person, Australia produces more greenhouse emissions than any other nation in the developed world.

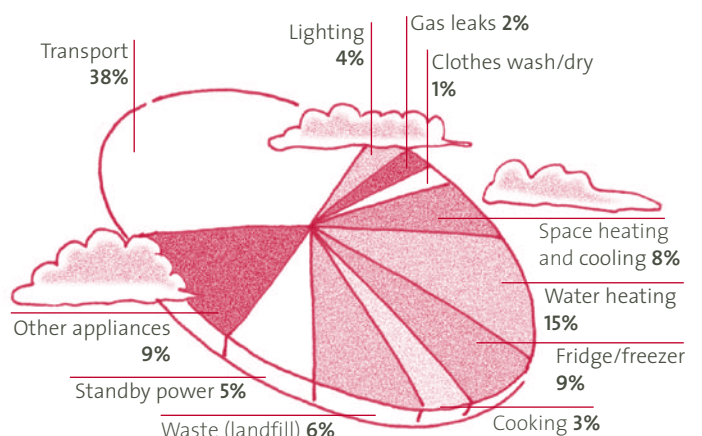
In 2003, Australia's total greenhouse gas emissions were 550.0 million tonnes of carbon dioxide, to which the energy sector contributed 68 per cent. Of this, 73 per cent was the result of burning fossil fuels to provide electricity and heating (Australian Greenhouse Office, Department of the Environment and Heritage, National Greenhouse Gas Inventory, 2003). Energy used in households accounts for almost one-fifth of Australia's greenhouse gases - more than 15 tonnes per household each year - through everyday activities such as transport, heating, air conditioning and household appliances.

Every person can help reduce greenhouse gas emissions simply by using energy more efficiently, especially energy provided by the burning of fossil fuels.

Through simple behavioural changes we have the ability to reduce our energy consumption, decrease our bills and protect the environment by decreasing greenhouse gas emissions.

If many households save energy, together they will have a big impact on the environment. We can also help by using renewable energy sources that are less harmful to our environment, such as solar and wind-generated energy sources.

Where our household greenhouse gas emissions come from



Source: www.ata.org.au