

## Atmosphere – air quality

### What are we monitoring?

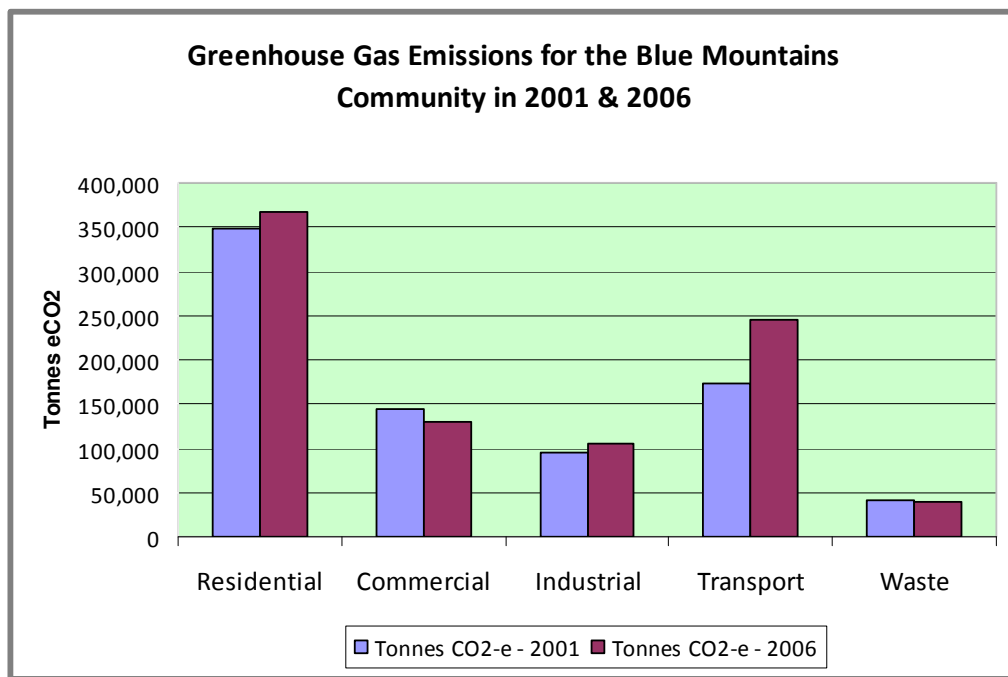
***The estimated amount of greenhouse gas emissions created through energy consumption by the Blue Mountains Community***

### What is the trend?

Community sector Greenhouse gas emissions increased by 10.66% between 2001 and 2006. 800,374 tonnes CO<sub>2</sub><sup>e</sup> were emitted in 2001. 885,685 tonnes CO<sub>2</sub><sup>e</sup> were emitted in 2006. Energy related greenhouse gas emissions increased in the residential, industrial and transport areas. They decreased in the Commercial and Waste sectors. The Residential sector emitted the greatest amount of greenhouse gas emissions. This arose from household consumption of electricity, natural gas and LPG. The greatest increase in greenhouse gas emissions was from the Transport Sector, which increased emissions by 42.25%. Emissions were reduced in the Commercial sector by 9.51% and in the Waste sector by 6.10%.

Atmospheric gases that have an ability to absorb solar radiation (sunlight) and warm the atmosphere around them are referred to as greenhouse gases. The four most common greenhouse gases are CO<sub>2</sub>, N<sub>2</sub>O, CFC-12 and methane. CO<sub>2</sub> has a nominal global warming potential of one and as such is used as an index for other greenhouse gases, hence the measure 'CO<sub>2</sub>-equivalent'. The amount of greenhouse gas emitted is expressed in tonnes of "carbon dioxide equivalents" (tonnes of CO<sub>2</sub>-eq).

Greenhouse gas emissions in the residential, commercial, industrial and transportation sectors are based on estimates of the municipality's energy use provided by ICLEI Oceania. These estimates are calculated by allocating a portion of the state total energy use to the municipality based on its share of the state residential population or state employees in a particular sector. Estimates are derived from the most recent energy use, vehicle use, population and employment data from the Australian Bureau of Agricultural and Resource Economics (ABARE) and the Australian Bureau of Statistics (ABS).



<b>CO<sub>2</sub> EMISSIONS BY SECTOR</b>			
<b>Sector</b>	<b>Tonnes CO<sub>2</sub>-e 2001</b>	<b>Tonnes CO<sub>2</sub>-e 2006</b>	<b>% change in CO<sub>2</sub>-e 2001 - 2006</b>
<b>Residential</b>	348,232	366,541	5.26%
<b>Commercial</b>	143,398	129,768	-9.51%
<b>Industrial</b>	94,650	104,612	10.53%
<b>Transport</b>	173,182	246,347	42.25%
<b>Waste</b>	40,912	38,417	-6.10%
<b>Total</b>	<b>800,374</b>	<b>885,685</b>	<b>10.66%</b>

### **Why is monitoring this trend important?**

The concentration of greenhouse gases (that produce the greenhouse effect) in the atmosphere has increased significantly since the Industrial Revolution and the Intergovernmental Panel on Climate Change (IPCC), 2007, reports the link between human activity and global warming is almost certain. By monitoring the levels of CO<sub>2</sub>-eq emissions produced within our LGA, we are able to formulate plans and actions to reduce our emissions further. Monitoring these levels allows us to see how effective our efforts have been.

**Source:** City-wide Audit of Energy, Blue Mountains City Council 2006, Working Group III contribution to the Intergovernmental Panel on Climate Change Fourth Assessment Report Climate Change 2007: Mitigation of Climate Change, Blue Mountains City Council Milestones 5 Progress Report, May 2007: Omega Consulting & Blue Mountains City Council, Cities for Climate Protection Australia: ICLEI – Local Governments for Sustainability Oceania, 2009, [www.iclei.org/oceania](http://www.iclei.org/oceania)