

Residential and commercial energy use

Residential energy use and greenhouse emissions

In the residential sector, ambient heating and cooling account for 58% of energy consumed and 26% of greenhouse gas emissions. Housing design can significantly reduce demand for heating and cooling.

1 Breakdown of energy use in the home Melbourne, 1998-99



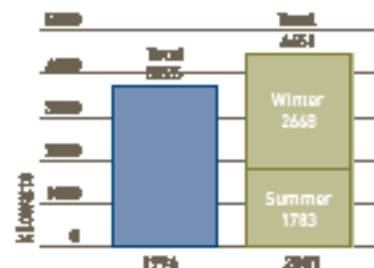
2 Percentage contribution of residential energy use to greenhouse gases Victoria, 1998-99



Increasing residential energy use

The 2001 Household Utility Consumption Survey showed Melbourne's average household annual electricity consumption increased by 19.4% between 1996 and 2001. The average annual household electricity bill increased from \$437 in 1996 to \$654 in 2001 and up to \$1,000 in 2005.

3 Average annual household electricity consumption Melbourne, 1996 and 2001



Uptake of solar alternatives

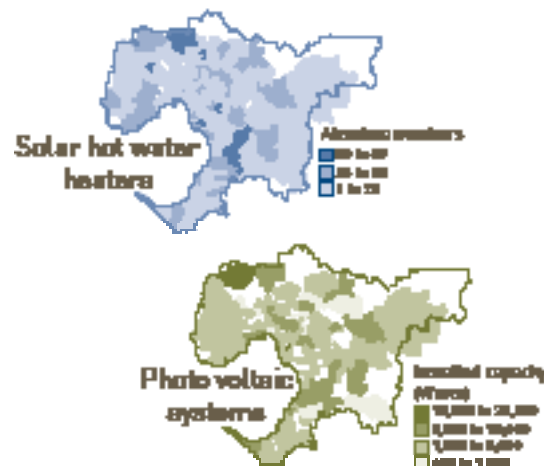
The Victorian Government provides rebates for solar hot water heaters that replace conventional systems and for the installation of photo voltaic systems (often known as solar panels).

1,328 solar photo voltaic cells installed on the roof of the Queen Victoria Market saved an amount of electricity equivalent to the average annual energy use of 46 average homes in 2003-04. Solar water heaters can reduce up to 75% of household energy consumption.

The number of rebates for the installation of photo voltaic systems has been greater than for solar hot water heaters. However, as the map shows, uptake of solar hot water heaters is more widely dispersed across Melbourne.

Areas to the outer south east, north and west show somewhat higher concentrations of solar hot water installations, possibly reflecting new building activity and the opportunity to use solar hot water in new and renovated homes.

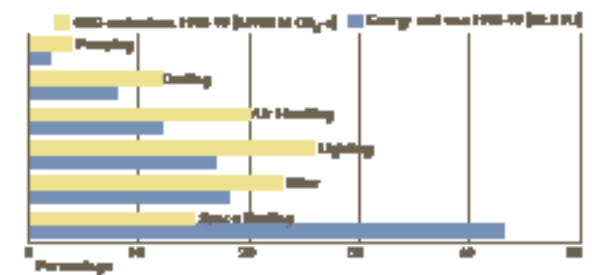
4 Uptake of rebates Postcodes, 2000-2004



Commercial energy use and greenhouse emissions

Within the commercial sector heating, ventilation and air-conditioning are the main sources of energy consumption. Combined, they make up 63% of total energy consumption and are significant contributors to greenhouse gas emissions.

5 Energy consumption in the commercial sector Australia, 1998-99



Greenhouse gas emissions from electricity

Ecological footprint analysis of Melbourne's greenhouse gas emissions from electricity shows a higher ecological footprint in the central and inner regions. While higher in the west than the east, the difference across Melbourne is quite small, with emissions ranging between 2.35-3.25% of the total.

6 Ecological footprint impact of greenhouse gas emissions from electricity use Melbourne Statistical Sub-divisions, 1998-99



Sources: 1-2,5 George Wilkenfeld & Associates, 2002, *Australia's Greenhouse Gas Emissions 1990, 1995 & 1999 End Use Allocation of Emissions*, www.seav.sustainability.vic.gov.au; 3 Roy Morgan Research, 2002, *Victorian Utility Consumption Survey 2001 Final Report*, prepared for Department of Human Services (DHS); 4 SEAV, 2005, energy rebate maps; 6 Lenzen, M., 2004, *The 1998-99 Ecological Footprint of the population within the Port Phillip and Westernport Catchment* Sydney University