



# ACT STATE OF THE ENVIRONMENT REPORT 2011

## HEADLINE INDICATORS

### Introduction

The impact that Canberra has on both local and global natural environment is continuing to increase. This section looks at the key indicators of the city's impact on the environment.

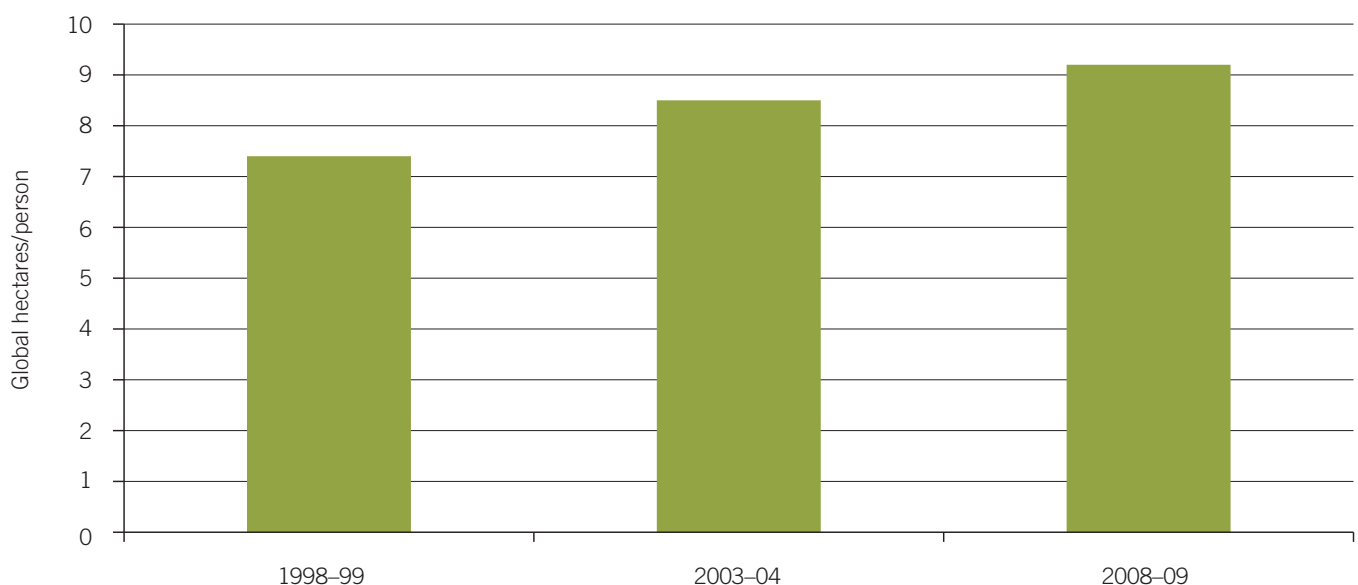
Canberra is a very liveable city. However, as a largely urban population with high levels of consumptions of goods and services, we are increasing the impact on the natural environment globally and locally.

### Ecological Footprint

An ecological footprint is a calculation of the area of land and water required to support our use of resources and our disposal of wastes (expressed in 'global hectares'). This measure only accounts for the land needed to support the human population and not other species. In 2008–09 the size of the average ACT resident's ecological footprint was 9.2 global hectares. This has increased by 8% in 5 years and nearly 25% in 10 years.

Our 2008–09 ecological footprint was 13% above the Australian average and nearly 3.5 times the global average. If everyone in the world lived in the same way as the average person in the ACT, we would need 5 Earths to give us enough land (and surface water) to provide our resources and absorb our wastes. Associated with this over-consumption is increasing waste generation and greenhouse gas emissions.

**Figure 1. ACT Ecological Footprint**



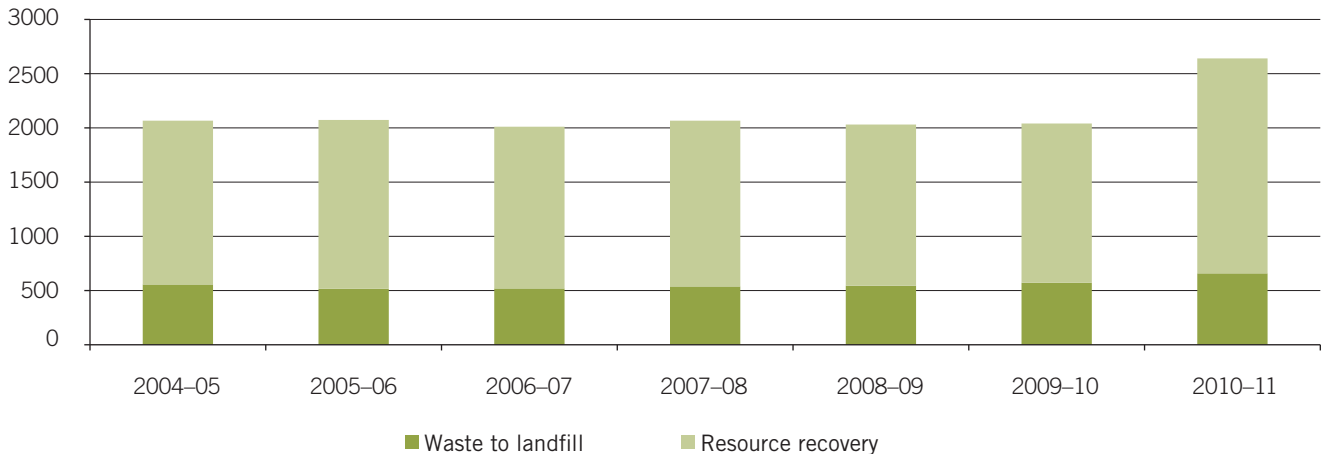
Source: C Dey 2010



## Waste

Total waste generation has increased by about 35% since the last reporting period. While we continue to recycle over 70% of our waste, we also continue to increase the amount of waste sent to landfill. Waste generation per person has increased by 28% since the previous reporting period, while population has increased by only 5.5%. This has implications for the environment through potential contamination of environmental assets and land used for landfill.

**Figure 2. Waste generation per person (ACT and Queanbeyan)**



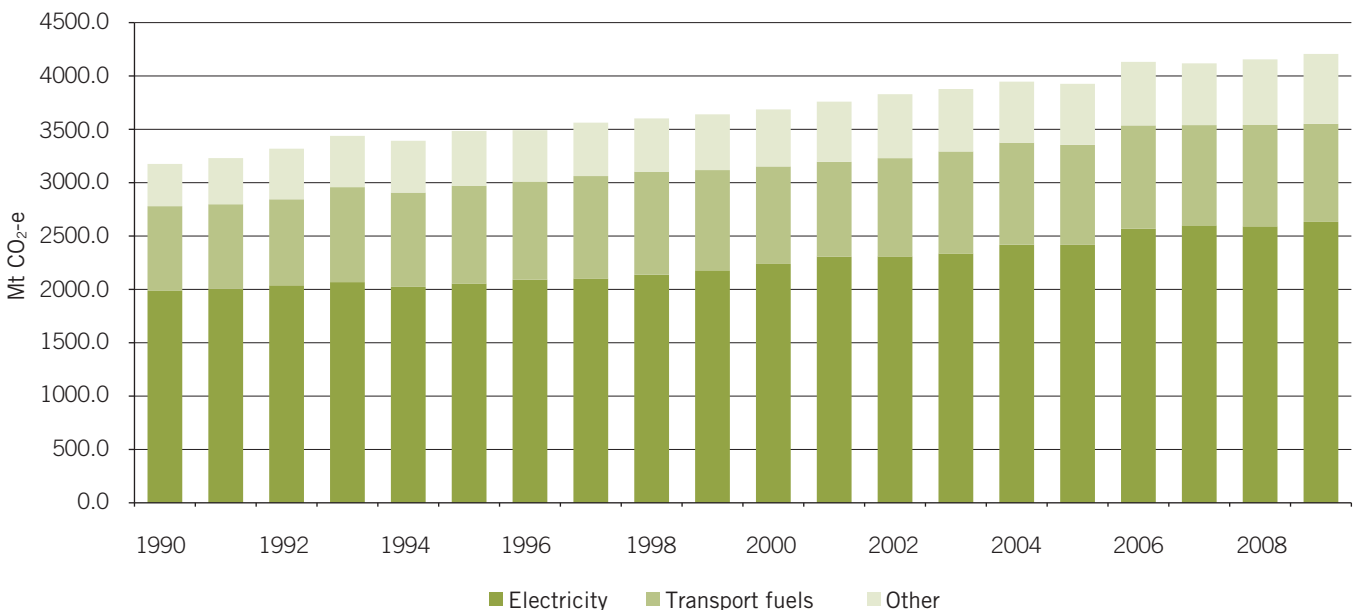
Source: TAMS

## Greenhouse gas emissions

Globally, both anthropogenic emissions and atmospheric concentrations of greenhouse gases continue to increase. This increase has been reflected in the ACT with emissions rising by 7% between 2005 and 2009. Our lifestyles that demand a considerable use of resources are driving the increase of these emissions.

Electricity produced by burning fossil fuels remains the largest contributor to our greenhouse gas emissions, followed by natural gas and transport fuels. It is thus clear that efforts to reduce emissions need to focus on these sectors.

**Figure 3. ACT Greenhouse gas emissions**



Source: ICRC 2011



## Physical Climate Effects

Having a relatively stable and predictable climate is important for many reasons including human wellbeing, the health of ecosystems, maintenance of water resources, conservation of biodiversity, and for food security. During the reporting period, the weather in the ACT was generally warmer than the long-term average (1961–1990), with drier conditions in 2008 and 2009 and wetter conditions for 2010. During the reporting period, the ACT region recorded below average rainfall for 7 of the last 10 years (2001–2010). Long-term trends indicate that temperatures have been increasing with more marked increases over the past 10 years, in line with overall trends for Australia (Davis and Lindesay 2011). These results tend to reflect the impacts of El Niño Southern Oscillation events. While climate variability has been evident over the reporting period, longer-term trends are consistent with the climate change predictions of hotter and drier conditions with more extreme climate events.

**Table 1: Changes in ACT weather phenomena**

Year	1961–1990 Average	2008–2010 Average
Days 35°C or more	5	11
Days 30°C or more	30	43
No. Frosts	99	65
No. Thunderstorms	23	20
No. Fogs	44	39
No. Strong Wind Days	26	24
No. Rain Days	105	101
Mean Daily Pressure (isobars)	1016.7	1017.4

Source: Davis and Lindesay 2011

## Land and Water

Weather events and urban pressures impact the health of our natural environment. Recovery from fire and drought and a number of catchment management projects are likely to have contributed to overall improved land health in ACT over the reporting period. However comprehensive data on land health are not available. Generally, water flowing out of the ACT at Halls Crossing is of no less quality than that flowing into the Territory at Angle Crossing. Changes in geology, urban run-off and return of treated sewerage are impacting on a number of water quality indicators (pH, conductivity, total nitrogen and chlorophyll 'a').

## Biodiversity

The area of land zoned for urban use in the ACT increased by about 9% during the reporting period (ACTPLA). This has grown at the expense of areas of native and modified vegetation. Three new nature reserves were added to Canberra Nature Park conservation reserves during the reporting period, namely, Callum Brae, Jerrabomberra West and Kama. In addition approximately 80 hectares have been added to the existing reserves. However, in 2010, 17 species and 2 communities were listed as endangered and 15 as vulnerable under the *Nature Conservation Act 1980* (ACT). During the reporting period 3 new species (the Little Eagle, Glossy Black-Cockatoo and Pink-Tailed Worm Lizard) were listed as vulnerable.



## References

Davis, C. and Lindsay, J. 2011. *Weather and Climate of the ACT 2007–11 and decadal trends*. Office of the Commissioner for Sustainability and the Environment. Canberra

Dey, C. 2010. *The 2008–09 Ecological Footprint of the Population of the ACT*. Sydney.  
[http://envcomm.act.gov.au/\\_data/assets/pdf\\_file/0015/211182/ACT\\_Ecological\\_Footprint\\_08-09\\_final\\_report.pdf](http://envcomm.act.gov.au/_data/assets/pdf_file/0015/211182/ACT_Ecological_Footprint_08-09_final_report.pdf)  
(accessed 17/11/11)

ICRC 2011. *ACT Greenhouse Gas Inventory Report for 2008–09*. Independent Competition and Regulatory Commission. Canberra. [http://www.icrc.act.gov.au/\\_\\_data/assets/pdf\\_file/0009/235719/ACT\\_Greenhouse\\_Gas\\_Inventory\\_Report\\_2009\\_Final.pdf](http://www.icrc.act.gov.au/__data/assets/pdf_file/0009/235719/ACT_Greenhouse_Gas_Inventory_Report_2009_Final.pdf) (accessed 11/10/11)

## Other data sources

In addition to these published reports, data for this paper were also sourced from:

ACTPLA. ACT Planning and Land Authority (now Environment and Sustainable Development Directorate, ESDD)

Department of Territory and Municipal Services (now Territory and Municipal Services Directorate, TAMSD)

Environment Protection Authority, ACT Department of Environment, Climate Change, Energy and Water, DECCEW – now Environment and Sustainable Development Directorate (ESDD).