

# ACT State of the Environment Report 2011

## THEME: People

### Indicator cluster: Community engagement

The indicators for this cluster are:

- *Community environmental awareness and education (C)* - includes level of community environmental awareness;
- *Community environmental participation (C)* - includes level and extent of community participation in environmental initiatives;
- *Environmental activities and events (C)* – includes number and type of environmental activities and events; and
- *Environmental education programs (R)* - includes effectiveness of environmental and sustainability education programs.

### Summary

The ACT community demonstrates a level of concern and involvement in environmental and sustainability initiatives which is above the Australian average.

Many residents are actively involved in community groups and events to protect the environment and enhance sustainability in the ACT. Government programs exist to educate the ACT community and support action to reduce environmental impacts in the home, in businesses and schools, and by increasing the use of sustainable transport options.

ACT residents continue to participate actively in forums initiated by government or by other bodies, and to voice their opinions about environmental protection and sustainability. Many are taking action to reduce their water and energy use and recycle their waste. Educational institutions and businesses are also increasingly engaged in recycling, finding innovative ways to reduce waste and improve energy efficiency.

However, gaps remain between Canberrans' levels of awareness and their actual practical action, especially where there is no economic incentive for change. Current and emerging challenges for the ACT include the need to make more use of sustainable transport options and to reduce the environmental impacts of the Territory's high levels of consumption. A strategic approach that builds on the ACT community's existing capacity and commitment should be able to extend the considerable achievements made to date.

**Condition indicators (C)** present data that tell us the state of the environment at any particular time.

**Pressure indicators (P)** present data about the main human activities that could potentially adversely affect the condition of the environment.

**Impact indicators (I)** present data on the effect that environmental changes have on environmental or human health.

**Response indicators (R)** present data about the main things we are doing to alleviate pressures, or to improve the condition of the environment.

# ACT State of the Environment Report 2011

## Introduction

A community that is aware of, and engaged with, environmental issues is likely to be taking action towards sustainability in individual households and businesses. Moreover, members of an engaged and active community can provide leadership on environmental issues to governments and others in the community. The attitudes and actions of individuals are an important factor in their impact on the environment (as individuals or as household members) because individual choices affect the community's overall consumption, waste generation, urban development and other indicators of sustainability. This indicator cluster examines community awareness of, and education about, initiatives to promote sustainability in the ACT, and the levels of participation.

Most of the available information relates to studies from 2006-07. For 2007-2011, few data are available on existing sustainability education and awareness programs, and with only a few published evaluations it is difficult to assess the programs' effectiveness. Observations below are based on the data available, and are only an indication of attitudes and actions relating to the current reporting period.

## Condition indicators

### Community environmental awareness and education

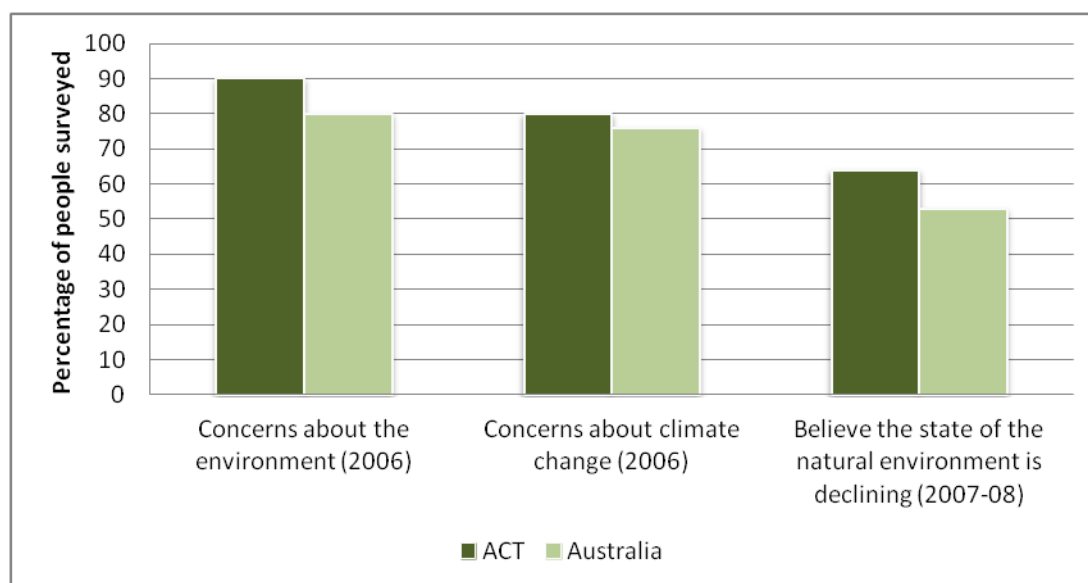
The difficulty in assessing the links between education, awareness and actual behaviour change is well documented. For this reason, efforts people make to reduce environmental impacts cannot always be directly attributed to environmental education programs. Many factors such as cost, convenience and personal values and preferences also play a role in behaviour change.

Around 2006, there was a period of increased media coverage and heightened public attention to global warming and associated environmental concerns. Then the global financial crisis in 2008 and the United Nations Climate Change Conference in Copenhagen in December 2009 shifted community priorities towards economic and employment issues, although water security remained a concern in ACT at least until the drought broke in late 2010. These examples illustrate the dynamic nature of community attitudes. Assessment of community environmental concern and action using data from the 2006 ACT surveys needs to be read in that light. In NSW there is an annual 'Who Cares' survey, which the ACT could emulate to measure community engagement and show changes over time.

The available data suggest that ACT residents have a relatively high level of environmental concern compared to other Australian states. The most recent ABS data (up to 2008) show that the proportion of ACT residents concerned about environmental issues is above the Australian average (Figure 1). The ACT also has above-average results for the proportion of people concerned about climate change, and it has the highest proportion, in any state or territory, of people who believe that the state of the natural environment is declining (64% compared to Australian average of 53%) (ABS 2008 2010b:1).

# ACT State of the Environment Report 2011

Figure 1. Concern about environmental issues: ACT and Australia



Sources: ABS 2008; 2010b

The available data show varying levels of community awareness of different government sustainability programs. In 2006, 79% of those surveyed were aware of the Rainwater tank rebate program, 52% were aware of the Bike-and-ride scheme, while only 15% were aware of the Travelsmart initiative (TAMS 2007).

In the recent Time-to-Talk phase of the Canberra-2030 planning process, Canberrans identified management of energy and water and transport and population as key priorities (ACT Government 2010). Lowering Canberra's carbon emissions, reducing consumption and generally being more environmentally responsible were also broadly supported by ACT residents (ACT Government 2010:8). High consumption levels have emerged as a key sustainability challenge for the ACT and it will be interesting to observe the community's willingness to address this over the next reporting period (Dey 2010, Murray and Dey 2011 ).

On some issues, the ACT community's high level of environmental concern translates into similarly high levels of action. For example, in 2007-08 more than 90% of ACT residents reported sorting recyclable and non-recyclable waste - a result above the Australian average (84%). These outcomes reflect the high availability of recycling services in the ACT (compared to other states which have fewer recycling services in non-urban areas) as well as positive environmental behaviour (ABS 2010:2).

However, only about 60% of ACT residents surveyed considered that they could have an effect on the climate through their choices of transport (TAMS 2007), yet the same survey showed that as many as 85% of respondents were aware of a link between household energy use and climate change. It is likely that while these people understand there is a link between transport emissions and climate change, they consider changing their transport behaviours to be an unrealistic expectation. Further investigation of this finding could be useful for aligning public transport options more closely with residents' needs and as a basis for future programs aimed at increasing the use of alternatives to motor vehicle transport.

# ACT State of the Environment Report 2011

## Community participation in environmental programs and events

All sectors of the ACT community engage in environmental programs, events, projects and activities, both as ongoing initiatives and as individual events. Often these are cooperative ventures which comprise effective partnerships within and across various sectors of the community.

### Government programs: individuals and households

The ACT Government runs programs to help the community reduce its environmental impacts. These include several different energy and water conservation programs for households, businesses and schools, as well as a travel program (Table 1).

For example, the HEAT Energy Audit (previously known as ACT Energy Wise Program) offers owners of homes built before 1996 an energy audit by the Home Energy Advice Team (HEAT). Audit participants are eligible to apply for a \$500 rebate when they spend at least \$2000 on priority energy efficiency improvements identified during the audit, plus a refund of the \$30 audit fee. As well as undertaking audits, HEAT provides advice to residents and small businesses on energy efficiency measures.

Outreach, and Water and Energy Savings in the Territory (WEST) provide household energy-efficiency audits, retrofits, efficient new essential appliances and education to low-income residents having difficulty meeting energy bills. These programs are delivered through community welfare organisations. Outreach has also provided funding to Housing ACT to accelerate ongoing work to improve the energy efficiency of public housing.

Water efficiency programs such as GardenSmart promote community environmental participation through water-efficient gardening practices. The program offers a free garden-watering consultation, and a \$50 rebate on water-efficiency measures or products taken up as a result of the consultation. Refer to the *Water supply* indicator cluster paper for more details on ACT Government water-saving programs.

The ACT community is participating in these programs to varying degrees. For example, since 2005 the HEAT program has conducted 5127 energy audits; there have been 5956 GardenSmart consultations; and since 2008 there have been 4399 rebates for water efficient toilets and 1885 free toilet installations under the ToiletSmart scheme (ESDD; ESDD 2011a). Data from 2006 show that, at that time, the HEAT advisory service had the highest participation rate of any ACT Government sustainability program, with 12% of all respondents reported as having used it (TAMS 2007:13).

# ACT State of the Environment Report 2011

Table 1: ACT Government programs with a community environmental focus

Type	Name	Date commenced	Sponsoring agency
Energy efficiency programs	HEAT program	2005	Environment & Sustainable Development Directorate (ESDD) (formerly DECCEW)
	Outreach	2010	ESDD
	WEST program	2003	ESDD
Water efficiency programs	GardenSmart Program (originally called Outdoor Tune-up program)	2005	ESDD
	WaterSmart Homes (previously known as Indoor Tune-up program)	2004 (closed 2007)	Territory and Municipal Services Directorate (TAMS)
	Rainwater Tank rebate	2004	ESDD
	ToiletSmart program	2008	ESDD
Waste reduction programs	Plastic bag ban - community education program	2010	ESDD
	Educational tours of ACT resource recovery facilities	2006	TAMS
Transport	TravelSmart	2002	TAMS / Australian Government
Renewable energy	Solar feed-in tariff	2009 (closed 2011)	ESDD
Nature conservation	Community events in national parks/ nature reserves	2006	TAMS
	Upper Murrumbidgee Demonstration Reach	2009-10	ESDD / Australian Government / non-government organisations
	Upper Murrumbidgee Waterwatch	1992	ESDD / Australian Government / Industry
	ACT Landcare	various programs *	Australian Government Dept of Agriculture, Fisheries and Forestry / ESDD
Urban wetlands / water quality	Canberra Integrated Urban Waterways - community engagement	2009	ESDD

Source: OCSE.

\*Landcare in Victoria began in 1985, and has had various iterations in the ACT

The Solar feed-in tariff operated from 2009 to 2011 and provided incentives for ACT households and other groups to install renewable energy infrastructure such as grid-connected solar panels. The scheme offered a premium price of about 3.5 times standard retail prices for each unit of electricity produced and fed into the ACT electricity grid. This scheme was closed in 2011 with some controversy, after its legislated quota was reached (ACT Government 2009:3; ESDD 2011b).

During the reporting period several new urban wetlands were constructed in the ACT (refer to the *Rivers, lakes and wetlands health* indicator cluster paper for more details). Community engagement has been a key part of these projects, through events such as volunteer planting days and the formation of wetland carer groups

# ACT State of the Environment Report 2011

who will be involved in ongoing care and monitoring of the sites. A curriculum package to educate school students about wetlands has also been developed, and is delivered as part of the Australian Sustainable Schools Initiative - ACT (AuSSI ACT) schools program; see below (ESDD 2011c).

The ACT has a large number of urban and periurban nature reserves as well as a national park (Namadgi). During the reporting period the ACT Government operated community education and engagement events and programs in these areas. Attendance at these events, as well as general visits to conservation areas, can be considered a form of environmental participation. Annual survey results for nature parks show that over the reporting period an average 44% of those surveyed visited Tidbinbilla, 26% visited Namadgi, and 46% visited the Canberra Nature Park. The only marked change indicated over the period was in visits to Namadgi, which appear to be increasing. An average of 46% of respondents reported that one reason for their visit was to “experience or learn more about the environment” (MARS 2011:2,14).

A number of programs are specifically designed for the Aboriginal community and aim to promote greater awareness of Aboriginal cultural and environmental values and knowledge. These are facilitated by the ACT Indigenous NRM Facilitator. In December 2009 a Site Awareness workshop was held covering aspects of traditional culture, life and landscape. The workshop gave the 60 participants, who were Aboriginal and non-Aboriginal, access to cultural information for the first time. As a follow-up to the workshop, Ngunnawal community members were shown how to use geographic information systems (GIS) to record other cultural values.

Aboriginal people are also participating in the Yurung Dhaura Team Cotter River Catchment Restoration project that started in March 2011 and runs until June 2013. The project supports 4 Aboriginal trainees to study for the Certificates II and III in Conservation and Land Management at Canberra Institute of Technology while also engaging in environmental restoration and regeneration work. In addition, 6 ACT Indigenous students were supported to take part in the International River Health Conference in October 2009, which was held at the Australian National Botanic Gardens, Canberra.

Ngunnawal elders and community are planning to design and establish a garden demonstrating local bush-tucker and other plants used by the traditional Ngunnawal people. Completion is expected by the end of 2012. Another initiative in progress is preparation of a field handbook, which will show plants, animals, insects, rocks and waterbodies of the Ngunnawal country in the ACT and nearby region.

## School-based programs

Government-supported environmental education programs in the ACT have a particular focus on school students. The AuSSI ACT program and the Suburban Challenge program are supported by the ACT Government and delivered in ACT schools. The focus on education programs for use in schools recognises that there is an opportunity to build sustainability by educating young people. Examples of education programs delivered during the reporting period by government and community groups are included in Table 2.

# ACT State of the Environment Report 2011

Table 2. Environmental education programs and initiatives in the ACT

Program / Initiative	Vision	Audience
Every Chance to learn 2007	Curriculum framework for ACT schools, with sustainability being highlighted as a cross-curriculum priority	Preschool to Year 10
Our Water: Source Water Protection for the ACT: Teaching Resources	Designed to link source water and catchment issues with ETD's curriculum	Preschool to Year 10
Understanding the Land through the Eyes of the Ngunnawal People	Designed to develop students' understanding of traditional care for country and natural resource management practices of the Ngunnawal people	Preschool to Year 10
Understanding Canberra's Wetlands	A school curriculum program for the study of natural and urban constructed wetlands	Preschool to Year 10
Sustaining River Life	Recognition that healthy waterways are vital to both people and wildlife, and how water quality indicates catchment health	K - 12
Frogwatch school resources and activities	How key indicator species signal catchment health	Primary and secondary students
Suburban Challenge	To educate students on how sustainable suburbs are planned and built and how they can change to reflect different challenges, including climate change	Upper primary and secondary students
AuSSI ACT	Integrated approach to environmental management involving the whole school site, whole school community and all aspects of the curriculum	Primary and secondary students
Birrigai outdoor education centre	Expand participants' knowledge and understanding of their interactions with the Australian environment	Preschool to adult

Source: compiled by OCSE

Birrigai is a residential outdoor and environmental education centre, established in 1980 and now located within Tidbinbilla Nature Reserve. The centre is designated as a 'school in special circumstances' and is operated by the ACT Government. The centre offers programs in outdoor and environmental education for students from Preschool to Year 12, as well as adult activities. The aim is to expand participants' knowledge and understanding of their interactions with the Australian environment (Tidbinbilla 2011).

In November 2009 a short series of lessons in the Gugan Galwan (Kids at Risk Program) was facilitated by ESDD on topics including Aboriginal cultural values, tools, rock art and heritage in the ACT. The sessions also gave an introduction to suburban ParkCare before and after bush fires. The five students who completed the sessions were awarded Certificates of Attainment.

The Australian Sustainable Schools Initiative (AuSSI) is a national program aiming to support government and non-government schools to become ecologically

# ACT State of the Environment Report 2011

sustainable. The program uses an integrated approach to environmental management, involving the whole school site, whole school community and all aspects of the curriculum.

The AuSSI program includes strategies such as:

- sustainability audits / development of resource management plans;
- inclusion of Education for Sustainability in the curriculum;
- development of school Environmental Leadership Teams; and
- incorporation of sustainable management practices into everyday school operations.

In the ACT, the program (AuSSI ACT) is supported by the ACT Government through the ESDD and ETD. This program was established in the ACT through a pilot program starting in 2006, and has grown substantially during the reporting period. By 30 June 2011, 120 out of the total 128 schools in the ACT (including Government and non-government primary and secondary schools) were participating in the program (ESDD 2011a). The ACT Government has also committed to the target of making all ACT Government schools carbon neutral by 2017 (DET 2008). The ESDD also manages a program called *Understanding the Land Through the Eyes of the Ngunnawal People* (ESDD 2011e) as part of AUSSI ACT. It is currently being taught in ACT schools, in line with the new national curriculum for schools.

## Business programs

Businesses operating in the ACT can play a key role in improving sustainability in the Territory. The ACT Government has increased its focus on programs helping businesses and the commercial sector to be environmentally sustainable (Table 3), during the reporting period. Some businesses have also shown significant leadership by taking independent actions for sustainability. Total participation numbers for sustainability programs run by the ESDD Sustainability Programs team are shown in Table 4.



# ACT State of the Environment Report 2011

Table 3. ACT Government environment programs for businesses and the commercial sector

Type	Name	Date commenced	Sponsoring agency
Resource efficiency programs	CitySwitch	2009	ESDD
	Tune Up Canberra	2009-10 (ended 2010-11)	ACTPLA
	Commercial Bathroom Retrofit Program	2009	ESDD
Waste reduction programs	ACTSmart Business and Office	2009	ESDD

Source: compiled by OCSE

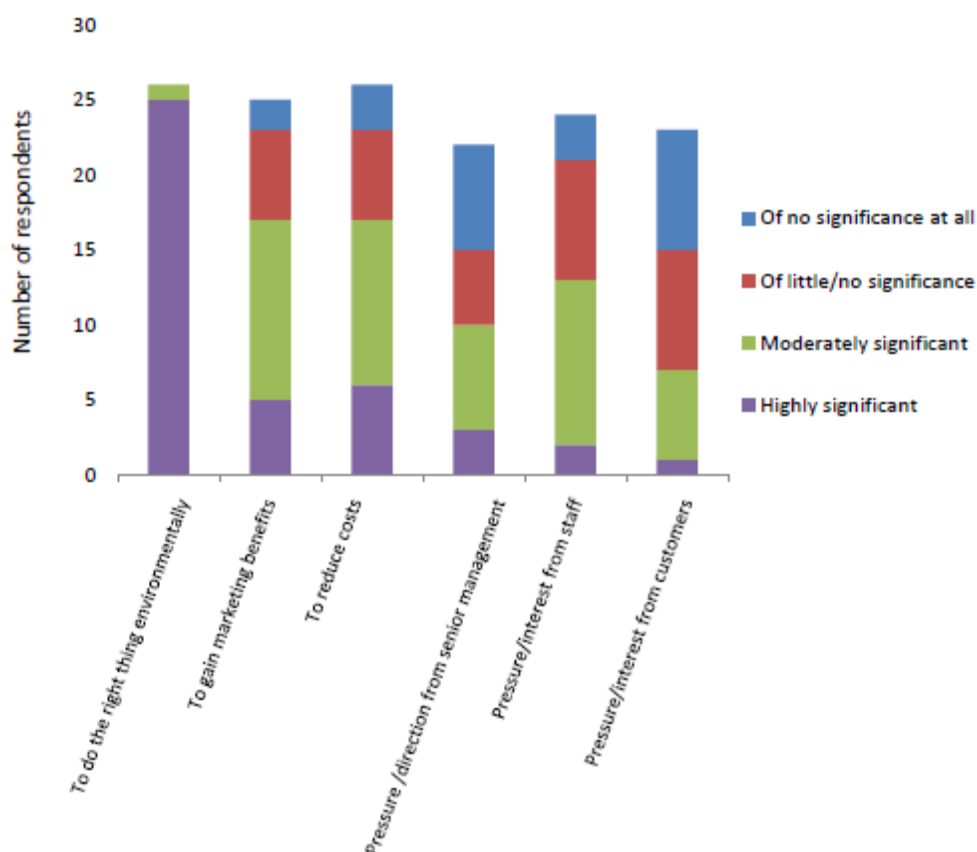
Since the Commercial Bathroom Retrofit Program started in 2009, 47 businesses have participated. The program encourages businesses to install water efficient toilets, urinals, showers and taps in bathrooms in commercial buildings by sharing the cost via matching ACT Government funding of up to \$20,000 per building.

The Tune Up Canberra Program, which has recently ended, provided matching funding up to \$8000 for assessment (Tune Up reports) and actual building works to improve the energy and/or water efficiency of large commercial office buildings in the ACT (ESDD 2011:13,15).

ACTSmart Office (and ACTSmart Business) is a free program that helps offices and businesses set up efficient recycling and waste management practices. The program offers help and advice, and recognises achievement via accreditation and awards. A review of the ACTSmart Business and Office programs found that the program resulted in overall positive responses from businesses (Blue Environment 2011). The review found that concern for the environment, rather than cost-reduction, was the key reason for participation (Figure 2) and that further support could be provided particularly for managing organic waste, recycling and e-waste.

# ACT State of the Environment Report 2011

Figure 2. Key motivators for participating in ACTSmart Business and Office



Source: Blue Environment 2011

Since 2009, 281 businesses of all sizes have participated in the ACT Government ACTSmart Business and Office program, and 52 have been accredited under the scheme. Examples include:

- Fringe Hairdressing, which has introduced a recycling system, including recycling hair (organic waste) via a worm farm;
- Tuggeranong Hyperdome, which in 2010-11 became the first major shopping centre in the ACT region to recycle its organic waste. The centre's recycling system was introduced as a pilot program and now includes all the major tenants. Together they divert approximately 5.4 tonnes of organic waste away from landfill each month. This project was one of the winners of the 2011 ACTSmart Business and Office Minister's Award for Leadership (ACTSmart 2011a 2011b).

# ACT State of the Environment Report 2011

Table 4. Participation in ESDD sustainability programs to 30 June 2011

Program	Program commenced	Total program participation
CitySwitch	2009	16
HEAT Energy Audits	2005	5217
HEAT Rebates	2005	2416
HEAT inquiries	2003	32,308
Outreach Trial	2010	895
Outreach Program <i>*Figure is for one month only</i>	2011	*121
WEST Audits	2003	278
WEST Plus Audits	2011	51
WEST Plus Education sessions	2011	22
WEST Plus Retrofits	2011	22
GardenSmart service	January 2005	6159
GardenSmart rebate	January 2005	2044
Rainwater tank + internal connection rebate	August 2004	1938
Internal connection only rebate	August 2004	63
ToiletSmart \$100 rebate	May 2008	4399
Free toilets provided to Pensioner Concession Card holders	May 2008	1885
Free ToiletSmart Plus home water audit	August 2010	718
Free ToiletSmart Plus showerheads	August 2010	288
IrrigationSmart trial	September 2009 - April 2010	210
Commercial Bathroom Retrofit program	February 2009	47
ACTSmart Business and Office programs	August 2009	281 (52 accredited)
Australian Sustainable Schools Initiative - ACT	2006	120

Source: ESDD

Businesses are also taking action for sustainability, independently of government programs.

- The international office furniture and fit-out company Schiavello, which has an ACT branch, has introduced an up-cycling program it calls e-cycle. When purchasers are ready to upgrade, Schiavello takes back the old furniture and

# ACT State of the Environment Report 2011

rather than breaking it down for recycling (which can be an energy-intensive process) it up-cycles the used products through repairs and/or upgrades, for resale. This initiative was the winner of the 2011 ACTSmart Business and Office Award for Innovation Excellence (ACTSmart 2011a, Schiavello 2010).

- In the absence of any Australian or ACT Government scheme for battery recycling, the battery retailer Battery World is voluntarily accepting domestic quantities of batteries for recycling at its stores throughout the country, including the ACT, free of charge. Batteries contain harmful substances such as lead and cadmium, and recycling ensures that these materials are safely disposed of. The company estimates that this Australia-wide recycling initiative has so far prevented 500 tonnes of batteries from entering landfill (Battery World 2010).

## Non-government environmental groups

A large number of non-government community groups are active in the ACT, working independently or supported by government, on issues relating to the environment, sustainability and climate change adaptation and mitigation. These groups engage in activities such as awareness raising, research and monitoring, and education and lobbying for change, as well as specific projects. Initiatives include action for biodiversity conservation, catchment health and water quality, sustainable transport, community gardens, renewable energy projects and energy efficiency projects.

Non-government groups in the ACT have a history of providing leadership on environmental issues such as by bringing different groups together and creating environmental strategies and plans. For example in 2004 the Molonglo Catchment Group produced the Molonglo Catchment Strategy. This trend has continued since that time, and non-government groups are creating change in institutions and households over and above that required by legislation and government policies. For example the University of Canberra recently became the first Australian university to ban sales of bottled water on campus (University of Canberra 2011).

Community groups have also been active in influencing local government in the ACT. In response to community concern and high demand for community gardens, in 2011 the ACT Government established an interagency ACT Community Gardens Policy Working Group, to develop a policy on community gardens (ACT Government 2011:2016-7).

The available data suggest that the level of participation in these groups is significant. In 2006, 41% of ACT adults surveyed reported that they took part in a practical activity to restore the local environment (e.g. native tree planting), 30% participated by writing a letter, attending a meeting or joining a group, and 34% tried to find out about a local environmental issue (TAMS 2007:8).

This level of environmental involvement is consistent with the ACT's high overall levels of volunteer participation. As reported in the last State of the Environment Report, a survey by the Australian Bureau of Statistics in 2006 showed that on a state

# ACT State of the Environment Report 2011

by state basis the ACT and Queensland had Australia's highest proportion of people volunteering (38%) compared to the national average (34%) (ABS 2006).

New groups have emerged in recent years and have achieved a high profile since the last State of the Environment Report. For example, SEE-Change, formed in 2006, aims to "inspire, inform and support action to reduce Canberra's ecological footprint" (SEE-Change n.d.). There are now four local SEE-Change groups across Canberra. They have been successful in gaining three government grants in 2010-11, for a sustainable ideas festival, a schools education program and a community solar farm feasibility study. The Canberra ♥ 40% group is another recently-formed network, which was actively engaged in encouraging the development of ACT greenhouse gas targets and which runs programs aiming to reduce the ACT's greenhouse gas emissions by 40% by 2020.

Government support is provided to community-based environmental programs through the ACT Environment Grants, which commenced in 1997. These grants are provided for environmental activities such as grassland restoration, monitoring of birds, community environmental forums and support for educational resource development.

In 2009-10 the Government provided a Community Energy Grants program under Action Plan 1 of *Weathering the Change*, the ACT's climate change strategy (ACT Government 2007). Of the incorporated not-for-profit community organisations in the ACT, 47 received grants to help pay for installation of renewable energy technology to the buildings that they occupy. Grants were for solar photovoltaic systems, solar hot water systems and solar film on windows.

Climate Change grants were announced in June 2011 to support community action on reducing greenhouse gas emissions and building community involvement and support for addressing climate change. These grants support the community in working towards the ACT's target of zero net emissions by 2060, as legislated in the *Climate Change and Greenhouse Gas Reduction Act 2010*. The Climate Change Grants generated a strong response from the community. Recipients of the 2011 ACT Climate Change Grants were (ESDD 2011e): The Living Green Festival (ACT) Inc.; SEE-Change; Australian Institute of Landscape Architects; Canberra Electric Vehicle Festival Inc.; ACT Sustainable Systems; Canberra Environment Centre; and Canberra ♥ 40%.

## *Catchment and land management groups*

Over the reporting period there were approximately 30 Parkcare or urban Landcare groups active in the ACT, with a total membership of several hundred people. These groups are supported by the ACT Government: from 2007-08 to 2010-11 the ACT Government provided approximately \$70,000 to Parkcare and related catchment groups via the ACT Environment Grants (OCSE 2011:95).

Parkcare groups conduct activities such as education, ecological monitoring, planting, weeding and track maintenance within the ACT's urban nature reserves, while urban Landcare groups are active in areas such as urban parks and wetlands. The ongoing monitoring work undertaken by these groups provides valuable data to

# ACT State of the Environment Report 2011

support government research and management programs. Over the reporting period, community group achievements have included:

- Farrer Ridge Parkcare Group's recently produced report called *Bushfire regeneration monitoring on Farrer Ridge 2003-2008*, with data from 7 years of monitoring by Parkcarers;
- Friends of Mt Majura, with Mt Ainslie Weeders and the Watson Woodland Working Group - mapping of rabbit warrens in the Mt Majura and Mt Ainslie nature reserves during summer 2009-10;
- Friends of Mt Majura - a National Tree Day Planting Party in July 2011, which attracted up to 100 community members;
- Oakey Hill ParkCare Group - extensive weed control, track maintenance work.

Voluntary work on the ACT's nature reserves has substantial financial value, as shown by the following estimates:

- number of hours of voluntary work undertaken in Canberra Nature Park, Molonglo River Corridor and Googong Foreshores in the 2009-10 financial year was approximately 14,530 hours;
- multiplied by an indicative payment rate of \$25 per hour, that amounts to \$363,250 (OCSE 2011:97-98).

Three catchment groups are active in the ACT region: Molonglo Catchment Group, Ginninderra Catchment Group, and Southern ACT Catchment Group. These umbrella groups support the work of local organisations within each catchment, such as Parkcare, Landcare, Waterwatch, Frogwatch, and more recently Platypus-watch groups. Funding to the catchment groups from the Australian and ACT Governments allows them to employ professional support staff and implement various projects.

Waterwatch has assisted in the publication of two children's books - *The Isabella Pond Rowing Regatta*, and *The Patience of the Water Scorpion* - as well as two glovebox guides focusing on frogs and water plants.

During the reporting period Upper Murrumbidgee Waterwatch groups completed activities such as ongoing water quality monitoring, training and education (ACT Waterwatch 2011). The importance of cross-border water quality monitoring is shown in the Cooma region by Waterwatch's work in erosion control in the upper Murrumbidgee. While this location is in NSW it is a major contributor to sediment loads in the Murrumbidgee River in the ACT.

Waterwatch volunteers, coordinators and staff from associated projects such as the Upper Murrumbidgee Demonstration Reach and industry worked together to track the source of the fine suspended particulates. Waterwatch report that volunteers have assisted in channelling over \$1 million into the Numeralla area for erosion control. Waterwatch has also been successful in obtaining \$250,000 in investment from ActewAGL to engage a Cooma Region Waterwatch Coordinator who has identified erosion sites by engaging the help of the local community. An *Action for Clean Water Project* has also been initiated to map and prescribe treatment for identified erosion sites in the Upper Murrumbidgee.

# ACT State of the Environment Report 2011

Linking most or all of the groups responsible for natural resources management in ACT region is the community-based Upper Murrumbidgee Catchment Coordinating Committee (UMCCC). The UMCCC brings together representatives from Australian and ACT government departments, researchers, landholders, conservation groups, community groups including catchment management groups, and the Murrumbidgee Catchment Management Authority. The UMCCC exists as a forum in which these groups can communicate readily with each other, and to coordinate policy and funding submissions, prepare educational materials, and foster capacity building (UMCCC 2011).

## Response indicators

### Effectiveness of environmental education programs

#### Individual sustainability actions

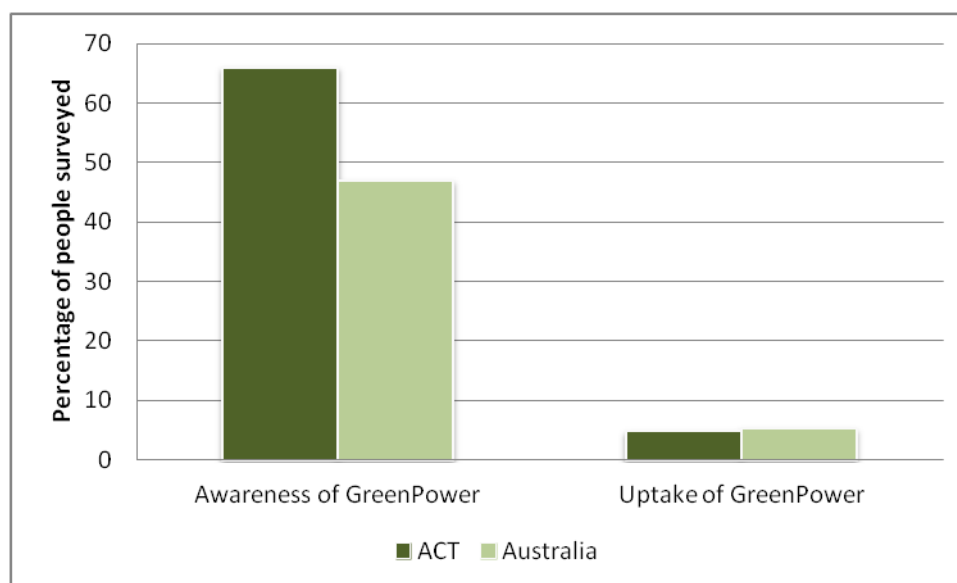
Surveys show that, consistent with their high level of environmental awareness, residents of the ACT generally report having a sense of responsibility towards the environment. In 2006, 80% of ACT residents who reported having taken steps to live more sustainably did so “because they feel they have a personal responsibility to do the right thing”. Within this group 94% had taken steps to reduce energy use, 90% claimed to have purchased energy efficient appliances, 82% avoided plastic shopping bags, and 77% reported taking shorter showers to reduce water use. Also, 61% of households reported reusing grey water from the laundry or shower (TAMS 2007:8). The high proportion of residents who reported reducing energy use is consistent with the results of the report on the 2008-09 ecological footprint of the population of ACT, which found that direct energy use by ACT residents has been static or slightly falling over the last 10 years (Dey 2010:17).

Notwithstanding the community’s high level of environmental awareness, the overall ecological footprint of the ACT has increased over the last 10 years. The reason is reported to be increased consumption (Dey 2010:17). Reducing the impacts of individual consumption will therefore be a key challenge in making the ACT more sustainable into the future.

A link between environmental education, environmental awareness and behaviour change cannot be assumed. For example, there is a significant difference between the levels of awareness of and uptake of GreenPower electricity in the ACT. While awareness of GreenPower in the ACT (66%) is well above the Australian average (47%), the percentage of people who actually purchase GreenPower in the ACT is slightly less (Figure 3).

# ACT State of the Environment Report 2011

Figure 3. GreenPower awareness and uptake in ACT and Australia



Source: ABS 2010:18

When asked what prevented them from doing more to live more sustainably, ACT residents responding to the survey mentioned cost as the strongest barrier (TAMS 2007:9). Their reluctance to spend more to reduce their environmental impacts is interesting when considered against the high (and increasing) average incomes in the ACT. It appears that to achieve actual behaviour change the ACT Government will need to do more than just provide environmental education and information to the community.

It appears that ACT residents are aware that their reliance on private vehicles is not sustainable, and are looking for alternatives. The ACT Government's Time-to-Talk community engagement project in 2010 found that community members recognise "a challenge is for Canberrans to reduce their reliance on private vehicles. A general preference is a shift to more sustainable transport options including bus shuttle services, transport corridors, light rail, and building on safe walking and cycling options" (ACT Government 2010:9). The *Transport and Urban quality* indicator cluster papers give more details on ACT transport patterns and policies.

## Effectiveness of Government programs

Program evaluations have been produced during the reporting period for a number of ACT Government programs, including AuSSI ACT, ACTSmart Business and Office, Outreach, the WEST low-income energy-efficiency programs, and the IrrigationSmart trial.

In 2010, an independent evaluator was engaged to assess the AuSSI ACT model in terms of the degree to which it:

- educates the school community to adopt more sustainable behaviours;
- reduces the schools' ecological footprint; and
- impacts on the wellbeing of the school community.



# ACT State of the Environment Report 2011

The evaluation found that the AuSSI ACT program has led to behaviour change among students and staff. Schools reported that on average 65% of students and teachers had changed their behaviour 'a lot' in relation to waste management and 37% had done so in relation to water conservation. It appears that this program has also been effective in changing students' behaviour at home: 90% of students surveyed reported that AuSSI ACT had changed what they did at home. Parents' observations of changes in student and staff behaviours supported these findings (DECCEW 2010:3-5).

The evaluation identified key structures in the AuSSI ACT program which support the reduction of schools' ecological footprint. They included:

- a leadership team and school environmental management plan;
- AuSSI ACT audit and accreditation process;
- ongoing professional development for teachers; and
- effective ongoing program support.

The evaluation recommended that AuSSI ACT teams prioritise efforts to collect and analyse data to quantify achievements in the reduction of the school's ecological footprint, and steps have been taken to address this recommendation.

Data comparing the achievements by ACT Government schools in 2010-11 and 2009-10 show that they reduced their annual water consumption by more than 20%. Their total energy use increased by approximately 3%, but there was a marginal decrease (1%) in their total greenhouse gas emissions.

AuSSI ACT officers have been visiting Government schools to discuss the recommendations of their recent energy audit reports and to deliver the AuSSI ACT Energy Best Practice Guide. Once schools have had an opportunity to implement the recommendations in the audit reports and best practice guide, which is likely to take at least 12 months, it is more likely that savings in energy consumption will be achieved (ESDD 2011a).

The evaluation of the AuSSI ACT model found that there had been a positive impact on the wellbeing of students:

- 87% of the students who participated in the evaluation agreed that "doing things for the environment made them feel better";
- 85% said they enjoyed being a part of team projects for the environment; and
- 92% responded they could learn from others and hear their ideas.

Teachers identified significant positive impacts of AuSSI ACT on their students across most dimensions of wellbeing. Most impacts were in relation to self efficacy, spirituality, self esteem, engagement and curiosity (DECCEW 2010).

An evaluation of the ACTSmart Business and Office programs by an independent evaluator was completed in June 2011 (Blue Environment 2011). The purpose of the evaluation was to assess the experience of the current participants in the program and to identify which components of the program were useful for participants, any

# ACT State of the Environment Report 2011

suggestions for improvement, and the motivation that had led participants to sign-up to the program. Participants have indicated the program has made a substantial impact on their rates of recycling, including those that believed they were already using all opportunities for recycling. The evaluation highlighted that:

- 88% of respondents have made improvement in waste management through involvement in the ACTSmart programs;
- the support provided by the government staff delivering the program was greater than participants had expected; and
- the program has rigour and is valued by participants, with 96% of respondents indicating they would recommend the program to other organisations.

A pilot IrrigationSmart program was developed and delivered in 2009-10. The pilot aimed to assess whether ACT residents would respond positively to an offer of a free review and reprogramming of automatic drip irrigation systems to improve watering efficiency. Recommendations resulting from the program's assessment in September 2010 have been incorporated into the new IrrigationSmart program.

The internal evaluation by ESDD of the trial Outreach program conducted in 2010 found that working with community welfare organisations to assist low-income households save energy and reduce greenhouse-gas emissions was effective. Annual estimated energy savings from the trial were approximately 920 MWh and greenhouse gas emissions were reduced by approximately 800 tonnes of CO<sub>2</sub> equivalent.

The CitySwitch and Commercial Bathroom Retrofit programs have recently been reviewed to develop future options for the direction of these programs. Also, the ToiletSmart and ToiletSmart Plus programs and the HEAT Energy Audit were subject to trials during April-June 2011 to assess their eligibility criteria. The results of the trials, concerning the possibility of replacing older dual-flush toilets and auditing energy efficiency in houses built before 2006 (previously 1996), will be implemented in 2011-12.

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# **ACT State of the Environment Report 2011**

## **Other data sources**

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

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Environment and Sustainable Development Directorate (ESDD)

Office of the Commissioner for Sustainability and the Environment (OCSE)