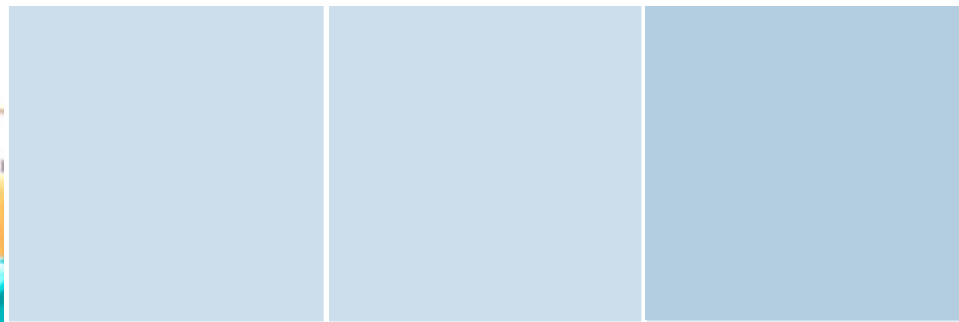




Education and Training

Green Schools

An Environmentally Sustainable Future
for ACT Public Schools





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GREEN SCHOOLS

An Environmentally Sustainable Future

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Message from the Minister

Climate change is one of the largest economic and social challenges of our time. The way we treat our planet and its resources is having a profound impact on our climate, and unless we take action now, climate change will seriously damage our natural environment, our quality of life, and our economy.

The ACT Government, through our climate change strategy - *Weathering the Change*- is committed to pursuing strategies that will allow us to minimise the impact of our activities on the earth. We are committed to increasing the level of sustainability awareness and practice across the ACT.

A major factor in promoting this awareness is through education in our schools. Implementing sustainable, eco-friendly practices in public schools is an important element of this strategy. The renewal of our school infrastructure to make it more environmentally sustainable combined with educating younger generations about climate change and the importance of sustainability, are essential factors in responding to the challenges facing our community from climate change.

The ACT Government is supporting our public schools to become more 'green' through the following actions:

- all students will learn about sustainability as part of the new ACT Curriculum Framework from preschool to year 10, supported by professional development opportunities for teachers, and will adopt more sustainable behaviours as a result
- \$20m will be invested over 10 years to assist government and non-government schools to become carbon neutral by 2017 as part of the ACT Greenhouse Strategy
- significant investments in water saving initiatives in schools will assist our teachers and children to better manage this precious resource.

The ACT Government is committed to making our schools more sustainable and our young citizens more actively engaged in developing an environmentally sustainable future. This paper sets out the guiding principles that will ensure we achieve this aim.

Andrew Barr MLA
Minister for Education and Training



Introduction

This paper describes some of the ways in which the ACT Government is committed to acting locally to respond to the global challenge of sustainability. The *ACT Climate Change Strategy 2007-2025* details the approaches the Government will follow to play its part in assisting the broader community response to climate change.

We cannot separate what we teach our children about sustainability from the environment in which they learn and socialise – their schools. It is in their schools that they will put what they learn into practice, and it is in their schools that they will expect to see responsible and sustainable design practices in place. Responsibility for sustainability falls to the whole school community – the canteen, the building service officers, the front office, all school suppliers, the School Board and the P&C, as well as the staff and students.

We are now in the United Nations Decade of Education for Sustainable Development (2005-2014). The UN has declared, 'Education for sustainable development is a life-wide and lifelong endeavour which challenges individuals, institutions and societies to view tomorrow as a day that belongs to us all, or it will not belong to anyone.'

In 1999, state, territory and Australian Government Ministers of Education endorsed a new set of ***National Goals for Schooling in the Twenty-First Century***. One of those goals was that, 'When students leave school, they should have an understanding of, and concern for, stewardship of the natural environment, and the knowledge to contribute to ecologically sustainable development' (Goal 1.7).

It is in these global and local contexts that this position paper is presented. As citizens of the future, our students have a real interest in environmental sustainability, and are keen, not only to learn how to live in sustainable ways, but also to put this learning into action. Our schools provide a range of real life opportunities to both teach environmental awareness and demonstrate sustainability principles to the next generation. The ACT Government will support every school to be a model for sustainability within its community.

Key points

The following principles guide the ACT Government's approach to sustainability in schools:

- sustainability is a core requirement in the construction of new schools
- capital upgrades undertaken in schools will be designed to reduce the ecological footprint of those schools wherever possible
- our school communities must integrate sustainability principles and strategies into the everyday management of their schools
- environmental education for sustainability will be a central and consistent theme in the school curriculum.

ACT public schools can have a major influence on how our future generations learn to live sustainably. Integration of environmental sustainability into the school curriculum and demonstration of sustainable practices in every area of our schools is vital to ensure that our students learn these important life skills.

Beyond curriculum, schools must be involved in the pursuit of environmental sustainability in everything they do. As large communities themselves, our schools are significant consumers of resources and producers of waste. Therefore, engaging and supporting our educators, students and school asset managers is fundamental in achieving the long term goal of sustainability and carbon neutrality for the ACT.

More than 38,600 students attend ACT public schools every day. Operating and providing support to these public schools uses significant resources:

- around \$6 million in energy (gas and electricity) each year, responsible for over 27,600 tonnes CO₂ emissions (approximately 0.7% of ACT greenhouse emissions)
- 766 MI of water in 2006, equivalent to the usage of more than 2,000 homes
- an estimated 2,000 tonnes of waste each year – some schools are recycling 75% of their waste, but the overall figure is estimated to be only 15%.

The following principles will guide the ACT Government's approach to sustainability in schools and demonstrate the practical commitment that the Government is making to ensure our schools become more environmentally sustainable.



Amaroo School utilises both wind energy and solar power to supplement the more traditional power sources.

Principles

I. Sustainability is a core requirement in the construction of new schools.

The buildings we occupy are responsible for a large proportion of the environmental impact on our society, from the materials used in construction to the resources used to operate them. How sustainable a school can be is largely (though not completely) dictated by the school facilities. There is a limit to which inefficient facilities can be improved by good operational practices.

Three new schools are currently being designed or constructed across the ACT, and more schools will be built in the years to come. It is important that new public schools are planned and constructed with environmental sustainability as a core requirement.

Although construction of new schools represents only a small fraction of the total building stock, it performs an important role in demonstrating and reinforcing 'best practice' in sustainable school infrastructure. This capital expenditure provides a significant opportunity to contribute toward achieving sustainability objectives in the most cost-effective manner:



The new Harrison School incorporates the latest high quality school design to ensure environmental sustainability.

2. Capital upgrades undertaken in schools will be designed to reduce the ecological footprint of those schools wherever possible.

ACT public schools represent a major capital infrastructure investment. In 2006, the ACT Government took the decision that much of the Territory's aging schools infrastructure was becoming unacceptably inefficient in environmental terms.

The \$90m School Infrastructure Refurbishment program funded in the 2006-07 Budget provides an investment package to upgrade school facilities. This was supplemented by an additional \$8.8m in the 2008-09 Budget. This investment is in addition to the Government's existing program of capital upgrades, major refurbishments and ongoing maintenance. Over and above this, the Government will boost repairs and maintenance funding for schools by 52% from 2008-09. Wherever possible, projects funded as part of these programs will also deliver greater sustainability benefits.

3. Our school communities must integrate sustainability principles and strategies into the everyday management of their schools.

Although the age, design and efficiency of schools and their infrastructure largely determine how sustainably they operate, our actions also have a major influence on sustainability. In the ACT, school based management gives principals and their delegated staff responsibility for purchasing and maintenance activities at the school, which all directly impact on energy use and water and waste management.

Schools will encourage members of school communities to use environmental resources responsibly. Formal environmental management plans with supporting monitoring and reporting processes, performance targets and defined operating practices will be required to ensure that sustainability is well integrated into the way we operate our schools. These plans need to be comprehensive in scope (covering energy, water, waste, pollution and biodiversity) and also include all stakeholders (school management, teachers, students and the local community).

The *Australian Sustainable Schools Initiative* (AuSSI) encourages schools to improve the management of resources, including water, energy, waste, biodiversity and purchased products and materials. AuSSI also addresses educational, social and economic issues associated with the sustainable management of schools and their school communities.

AuSSI schools commit to reducing resource consumption and improving the management of their facilities. ACT schools have reduced waste to landfill - their initial priority area - by 75%, and have all reduced electricity consumption, one school by 28%.

Linking such an excellent initiative with programmed maintenance and capital works programs is critical, with engagement and input by the school's 'Sustainability Leaders'. It aims to encourage ownership and responsibility in the improvement and longer term increased sustainability of the school overall.

4. Environmental education for sustainability will be a central and consistent theme in the school curriculum.

As well as demonstrating sustainability in our school facilities and how they operate, it is also vital that sustainability is a central and consistent theme in the school curriculum.

Every Chance to Learn - Curriculum Framework for ACT Schools was launched in November 2007. One of its 25 Essential Learning Achievements is that 'the student acts for an environmentally sustainable future'. All schools will now teach students about important concepts such as interdependency, biodiversity and ecosystems; how to develop skills in data collection, analysis and problem solving; and how to identify practical solutions and realistic ways to act for an environmentally sustainable future.

AuSSI ACT has worked with many local organisations to provide schools with further resources to support this Essential Learning Achievement. Local experts in water, energy, biodiversity, waste and climate change worked with ACT teachers to write the units of work to ensure the content is relevant to our local region. The Educating for Sustainability Toolkit includes best practice guides and resources for schools and school environmental management plans around water, waste, energy, biodiversity and curriculum.

Commencing in 2008, the ACT Sustainable Schools Awards will recognise excellence and best practice in education for sustainability by schools, students, staff and school communities.



Students monitoring water quality as part of their studies

The Government's commitment

The ACT Government is committed to creating 'green' schools. As well as continuing a range of current initiatives, in 2008 the ACT Government will:

1. Commence a series of audits across all public schools to assist them to reduce their energy use.

Initially high energy using schools will be targeted, and funding will be made available to assist these schools to invest in infrastructure to assist them to reduce the amount of energy used by the school.

2. Design the Gungahlin College and Tuggeranong P-10 school to be 5 star green buildings.

The Government will invest over \$110m in the construction of these two new schools. As part of this investment, these buildings will be designed to achieve a very high level of sustainability.

The Green Building Council of Australia is developing a green star rating system for educational facilities. When this rating tool is complete, the architects commissioned to design the two new schools in Gungahlin and Tuggeranong will be tasked with providing innovative, energy and water efficient facilities that will achieve a 5 star rating.



Artist's sketch of the new Gungahlin College

3. Pilot drought tolerant grasses and grass alternatives for school play areas.

Our current levels of water consumption are unsustainable and have been worsened by recent drought. Substantial reductions in water use are required to ensure that we have sufficient supplies for a growing community. The ACT Government **Think Water, Act Water** strategy released in 2004 proposes a 25% reduction in water use per capita by 2023. Recent initiatives by the ACT Government will assist schools to meet this target.

During 2008, across a small number of schools, the Government is implementing irrigation reduction practices and trialing of grass alternatives to assist in minimising water use while maintaining quality play space for students. As part of this process, an assessment of space required by students will be undertaken, and water efficient surfaces will be provided to meet this need.

4. Encourage more schools to sign up to the Australian Sustainable Schools Initiative (AuSSI).

AuSSI takes a whole-of-school approach and encourages school communities to manage their assets and resources in an environmentally sustainable manner. AuSSI ACT is managed by the Department of Territory and Municipal Services (TAMS). The program offers workshops and training courses for teachers and school staff interested in becoming involved in the initiative.

Currently, over 65% of ACT schools are signed up to the AuSSI initiative. Other schools across the ACT will be encouraged to join the program and gain the sustainability benefits which it generates.

5. Leverage from the record investment in school refurbishment to improve sustainability in older schools.

The \$90m *School Infrastructure Refurbishment* program provides a significant investment package over 4 years to improve the overall quality of public school infrastructure throughout the ACT. This initiative is supported by a range of other capital works funding programs, including the ongoing capital upgrades program.

Projects funded as part of these programs will examine the opportunities for sustainability benefits to be gained as part of the broader project objectives. Where plant and equipment need to be replaced, more efficient models can achieve significant benefits in both ongoing running costs and sustainability. For example, for several years now it has been the practice to install dual flush toilets wherever toilets are replaced in ACT public schools. These types of opportunities will be further explored as refurbishment projects are undertaken in the future.



A large underground water storage tank being installed at an ACT public school.

References

Australian Government Department of the Environment and Heritage, *Educating for a sustainable future: a national environmental education statement for Australian schools*, 2005 - <http://www.environment.gov.au/education/publications/sustainable-future.html>

Australian Greenhouse Office – <http://www.greenhouse.gov.au/index.html>

ACT - <http://www.tams.act.gov.au/live/environment/sustainability>

NSW - <http://www.greenhouseinfo.nsw.gov.au/>

Victoria - <http://www.greenhouse.vic.gov.au/greenhouse/index.htm>

SA - <http://www.greenhouse.sa.gov.au/>

Qld – http://www.epa.qld.gov.au/environmental_management/sustainability/climate_change_and_greenhouse/

WA - http://portal.environment.wa.gov.au/portal/page?_pageid=54,5690855&_dad=portal&_schema=PORTAL

NT - <http://www.nt.gov.au/nreta/environment/greenhouse/index.html>

Tas - <http://www.dpiw.tas.gov.au/inter.nsf/ThemeNodes/MCLE-5WV6FF?open>

Education sites

<http://climatechangeeducation.org/> - The catalogue is an on-line resource centre for those working in the field of education – USA

<http://www.actewagl.com.au/education/> - ACTEW AGL education site

http://www.ucsus.org/global_warming/science/global-warming-materials-for-educators.html - Global Warming materials for educators produced by the Union of Concerned Scientists' (UCS) Global Environment Program. USA

<http://www.greenhouse.gov.au/education/tips/school.html> - Australian Greenhouse Office Education Site.

<http://www.ascent.org.au/bulletin.html> - ASCENT - Australian Climate Change Education Network

<http://www.schools.ash.org.au/paa2/> Project Atmosphere Australia Online is a teacher-developed, online project for school communities in Australia and around the world for weather. It is based around a collaborative web site and email discussion lists.

<http://climateprediction.net/schools/index.php> - teaching resources for climate modelling.

<http://www.greenhouse.vic.gov.au/greenhouse/schools.htm> - Victorian Government greenhouse site for schools, includes a greenhouse calculator.

For children and young people

<http://epa.gov/climatechange/kids/difference.html> - USA Environment Protection Agency site for kids.

http://tiki.oneworld.net/global_warming/climate_home.html - tiki the penguin (USA)

<http://www.olliesworld.com/> - Ollies Island and Ollies world – water, waste, sustainability and energy (Australian)

<http://www.bbc.co.uk/climate/adaptation/jack.shtml> - *i'm alright jack* – help Jack make decisions to be climate friendly.

Other

<http://www.bbc.co.uk/climate/> - BBC climate change website, useful information and portal

<http://www.bom.gov.au/lam/climate/levelthree/climch/climch.htm> - Bureau of Meteorology

<http://earthobservatory.nasa.gov/> - great remote satellite images

http://www.greenhouseinfo.nsw.gov.au/_data/page/943/Change.pdf - ACT predictions for climate change.

<http://www.ipcc.ch/> - Intergovernmental Panel on Climate Change (IPCC) website. Assessment reports provide useful global information.

<http://www.dar.csiro.au/impacts/ozclimfuture.html> - how CSIRO climate projections are developed.

<http://www.greenhouse.gov.au/gwci/index.html> - Australian Government - A home guide to reducing energy costs and greenhouse gases

<http://www.csiro.gov.au/csiro/channel/ich3h.html> - CSIRO climate change research

<http://www.dar.csiro.au/impacts/future.html> - CSIRO future climate impacts

<http://www.theclimategroup.org/index.php?pid=354> - The Climate Group is an independent, nonprofit organization dedicated to advancing business and government leadership on climate change.

<http://www.businessroundtable.com.au/> - Australian Business Roundtable on Climate Change.

<http://www.bbc.co.uk/sn/climateexperiment/> - BBC climate change experiment – UK and the world