



# Jon Stanhope MLA

CHIEF MINISTER

TREASURER MINISTER FOR BUSINESS AND ECONOMIC DEVELOPMENT

MINISTER FOR INDIGENOUS AFFAIRS MINISTER FOR THE ENVIRONMENT, WATER AND CLIMATE CHANGE

MINISTER FOR THE ARTS

MEMBER FOR GINNINDERRA

Mr Gavin Marshall  
Chair  
Senate Standing Committee on  
Education, Employment and Workplace Relations  
PO Box 6100  
Parliament House  
CANBERRA ACT 2600



Dear Mr Marshall

Thank you for inviting the ACT Government to make a submission to the *Inquiry into the Effects of Climate Change on Training and Employment Needs*.

The invitation advised that the Inquiry would focus on the ability of universities and other research and training institutions to meet current and future demands for climate change professionals and on measures to assist understanding of climate changing the Asia-Pacific region.

The ACT Government is keenly aware of the challenge climate change poses and has been addressing the impact of climate change on businesses in the ACT for some time through our participation in the Small Business Ministerial Council and the Ministerial Council on International, the ACT Roundtable on Climate Change, and through our climate change strategy *Weathering the Change*. I am pleased to contribute the attached submission to the Inquiry on behalf of the ACT Government and look forward to reading the findings of the Inquiry.

Should you have any queries you are welcome to contact Ms Penny Farnsworth, Acting Deputy Chief Executive Policy by phone on 62076140, or via e-mail at [penny.farnsworth@act.gov.au](mailto:penny.farnsworth@act.gov.au).

Yours sincerely

Jon Stanhope MLA  
Chief Minister

11 SEP 2008

ACT LEGISLATIVE ASSEMBLY

# ACT SUBMISSION TO THE INQUIRY INTO THE EFFECTS OF CLIMATE CHANGE ON TRAINING AND EMPLOYMENT

## Terms of Reference

The committee will inquire into and report on developing Australia's capacity in the area of climate change, with particular reference to:

- a. the ability of universities and other research and training institutions to meet current and future demand for climate change professionals; and
- b. measures to assist understanding of climate change in the Asia-Pacific region, including provision of training and skills assistance.

## Submission

The ACT Government is currently addressing climate change through its climate change strategy *Weathering the Change*, which identifies four key objectives we aim to achieve by 2025. These are:

- to be smarter in the use of resources;
- to design and plan our city to be more sustainable;
- to build capacity to adapt to and manage the changes to climate that we are now beginning to face, and possible future changes; and
- to improve understanding of climate change, its causes and effects, and how we need to respond.

In achieving any or all of these objectives, the ACT Government relies heavily on being able to attract and retain qualified professionals who understand the complexities and systems involved in addressing climate change. This will require not only scientists and environment managers, but also designers, planners, policy-makers and wide range of 'green collar' professionals, who are able to tackle these issues in a creative way. On a small-scale, the ACT Government offers services to residents such as home energy audits and garden advice services, and if these are to continue in the future, we must be confident that there are enough qualified individuals in the community to deliver these services.

The 2006 *Stern Review on the Economics of Climate Change* by Sir Nicholas Stern describes climate change as potentially the greatest and widest-ranging market failure ever seen. Stern makes the argument that the economic benefits of effective, early action considerably outweigh the economic costs. What we do in the next 10-20 years will have a profound effect on the climate in the second half of this century.

Change brings with it opportunity, and Stern predicts a burgeoning industry in clean technologies and other initiatives to meet both the need to minimize and reverse trends in climate change and to better prepare us to adapt to actual climate changes.

The economic activity generated by these new industries promises to offset the otherwise substantial economic cost in other areas of industry predicted by even the most conservative estimates of climate change. But new clean technologies, smarter technologies for water use, better water allocation and irrigation regimes, effective

- changes to government legislation and regulation to provide a level playing field for those industries willing and capable to adopt the new clean technologies;
- government incentives for industry to rise to the challenges and opportunities presented by climate change, both in the area of new technologies and climate change adaptation; and
- clearly identified career paths within government for graduates who elect to study in the climate change degrees or diplomas.

Government responses to these challenges will require a focus on those universities that are able to rapidly pull together winning inter-disciplinary teams that are fully integrated and able to deliver the depth of education required. Canberra is fortunate to have two highly-regarded universities which can provide the right training to produce professionals with the relevant qualifications. We also have a high-quality technical institute that can provide practical training. Any incentives and policies which assist in increasing the inclusion of specific environmental and climate change related subjects within the higher education system and encourage linkages with industry would be beneficial in the long-term in meeting the challenge posed by climate change.

The Canberra Institute of Technology (CIT) is the largest training provider in the ACT, with some 30,000 student enrolments. The CIT has been addressing issues presented by climate change for some time and is already providing relevant skills training related to climate change. As it is considered that the CIT initiatives may be of interest to other jurisdictions, they are presented in some detail in this submission.

CIT has for many years demonstrated consistent commitment to the provision of education and training which has had environmental sustainability as its focus. CIT has incorporated specific subjects within programs dedicated to addressing environmental issues. In 2007 CIT identified all CIT programs that focused on environmental management, sustainable development and renewable energies. Sustainability and sustainable development are increasingly being recognised by industry, government and communities as a way of doing business and a way to live for the future.

There is an increasing need for businesses to implement sustainable practices and that training is required to enable workers to incorporate sustainability into their work practices. Contrary to the common view that sustainability relates to environmental and ecological development, feedback from diverse industries identified sustainability as a key issue but its incorporation into work practices was industry-specific. Some examples are:

- In the Business Services Industry, sustainability adds a new accountability to business practices when evaluating strategies for the future such as planning expansion, new markets stakeholder engagement and longer term viability.
- In Community Development, it provides a structure for assessing community development practices.

- In the Construction Industry, sustainability relates to methods and materials used in construction.
- In the Manufacturing Industries, sustainable practice relates to the eco-efficiency and 'leaner' forms of manufacturing.

In 2009, CIT will be offering a Diploma in Sustainability which will address many of the issues outlined above and increase CIT's capacity to meet current and future demand for climate change professionals.

CIT has a dedicated Environmental Reference Group whose role incorporates encouraging and assisting Teaching Centres to integrate the principles of environmental sustainability into curriculum, as well as encouraging and assisting the development of specific stand alone environmental programs, negotiated with and for industry, and with and for Government. All environmental activity at CIT, inclusive of corporate, facilities, teaching and learning and training and development will be registered on a central database by the end of 2008.

CIT is currently developing a full Environmental Management Plan that will guide and coordinate all CIT environmental actions, training and skills development into the future.

CIT is currently working in conjunction with ACT Territory and Municipal Services(TAMS) to progress the development by CIT of an online Environmental Sustainability Awareness program which could be used to begin to train all ACT Government employees in environmentally sustainable work habits and actions. CIT and TAMS are currently jointly developing training options for plumbing apprentices as a response to the increasing demand for skilled solar energy tradespeople. CIT has significant industry connections and responds to industry needs across the ACT and beyond. CIT also influences industry via partnerships which impact on requirements for various trades to upskill their employees in environmental practices.

Examples of the ability of CIT to meet current and future demand for climate change professionals include:

#### In the field of Electro-technology

- Programs in renewable energy and photovoltaic installation have been delivered in the Electro-technology area since 2005. Numbers are currently doubling each year, and are expected to grow even faster as the demand for PV installation increases with the ACT Government rebate.

#### In the Plumbing Trade

- CIT is currently developing a Solar Hot Water Installation course for plumbers. CIT expects demand for the program will increase, particularly if incentives for installation of solar hot water systems are introduced. A two day course will be offered initially targeting licensed plumbers, with a view to offering the course to plumbing apprentices in the future.

- CIT is committed to working collaboratively on initiatives with both industry and government in order to assist in addressing climate change needs and targets.

These examples demonstrate the clear capacity of vocational education and training organisations to meet future current and future demand for climate change professionals across the trade areas.

#### In the Science, Forensic and Engineering professions

A renewable energy module has been delivered for Mechanical and Electronic Engineering students at CIT for more than eight years. 2008 has seen a substantial increase in student numbers. It is forecast that these numbers will translate into the Certificate IV program.

CIT offers two specific programs:

#### *Certificate IV in Renewable Energy*

This qualification meets the requirements of the Electro-technology Industry Training Package)

#### *Course in Renewable energy – Statement of Attainment*

This program provides the background to renewable energy options such as solar charts, passive solar, photovoltaic, wind turbines and micro hydro.

#### In the Building and Environment Trades

*Certificate IV Building and the Diploma of Building* (proposed versions commencing 2009)

Both qualifications will contain two newly developed and nationally accredited competencies, which will also be offered as stand alone short course programs for the general public.

*1) Apply sustainable building design principles to water management systems.*

This unit specifies the outcomes required to:

- Apply sound water management principles as part of the implementation of sustainable building and construction processes.
- It covers areas applying to legislative and planning requirements for effective water management systems.
- Identify and apply opportunities for improved water management
- Apply sound water management principles to the site and landscaping
- Promote best practice in water management.

The unit will develop competency in a person enabling them to source and analyse legislative and planning requirements, calculating and costing the savings of implementing alternate water management systems, applying effective water use and recycling and re-use to the planning of a project and producing work plans that reflect effective water management.

## *2) Build thermally efficient and sustainable structures*

This unit specifies the outcomes required to;

- Apply sound principles of thermal efficiency as part of the implementation of sustainable building and construction.
- Apply legislative and planning requirements for thermal efficiency to the building process.
- Review design solutions for effectiveness and compliance
- Manage the building process to ensure an effective outcome

The unit will develop competency in a person enabling them to source and analyse legislative and planning requirements for thermal efficiency on the building process, calculate costs and savings of implementing alternate thermally efficient systems, applying the principles of thermal efficiency to the planning of a project and producing work plans that reflect effective thermal efficiency.

Both programs have undergone extensive redesign in conjunction with Industry and stakeholder input during 2008.

The Certificate IV and the Diploma are required programs for ACT C class builders licence and B class builder's licences' respectively.

As these initiatives demonstrate, CIT is in the forefront of providing skills for emerging industries, and changing industry needs, in response to climate change.

Thank you for the opportunity to provide a submission to the Senate Standing Committee on Education, Employment and Workplace Relations.