Senate Inquiry into Universities and Climate Change

Terms of reference

The Senate is conducting an Inquiry into the capacity of universities and other research and training institutions to meet current and future demand for climate change professionals, and possible measures to assist understanding of climate change in the Asia-Pacific region.

Bond University is presently engaged in a number of programs and initiatives to enable the professions, industry, government and the community understand the effects of climate change and the implications of the new environmental legislation such as the proposed Carbon Trading Scheme to be introduced in 2010. Some of these initiatives and programs are outlined below.

Bond University

Mirvac School of Sustainable Development Building

Bond University's Mirvac School of Sustainable Development is one where planning, property, project management, construction management and quantity surveying are integrated in a school of the urban environment in the context of sustainable development. The School is the first designated institute to fully integrate environmental, urban planning, property development, quantity surveying, construction management and facilities management disciplines with the practical issues of managing economic and social viability with societal expectations.

The goal was to blend together these three aspects: ecological sustainability – *indoor environment quality, transport, water, materials, emissions, land use and ecology* - closely linked to economic and social sustainability. Carbon emissions postgraduate courses now join the basic suite of programs to provide skills for climate change and sustainability.

Carbon Management Postgraduate Programs

INTRODUCTION

The School of Sustainable Development has responded to the Government's initiative in carbon trading in 2010 by designing a graduate program for practitioners in the built environment such as engineers, architects, quantity surveyors and from the business, legal, accounting and economics disciplines, who will all be involved in advising on and managing the new carbon trading environment.

This program establishes the economic, business, financial, science/engineering, legal, asset management, sustainability and environmental parameters for the development of a graduate diploma (late 2009) and a masters in Carbon Trading (early 2010) that will integrate all these disciplines and provide sufficient expertise for specialisations to develop in this complex field. The four basic dimensions for the graduate Certificate are shown in the diagram below. As the graduate program develops, then further dimensions will be added to reflect demand and the emerging legislation an compliance requirements.

Dimensions of the Graduate Certificate in Carbon Trading

LAW	**SCIENCE / ENGINEERING**
ECONOMICS / FINANCE	**ASSET PERFORMANCE**

The initial Graduate Certificate program for 2009 will consist of 4 subjects:

1. Environmental management and ecological science
2. Environmental Legal Issues
3. Asset & Carbon Management
4. Economics and Carbon Trading

It is planned to launch this program in January 2009. Executive education programs will also dovetail into this graduate program, where individuals or organisation require the knowledge and the skills, but not necessarily want to commit to a full academic program.

Bond University already has the necessary academic and practical expertise to launch this program. It is actively engaged in recruiting new staff with the necessary qualifications and experience in this area to provide the necessary knowledge and expertise for its executive programs and it graduate programs up to Master's level. Bond University is also tapping into its considerable expertise across Faculties (Law, Medicine, Humanities, and Business) and working towards partnerships with other universities (in Australia and overseas) and organisations to provide comprehensive coverage of this important area of interest and activity.

FIELDS OF STUDY (GRADUATE CERTIFICATE)

*Environmental management and ecological science

The course content will examine:

- Carbon cycle science and history of environmental management, as an introduction
- International policy and the context of natural resource management
- Frameworks of private and public environmental management systems
- Foundations of Life-cycle analysis, impact assessment and management systems
- Environmental auditing and reporting methods.
- Organisational change and new directions in environmental management
- National, State, local environmental management policy, vegetation offsets, and vegetation sequestration
- Environmental banking methods in the United States and Europe

*Environmental Legal Issues

The course will examine:

- Introduction to methods of global environmental regulation
- International framework of treaties and protocols
- Domestic laws for regulating pollution
- Australia's Carbon Pollution Reduction Scheme
- *National Greenhouse and Energy Reporting Act 2007* (Cth)
- Legal issues in issuing, acquiring and trading Australian emission units
- Linkages with international emission trading schemes, and offsets
- Environmental compliance, assurance and reporting
- Corporate social responsibility
- Renewable energy and other environmental abatement schemes

*Asset & Carbon Management

The course will examine:

- Future proofing your assets
- Potential benefits of sustainable building
- Green Star certification and its application in providing a useable system
- Commanding premium rents and cutting operational costs
- Profiting from economies of scale and economies of scope
- First mover advantage in adopting sustainable design and sustainable management practices
- Retro-fitting
- Branding and marketing benefits from a communicable strategy
- Future outlook

*Economics and Carbon Trading

The course content will examine:

- Defining and understanding externalities
- Comparing short-run and long-run supply/demand and the effect on outcomes
- Economic cost/benefit of carbon trading
- Effect of carbon trading on competition policy
- Explain why carbon trading will actually make the economy more competitive and efficient
- Explain why commercial buildings have the greatest opportunity to cost-effectively reduce carbon emissions
- Risks and rewards in the carbon trading markets
- Focus on best approaches needed for adaptation, maximising rewards and minimising risks

Joint Gold Coast and Bond University Initiatives

In December 2007 Gold Coast City Council (GCCC) declared in the media that it was to become carbon neutral by 2020. Gold Coast City Council is leading by example in the battle against climate change with the adoption of a 'carbon neutral by 2020' target for its day to day operations.

The Gold Coast Council will:

- Ensure new Council-owned buildings achieve a performance of 40 per cent better than the Australian Greenhouse Building five-star rating.
- Purchase offsets so that greenhouse gas emissions generated by Council's work travel make no net contribution to global warming.
- Continue to identify and establish potential sites in the city for carbon sinks (sequestration and revegetation).
- Review purchasing arrangements to ensure suppliers are greenhouse-friendly.
- Develop and implement a program for employees to reduce greenhouse emissions at work and at home and
- Complete an adaptation risk analysis for Council assets and services by the end of 2008.
- Require its 363 petrol-fuelled vehicle fleet to use E10 (ethanol) fuel exclusively as soon as supplies can be secured.
- In 2008-09 convert the air-conditioning at its Evandale administration buildings to run on alternatively-sourced energy-efficient cooling.

The transition needed to achieve a Carbon Neutral urban form requires new ways of doing things from one form of activity to a new actions and outcomes. To further this process Ned Wales, Assistant Professor of Urban Planning in the School of Sustainable Development, is using the GCC declaration as a launching pad for new and integrated research relevant to Queensland and the rest of Australia.

Using the GCC declaration as a platform for future research

To assist in elevating the awareness of the need for a new approach in order to achieve this goal, Wales has requested that the Australian Institute of Landscape Architecture (AILA) engage with the build environment profession to evaluate what carbon neutral means, what does it look like, and how can it be realised within a short timeframe?
Thus, a program of "Carbon Neutral Landscapes" seminar series has been initiated to evaluate the above issues. The first of these seminars was held in July 2008 closely followed by a second workshop seminar in August. There has been enormous interest and response to the seminar and the challenges identified in attempting to reach this target by 2020.

In July 2008 Wales was guest speaker along with two other experts addressing the issue of carbon generation and sequestration and what the design and planning profession would be able to undertake to achieve carbon neutral status. The seminar presented the issues regarding emissions currently, their current and future impacts and mitigation measures such as the new sustainable communities, vegetation management and Green Banking trading schemes.

The final part of the seminar required a questionnaire to be filled by the attendees asking what researched and actions needed to be undertaken to reach this 2020 target. A substantial response was recorded and collated and now being actioned through a series of related initiatives.

Carbon Management Research Unit

The School of Sustainable Development and Faculty of Business aims to promote/establish/develop a research area that focuses on the issue of carbon cycle management, including sequestration and biodiversity conservation in the landscape. Wales begun negotiations with Gold Coast City Council, Mayor Ron Clarke and Cr. Peter Young, Chair of the Sustainability Committees and other Councillors to offer research and guidance on how to achieve a carbon neutral city and investigate the potential of the 33,000 hectare GCCC Conservation Estate being used in "Green Banking' and used in carbon trading mechanisms.

The research unit would entail the use of PhD and other graduate students to apply their knowledge and skills to resolving relevant and real life issues surrounding climate change. The research unit would also enhance the School's reputation and afford a number of other relationships across the campus and between Universities.