



Further & Higher Education

A National Review of Environmental Education and its Contribution to Sustainability in Australia - Key Findings

'Learning for sustainability has implications for the core of the institutional culture, influencing the decisions, management procedures and research actions of the further and higher education sector.'

■ The Series

This summary of key findings is derived from Volume 5 of a five part series that reviews Environmental Education and its contribution to sustainability in Australia. The research was undertaken by the Australian Research Institute in Education for Sustainability (ARIES) for the Australian Government Department of the Environment and Heritage. The series is titled 'A National Review of Environmental Education and its Contribution to Sustainability in Australia' and covers the following areas:

Volume 1: Frameworks for Sustainability

Volume 2: School Education

Volume 3: Community Education

Volume 4: Business and Industry Education

Volume 5: Further and Higher Education

■ What is Learning for Sustainability?

Learning *for* sustainability (also referred to as 'education for sustainability' or 'education for sustainable development') provides a new approach for current practice in Environmental Education. This new approach attempts to move beyond education *in* and *about* the environment approaches to focus on equipping learners with the necessary skills to be able to take positive action to address a range of sustainability issues. Learning *for* sustainability motivates, equips and involves both individuals and institutions in reflecting on how they currently live and work. This assists them in making informed decisions and creating ways to work towards a more sustainable world. Learning *for* sustainability aims to go beyond individual behaviour change or single actions often associated with education for the environment. It seeks to implement systemic change within institutions.

Current Situation

Further and higher education institutions play an important role not only in shaping the way we think, but also in educating the next generation of decision-makers, including business leaders and government executives. They are also critical as they are the main point of training for key multipliers and the core of the teaching profession itself.

With the *United Nations Decade of Education for Sustainable Development (2005-2014)* having commenced, all countries are being encouraged to take progressive steps to integrate sustainability into education plans at all levels and across all sectors. However, creating opportunities for Environmental Education within the further and higher education curricula is one of the biggest challenges.

Change towards sustainability in this sector requires more than just rethinking education plans or curricula. Ultimately, learning *for* sustainability has implications for the core of the institutional culture, influencing the decisions, management procedures and research actions of the further and higher education sector. The large scale changes required may explain the difficulties this sector faces to fully engage with sustainability. Instead it has seen its contribution as mostly that of undertaking sustainability research for changing community thinking and practice rather than changing itself.

What is Needed

The education of the next generation of leaders and professionals represents a critical opportunity to address sustainability issues. The curriculum change needed to seize this opportunity requires staff training, the development of teaching and learning resources, and the revision of existing courses as well as the provision of new courses.

A handful of sustainability initiatives currently exist in Australian further and higher education institutions but these tend to focus on single projects to address sustainability, as opposed to taking a more systemic view of learning and change across the institution. For education institutions to more deeply address sustainability there is a need to link campus management to research, curriculum and administrative practice, such that a learning *for* sustainability approach is embedded across every aspect of institutional operations in a synergistic way.

For this to be possible the further and higher education sector needs to understand best practice in learning *for* sustainability. This will allow us to evaluate the effectiveness of existing programs and our progress towards long-lasting change for sustainability. This knowledge could also be used in the design and delivery of future programs for the sector.

About this Report

This report is the first national review of its type undertaken in Australia and one of few attempts around the world to capture needs and opportunities in this area. It consolidates and builds upon previous studies and provides a review of Environmental Education and its contribution to sustainability in the further and higher education sector in Australia. It represents a snapshot of the current context through a review of programs and emerging trends. The key themes covered by the report are:

- i) Learning from Greening the Campus;
- ii) Learning for Sustainability in the Curriculum;
- iii) Declarations of Commitment to Sustainability;
- iv) Institutional Learning for Change;
- v) The Changing Nature of Work;
- vi) Generic Skills; and
- vii) Competency Based Training.

What are the Gaps?

Understandings of the term 'sustainability' and 'learning *for* sustainability' vary considerably across the further and higher education sector highlighting that these are new concepts and that there are no common agreed goals. It has been recognized that there is a need for 'critical reflection' and discussion of the concept to **develop shared understandings and consistent approaches** across the further and higher education sector.

A growing number of education institutions have signed national and international sustainability declarations. Many of these institutions struggle to fulfil their commitments through policies and implementation plans. While declarations are of some value in providing direction, they need to be accompanied by a process of **institutional strengthening and professional development** in order for their principles to be translated into practice.

Many training institutes, colleges and universities are currently approaching sustainability through campus greening (offering recycling facilities and energy and water efficiency programs) and a few through the integration of environmental knowledge into existing courses/training packages. While these efforts are a first step and should be applauded, institutions need to address the broader notions of learning *for* sustainability. For instance, internationally this sector is working towards sustainability not only across campus management and operations, but also in policy, curriculum, teaching approaches and research activities. **A holistic process of institutional learning for change** is considered best practice. There is much to learn from overseas experience in this sector.

■ Conservation and Land Management Support Guide

The support guide provides teachers with information and advice on how to deliver this new Training Package in a way that builds student capacity to address sustainability issues.

The recommendations made include:

- discuss sustainability issues in class;
- encourage students to understand the concepts and take them into industry/employment with them;
- highlight current best practice; and
- implement best practices in your office/teaching environment.

This support guide was developed with teachers and the Providers Network in Victoria for the Conservation and Land Management Training Package. This encouraged adoption and built teachers' skills in sustainability.

National Centre for Sustainability, Swinburne University of Technology (2003, p.11) Conservation and Land Management Support Guide. Available at: <http://www.ncsustainability.com.au/?id=partnerships>

■ Business Planning as Learning for Sustainability

Students At Macquarie (SAM) is the recreation and service provider at Macquarie University, Sydney. SAM has a vision to establish:

'...a reputation of providing services of quality and relevance to the campus community, in an environmentally, socially and culturally responsible manner.'

In 2003, SAM brought in a sustainability consultant to run a staff workshop in order to define sustainability in relation to their services and envision SAM's future direction. This EcoSteps workshop integrated the strategic planning process with a process of learning for sustainability and led to the development of a business plan based on the principles of sustainability.

Students At Macquarie (SAM) (2003) *SAM Initiative for Sustainability*. Unpublished.

■ Building Sustainability Workshop

The Tertiary Education Facilities Management Association held a workshop in July 2004. Its objective was to enhance the knowledge and capacity of facilities management staff to incorporate sustainability principles in campus management. The workshop provided an opportunity for tertiary facilities management staff to share their knowledge and experiences of sustainability initiatives.

Tertiary Education Facilities Management Association (2004) *Building Sustainability Workshop*. Available at: <http://www.facilities.usyd.edu.au/tefma/>

■ Higher Education Engaging with the Community

Sheffield Hallam University in the UK is beginning to engage with its stakeholders in broader society. Its policies advocate the development of community partnerships, joint ventures and networking initiatives. For the University the significance of this is in the process of dialogue and relationship building with stakeholders external to the institution and less so the actual content of the engagement. Advocating multi-stakeholder partnerships is closely aligned with the principles of learning for sustainability.

Downey, R. (2004) 'Sustainability takes time', *International Journal of Sustainability in Higher Education*, 5 (1): 81-90.

■ Learning for Corporate Sustainability at UTS

'*Responsible Business* at the University of Technology Sydney (UTS) seeks to establish links between business management and sustainability issues. It encourages value-based management and attempts to bridge the gap between personal and professional ethics. The subject builds 'critical reflection' skills and is action-oriented.'

Bubna-Litic, D. (2004) *Responsible Business - Subject Outline*. Sydney: UTS

The sector is experiencing a drive towards a **generic skills agenda** which could act as a vehicle for engaging with sustainability across the disciplines and training packages. This agenda offers great potential for addressing '**critical thinking skills, values clarification skills and stakeholder engagement skills**', which are often associated with learning *for* sustainability and are not systematically addressed by current courses or programs.

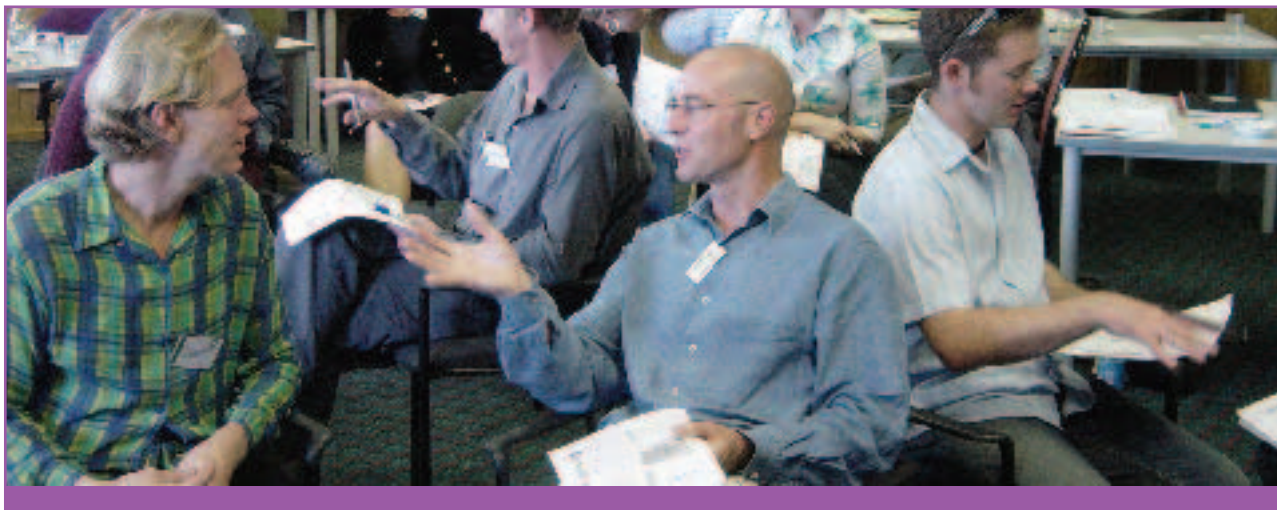
Recently, Technical And Further Education (TAFE) centres, colleges (and some universities) are increasingly recognising the need to **engage industry and other external stakeholders** in defining course outcomes or competencies so that these address relevant social needs. This dialogue needs to be **strengthened through more formal partnerships** as it has great potential to drive change towards sustainability and to ensure that education and training is more relevant - particularly to the needs of employers and the changing nature of work.

Further education is increasingly focused on competency-based training through national training packages. These training packages are created by course developers and not by those who teach these courses. In comparison, within universities divisional committees approve the general aims, subject and generic

outcomes of courses, but it is the teaching staff who pull the course together and who exercise a great deal of control over *what* and *how* students learn. These differences have implications for how we **build capacity for sustainability** across the sector. Strategies for curriculum change in further education must differ from those currently being piloted in higher education.

In the future, in order to enhance further and higher education's contribution to sustainability, environmental education initiatives will need to:

- Establish whole of institutional approaches to learning based change for sustainability. This should include campus management, curriculum, research, outreach and operations through an organisational learning approach;
- Build the capacity of staff (academic, administrative and facilities management staff) in sustainability and learning *for* sustainability; and
- Establish partnerships between institutions and with business, government and non-government organisations to strengthen and share experiences in sustainability and learning *for* sustainability.



Recommendations

The research undertaken by the Australian Research Institute in Education for Sustainability has revealed a number of key needs. The following recommendations identify practical steps at a policy, practice and research level that could strengthen the contribution of Environmental Education towards sustainability within the further and higher education sector.

For Government:

1. **Establish a National Council on Sustainability in Further and Higher Education** to develop and implement a **national strategy and action plan** on learning for sustainability approaches in further and higher education. It should also play a key lobbying role - advocating and creating opportunities for environmental education and sustainability across the sector.

The Council would involve the Australian Vice-Chancellors' Committee, the Australian Government Department of Education, Science and Training, the Industry Skills Councils; the Australasian Campus Union Manager's Association, the National Tertiary Education Union, and the National Union of Students.

The national strategy and action plan needs to be aligned with existing strategies such as 'The Australian Quality Training Framework' as well as with key developments such as the Australian Research Council Research Priorities. They should engage with key sector influences

such as Australian universities quality assurance processes or Vocational Education and Training's employability skills framework.

2. **Provide incentives (such as grants)** to further and higher education institutions to develop and implement **institutional policies and action plans** on sustainability and learning *for* sustainability approaches. These should be aligned with the national strategy outlined above and promote institutional learning and action for sustainability.

For Institutions and Educators:

3. Develop a process of **rating institutional progress** towards sustainability and learning *for* sustainability. The international review and benchmarking tool outlined in recommendations 9 and 10 could assist in this task. The institutions, which have achieved a high rating, could be rewarded with a **prize** from the proposed National Council on Sustainability in Further and Higher Education (see recommendation 1).

For example, a process similar to that undertaken by the Corporate

■ Action Research for Change Towards Sustainability

Action Research for Change Towards Sustainability (ACTS) is a Macquarie University and Australian Government Department of the Environment and Heritage project that explores ways of changing curriculum and developing graduate sustainability skills. It is a two-year project focusing on:

- exploring research based activities to innovate for sustainability through curriculum, professional and/or organisational development;
- professional development of teachers of postgraduate units;
- cross-faculty involvement.

The project is ongoing and positive outcomes have already been achieved beyond Macquarie University. University of New South Wales' Faculty of the Built Environment have engaged with the principles of learning for sustainability and changed the approach adopted in undergraduate teaching and there are also plans to innovate teaching practice in Business Accounting at Griffith University.

ACTS Team (2003) *Action research for Change Towards Sustainability: Change in Curricula and Graduate Skills towards Sustainability*. Sydney: Macquarie University.

■ Developing Generic Guideline Standards in Sustainability

The National Centre for Sustainability at Swinburne University of Technology has recently commenced a project to develop generic guideline standards for sustainability for use in Training Package development and review. The project is being conducted on behalf of Australian National Training Authority under a Memorandum of Understanding with EcoRecycle Victoria and the NSW Department of Environment and Conservation.

National Centre for Sustainability, Swinburne University of Technology (2004) *Knowledge and Skills for Sustainability* Available at: <http://www.swin.edu.au/ncs/research-projects/knowledge.htm>

Responsibility Index for businesses could be adopted. The **Corporate Responsibility Index**, which has incorporated the **Global Reporting Initiative**, benchmarks participating businesses on their social responsibility within the spheres of community, workplace, marketplace and environment.

4. Encourage Australian education institutions to establish **strong partnerships with the Global Higher Education for Sustainability Partnership** to identify share and disseminate widely, via internet, in print, through seminars and/or development of a toolkit, effective **strategies, models and good practices** for sustainability in higher and further education.
5. To identify/reward institutional champions for change. **Establish an accreditation scheme** for further and higher education institution staff to acknowledge competencies and professional development in learning *for* sustainability. For example, in higher education the scheme could recognise those who;

a) involve stakeholders from business, government and non-government organisations in institutional and/or curriculum development;

b) promote connected learning; and

c) educate *for* and not just *about* sustainability.

6. Provide a national professional development program for **campus environmental and sustainability managers** on sustainability and learning

for sustainability approaches.

The campus management for sustainability resource identified in recommendation 13 could form the basis of the program.

7. Document the experiences of **action research projects in curriculum change for sustainability**. This would document the results of the action research project described in recommendation 10. This resource should focus particularly on the processes by which researchers are engaging in change. It would provide support material for others planning change within this sector.

For Researchers:

8. Undertake an **international review and assessment of progress in institutional learning for sustainability**. This research should be focused particularly on curriculum, research, outreach and management. The findings should be published in a resource that supports institutions with practical examples of strengths, weaknesses, opportunities and limitations of institutional change for sustainability.
9. The review identified in recommendation 8 could be used to **develop a benchmarking tool** for a whole of institution approach to sustainability. This tool could be based upon a triple bottom line approach, encompassing campus management and operations, curriculum and research.
10. Undertake an inter-institution **action research project** with **university teaching staff** to integrate learning *for* sustainability principles and processes into **curriculum**, whilst identifying and 'removing' barriers to change, and determining how transformative

change can be achieved. This could extend the work undertaken by projects such as the Action Research for Change Towards Sustainability project and could be area specific, e.g. design and architecture; commerce and finance; and building and trade.

11. Undertake a **participatory needs assessment** in sustainability for **specific industry sectors** through stakeholder dialogue. In Vocational Education and Training this could be done in partnership with the Skills Councils and could be used to inform the reviews of training packages. At the university level, this could be undertaken in partnership with bodies which accredit courses such as planning, architecture, engineering etc.
12. The participatory needs assessment, as identified in recommendation 11, would inform the construction of a framework of **key generic skills** in sustainability, which could be used by **developers of training packages in Vocational**

Education and Training to address sustainability and learning *for* sustainability approaches. The framework could be constructed and/or trialed through participatory research involving key stakeholders. This framework could potentially be incorporated within the broader framework of Employability Skills developed by the Business Council of Australia and the Australian Chamber of Commerce and Industry.

13. Undertake **research and document experiences** of innovation in successful and effective **campus management** *for* sustainability. This resource should be practical in nature offering campuses suggestions of how they can integrate sustainable design and management of their own campuses. This resource should be targeted not only towards campus managers, but also toward students unions and others with a stake in campus management.

■ GHESP Resource Project

'The purpose of the online Global Higher Education for Sustainability Partnership (GHESP) Project is to provide regionally relevant resources, tools, and change strategies to individuals and institutions around the world who are striving to make education for sustainability a major focus of teaching, research, service, and physical operations... The project is developing through an ongoing global dialogue and consultation process that engages diverse cultures and individuals in identifying resource needs and contributes to a dynamic and ever evolving online resource center.'

University Leaders for a Sustainable Future (2004) *GHESP*. Available at: http://www.ulsf.org/toolkit/index2_eng.html

■ Reframing the Future

Sustainability is agreed to be an important issue for Western Australia and for Challenger Technical And Further Education (TAFE). This project adopts the notion of strategic management as a vehicle to embed sustainability principles into the Training Packages delivered at Challenger TAFE.

'The anticipated outcome of the project is a step forward for the Western Australian Horticulture & Environmental Science Skills Centre of Challenger TAFE, towards its Strategic Planning Framework for 2004-2009 goal of 'supporting the implementation of the State Sustainability Strategy'. This Reframing the Future project provides us with the opportunity to work towards some practical solutions to a very complex issue that has been largely overlooked or minimized in Vocational Education and Training.'

Reframing the Future (2004) *Staff Development and Change Management Programs to Support the National Training System*. Available at: <http://www.reframingthefuture.net/>

‘For education institutions to more deeply address sustainability there is a need to link campus management to research, curriculum and administrative practice, such that sustainability is embedded across every aspect of institutional operations in a synergistic way.’

■ **Disclaimer:**

The views expressed herein are not necessarily the views of the Australian Government, and the Government does not accept responsibility for any information or advice contained herein.

■ **Citation:**

Tilbury, D., Keogh, A., Leighton, A. and Kent, J. (2005) *A National Review of Environmental Education and its Contribution to Sustainability in Australia: Further and Higher Education - Key Findings*. Canberra: Australian Government Department of the Environment and Heritage and Australian Research Institute in Education for Sustainability (ARIES).

■ **Full Report:**

This is an executive summary derived from a research report titled ‘*A National Review of Environmental Education and its Contribution to Sustainability in Australia: Further and Higher Education.*’

The report is available for download in PDF format from www.aries.mq.edu.au and www.deh.gov.au/education or contact the Australian Research Institute in Education for Sustainability to obtain a hard copy.

■ **For further information please contact:**

Environmental Education Section, Australian Government Department of the Environment and Heritage.

John Gorton Building, King Edward Terrace
Parkes ACT 2600
+61 2 6274 1111
www.deh.gov.au

Australian Research Institute in Education for Sustainability
Macquarie University, Sydney NSW
www.aries.mq.edu.au

Printed on recycled paper