

# Chapter 17

## Integrating Sustainability within Higher Education

**Angus W. Stewart**  
*Edith Cowan University, Australia*

### ABSTRACT

*Many universities teach programs in sustainable energy, but should they be incorporating theories and practice of sustainability across many disciplines? This chapter proposes the argument that institutes of higher education should be primary vehicles of change in our transition towards a sustainable future. It discusses that this can occur at the institutional and curriculum level. Two case studies are presented; integrating concepts of sustainability within a biomedical discipline area and assessing the impact of a College waste recycling program.*

### INTRODUCTION

The concept of life-sustainability poses complex and bold challenges to universities and other institutes of higher education. Many are actively rethinking their goals and missions, which are filtering into courses, research programs and policies. Sustainability of our energy supply, environment and cultures are not only outcomes, but

should also be interwoven within the teaching and learning processes. This should not be seen as an obstacle to education, but as stimulus for change and innovation. But do we teach sustainability courses, or “teach sustainably”? Our graduates will be constantly extended and challenged by a rapidly changing world, from political, cultural, economic and scientific perspectives. Are we giving them the right tools to enable them to confront the issues of the future? The prospect of institutionalising sustainability within higher education can be daunting.

DOI: 10.4018/978-1-4666-5856-1.ch017

This chapter will briefly explore this prospect from a medical/biological perspective and propose some strategies for integration of sustainable-life theory into curriculum delivery. Two case studies are described, the first dealing with the introduction of sustainability concepts into a specific unit of study, the second a more general policy implementation aimed at the reduction of landfill waste.

### **Is Sustainability within Higher Education a New Concept?**

It is no secret that a clean, healthy environment is mandatory for human habitation. We humans are not a very resilient species. We can live for a few minutes without air, a few days without fresh water and several weeks without food. A number of chemicals and heavy metals in our immediate environment will poison us. We share our ecosystem with plants and animals we use to provide us with food. The planet and its living organisms supply the raw ingredients for human activities. Economic activity is regarded as the fundamental human benchmark of success, for which we turn natural and physical resources into goods and services. Therefore it is fundamental that a healthy economy is dependent on a pristine environment in which to thrive. This holds true for all human activities, from health care to housing, industrial manufacture to recreational pursuit. Irreversible contamination of our environment would trigger a catastrophic impact on our future existence.

Sustainability is not a “fad” or “nouveau trend” in education, but should be regarded as an intrinsic way of life if we are to survive on this planet for future millennia. In 1978 at an International Environmental Education Program, the incorporation of concepts of sustainability within the higher education sector was first introduced (Corcoran and Wals, 2004). Following this initiative, there have been established multiple programs both nationally and internationally to position declarations that define environmental sustainability within a higher education framework.

A landmark example is the Talloires Declaration of 1990, which as of February, 2012, had 430 signatories, of which 21 represented Australian Universities. (See Table 1, Source: University Leaders for a Sustainable Future, 2012). In October, 1990, Jean Mayer, the President of Tufts University, convened a conference of twenty-two high-level university representatives in Talloires, France. The purpose was to express their mutual concerns about the environmental state of the planet and to prepare a series of fundamental actions whereby research and teaching institutes could formulate a future that was sustainable. This amounted to the first official statement made by any university administrator that was a commitment to the principles of sustainable growth. The Talloires Declaration is a ten-point action plan for incorporating sustainability and environmental literacy in teaching, research, operations and outreach at colleges and universities. Of the 430 signatories, over 350 are from university presidents and chancellors in over 40 countries. Interestingly, the country with the highest number of member institutions is the United States, with 153, followed by Brazil, with 52. Australia is ranked 5<sup>th</sup> overall for its participation rate with many universities basing their own statements and declarations of environmental awareness on the Talloires Declaration.

### **“Footing the Bill”**

The term “carbon footprint” has been used a lot in the past fifteen years in both public and scientific debate, but what does it exactly mean? Definitions are many and various depending on the particular motivations of its proponents. The term tracks back to Wackernagel in 1996 with the definition of “Ecological Footprint” – which is an accounting tool that allows for the estimation of resource consumption and waste assimilation requirements for a defined and quantified economy or human population expressed relative to a given

12 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

[www.igi-global.com/chapter/integrating-sustainability-within-higher-education/103515](http://www.igi-global.com/chapter/integrating-sustainability-within-higher-education/103515)

## Related Content

---

### Mutual Relationship Between Supply Chain, Business Strategy, and Knowledge Management in Supply Chain

Mohsen Shafiei Nikabadi and Amir Hakaki (2019). *Dynamic Perspectives on Globalization and Sustainable Business in Asia* (pp. 301-327).

[www.irma-international.org/chapter/mutual-relationship-between-supply-chain-business-strategy-and-knowledge-management-in-supply-chain/215120](http://www.irma-international.org/chapter/mutual-relationship-between-supply-chain-business-strategy-and-knowledge-management-in-supply-chain/215120)

### Analyses and Retrospectives for a Profitable Agriculture: The Effects of Soil Fertilization Practices in the Context of Climate Change

Adela Sorinela Safta and Lavinia Popescu (2022). *International Journal of Social Ecology and Sustainable Development* (pp. 1-17).

[www.irma-international.org/article/analyses-and-retrospectives-for-a-profitable-agriculture/293240](http://www.irma-international.org/article/analyses-and-retrospectives-for-a-profitable-agriculture/293240)

### Social Entrepreneurship Through Innovations in Agriculture

Shad Ahmad Khan, Hesham Magd, Ibrahim Rashid Al Shamsi and Kaneez Masoom (2022). *International Perspectives on Value Creation and Sustainability Through Social Entrepreneurship* (pp. 209-222).

[www.irma-international.org/chapter/social-entrepreneurship-through-innovations-in-agriculture/309831](http://www.irma-international.org/chapter/social-entrepreneurship-through-innovations-in-agriculture/309831)

### Architecture and Mechanisms of Energy Auto-Tuning

Sebastian Götz, Claas Wilke, Sebastian Cech and Uwe Aßmann (2012). *Sustainable ICTs and Management Systems for Green Computing* (pp. 45-73).

[www.irma-international.org/chapter/architecture-mechanisms-energy-auto-tuning/67379](http://www.irma-international.org/chapter/architecture-mechanisms-energy-auto-tuning/67379)

### CobWeb Multidimensional Model and Tag-Cloud Operators for OLAP of Documents

Omar Khrouf, Kais Khrouf and Jamel Feki (2018). *International Journal of Green Computing* (pp. 46-68).

[www.irma-international.org/article/cobweb-multidimensional-model-and-tag-cloud-operators-for-olap-of-documents/221132](http://www.irma-international.org/article/cobweb-multidimensional-model-and-tag-cloud-operators-for-olap-of-documents/221132)