Introduction

In response to the calls for Ecologically Sustainable Development (WCED, 1987) and for leadership in environmental protection (Filo et al, 1996) many universities throughout the world are recognising the need to adopt environmental management systems and to integrate these systems into their business operations. However, in the U.S and Europe, at least, few universities are vigorously pursuing green initiatives (Dahle and Neumayer, 2001). One reason for this may be that environmental management remains a peripheral management issue. This paper suggests that if environmental programs are to succeed they must be mainstreamed into university operations, rather than sidelined as a soft management issue.

This article provides an analysis of environmental management in ten universities surveyed throughout Australia and New Zealand. While much information about environmental management in both U.S. (e.g. Hammond-Creighton, 1998; Herremands and Allright, 2000), and European (e.g. Delakowitz and Hoffman, 2000; Noeke, 2000; Dahle and Neumayer, 2001) tertiary institutions has been forthcoming, aside from Howard et al’s (2000) case study of the Charles Sturt University, little information about environmental management at Australian and New Zealand universities is available. Hopefully this contribution will stimulate discussion and interest and encourage further empirical studies on environmental management in Australasian universities.

The aim of this investigation is to identify the extent to which environmental management systems are underpinned by business management practice and thus mainstreamed into university management processes. Herremans and Allright (2000) have suggested that the level of financial investment, and the level of senior executive involvement indicate how mainstreamed environmental management programs are within tertiary institutions. While agreeing, the authors feel that there are other indicators of mainstreaming that demonstrate organisational commitment. These include community involvement, the development of environmental plans and the presence of control processes.

This article examines features of each of the environmental programs surveyed, with particular emphasis on the following:

- The presence of an environmental management plan and the level of financial and human resources available.
- The control processes that exist (e.g. environmental management systems, audits, reports to management).
- The level of campus community involvement in the program.

Methodology and Survey Results

The authors developed a simple survey instrument to gather information about...
environmental management systems established by the participating Universities. An invitation to complete the survey was issued to all Universities in Australia and New Zealand via the Australian Universities Environmental Managers Network (AU EMN) and the mailing list of the Australasian Higher Education Facilities Managers Association (AAPPA). Of the 46 possible Universities (38 Australian; 8 New Zealand) ten complete surveys were received. The participating Universities were: The University of Western Australia, The University of Newcastle, The University of New South Wales, University of Wollongong, Royal Melbourne Institute of Technology, The University of Melbourne, The Australian National University, The University of Auckland (NZ), Massey University (NZ) and University of Canterbury (NZ). The survey results are briefly summarised in Table 1.

Discussion

The results of this survey and the discussion suggest that environmental management is becoming an important management issue in the responding universities. Whether this is true of universities which did not take part, is more difficult to say, however, a review of the corporate web sites of those non-participating universities, found that only three had a published environmental policy.

The question that must be asked is whether the presence of an environmental policy and/or an associated program is evidence of mainstreaming? This will be investigated by focussing on the survey results and through discussing the importance of developing environmental plans, allocating appropriate resources, environmental auditing and reporting, and community involvement.

Table 1: Survey Results

- All the surveyed universities established environmental policies between 1994-98; 8 of the 10 policies were developed by a working group or environmental committee; the remainder by an individual; in 6 cases the committee or working group also oversees the implementation of the policy.
- Key areas of policy include: energy conservation, waste minimisation and ‘sustainability’.
- In 7 cases a dedicated position exists within the relevant facilities management department.
- There was direct executive involvement in 5 of the cases (direct involvement refers to involvement through a committee, through a reporting/auditing process, or through management responsibility).
- Only one respondent had hypothesised funding; the remainder relied upon subsidisation from central funds for staff positions and project- specific monies; 2 universities relied heavily upon external funding in the form of government grants.
- Academic involvement in policy development and implementation was evident in 9 cases.
- Student involvement in policy development and implementation was evident in only 3 cases.
- 6 of the universities surveyed completed some type of environmental audit; however, these were mainly project specific (eg water audits) and were not systematic reporting processes. Two universities undertook ‘Green’ office audits and reported on environmental progress annually.
- In 4 cases ISO14001 was used as a guideline in establishing the environmental program; only one university was going through the ISO 14001 certification process.
- 3 of the 10 universities conducted formal environmental risk audits.
Following that discussion, two conceptual frameworks that may aid universities in assessing whether their environmental management program is mainstreamed will be introduced. The first is a modified version of Hunt and Auster’s (1990) environmental development continuum; the second is Laughlin’s (1991) models of organisational change.

All the universities surveyed have an environmental policy, of the ten, six also have an environmental plan and four do not. The importance of developing an environmental plan is fourfold. Firstly, plans establish concrete guidelines. Where a policy will state that a university is committed to sustainable development, a plan will outline how sustainability will be factored into university operations e.g. through a water quality, waste management or similar plan. This is particularly important considering the multiple interpretations of the term sustainability. Secondly, plans, by focusing on specific projects facilitate the development of management infrastructure, i.e. they establish who will be responsible for a project, where the budget will come from and how the project will be evaluated. Thirdly, by outlining future environmental developments, plans facilitate accountability and leave the university open to criticism for not implementing certain programs (and also, praise for implementing them). Fourthly, plans can foster participation and representation; committees and working groups can be established that are representative of the university community and everyone can have some input into the future direction of the environmental plan. While policies are necessary, it must be remembered that they are abstract statements of principles that while creating a positive ‘environment’ do little to improve environmental performance; it is only when policies become operationalised through the establishment of a plan and subsequent programs that environmental performance can be improved.

The allocation of resources is also of central importance when determining whether an environmental program can be considered mainstream. As mentioned previously, of the ten universities surveyed only one has a dedicated budget i.e. a program specific budget that is used to recognise the goals of the environmental plan. This budget is over and above other project-orientated monies that may be allocated for large projects such as energy conservation or water conservation, which have, for a long time, been relatively mainstream facilities management activities (largely because of the return on investment they provide, rather than the environmental benefit). For instance, at the ANU a dedicated budget has been established and has been used to promote environmental awareness, subsidise the purchase of more costly environmental friendly products (e.g. recycled paper and LPG vehicles), help students with environmental projects, employ students to carry out environmental audits, fund student and staff environmental activities, fund an Environmental Achievement Award, and engage consultants to carry out environmental risk assessments. It is difficult to see how the money for these activities could have been obtained from project-orientated monies.

Aside from providing the resources to establish and implement environmental programs, the independent allotment of funds also facilitates accountability and increases the pressure on environmental managers to use funds with prudence i.e. to maximise environmental outcomes. The authors suggest that if a university is to take environmental management seriously,
dedicated resources must be allotted for the development and implementation of environmental programs.

On a related matter, it has been our experience that the success of environmental programs and the subsequent retention of ongoing funding, has often hinged on the development of thorough business plans for all environmental initiatives. In many instances, business plans focus on the financial benefit of the project. However, while this is part of the planning process at the ANU, the assessment of return on investment has been broadened to take into account both the impact of inaction on the University’s reputation, and the fact that environmental industries are in an early stage of development. The important thing for managers to do is to substantiate the project in real financial, social and environmental terms.

Audits and reports are also integral aspects of mainstream business culture and these appear to be neglected in some environmental programs. Six of the respondents indicated that they undertook internal audits, the majority were project specific waste, water and energy audits presumably designed to ascertain where one off savings could be made.

The importance of audits lies in the fact that audit information can be compared to pre existing criteria, and as such some normative improvement can be ascertained. For improvements to occur, audits must be married to larger environmental plans that put in place the recommendations of previous audits. For environmental management to be considered a mainstream business enterprise, audits and the subsequent development and modification of plans must become systemic aspects of environmental programs, not one off phenomena.

Another control process of importance is environmental reporting. The importance of environmental reporting is threefold; firstly, it informs the wider community of the progress of a university’s environmental plan and as such facilitates accountability. Secondly, it becomes an avenue through which the university can demonstrate the importance it places on environmental issues; this influences other universities and helps develop a university environmental management ethic. Thirdly, it provides a database of information on environmental management programs, which may prove useful to future environmental managers. Only two of the surveyed universities reported on the progress of their environmental programs.

From the authors’ perspective, as environmental managers at the ANU, the requirement to report annually to the Executive, Environmental Management Planning Committee, and to outside bodies (e.g. as part of the Commonwealth Government’s Greenhouse Challenge program) has ensured reports are compiled in a systematic way and are an accurate reflection of performance and progress. Hence, the level of accountability increases substantially with annual reporting and consequently it is difficult to see how environmental programs can be considered mainstream or indeed important if there is no reporting requirement.

Community involvement, especially that of senior executives is another crucial indicator of mainstreaming. Half of the surveyed universities had no direct involvement by the senior executive in their respective environmental programs. The importance of senior executive involvement is paramount
for two reasons. Firstly, it allows senior executives to factor the university’s environmental program into wider management issues, e.g. the marketing of the university and the social expectations placed on universities. Secondly, through participation in environmental programs senior executives will be able to see their financial, social and environmental benefits, this will reinforce the importance of such programs and lead to the continued support of the executive. It is difficult to see how a university’s environmental program can be considered mainstream without the involvement and support of the senior executive.

While the focus in this discussion has been on corporate indicators of mainstreaming, another important issue is the overall university community’s acceptance of the need for environmental management and that community’s consequent involvement in the development of the program and achievement of the objectives. As noted earlier, most universities surveyed had or have committees that are or were broadly representative of the campus community. However, none of the universities appear to have a real link to academic activities focussed in the area of environmental management. The opportunity to use this expertise would appear to present at least two major business and environmental benefits. The first is the potential to use the environmental program to build a bridge between corporate and academic activities, thereby making it an organization wide program and promoting a greater sense of individual ownership. This in turn, applies a value on the program that may force it into the mainstream of management issues. Secondly, university academic programs are by their very nature addressing issues at the leading edge. Consequently, closer integration of academic and corporate environmental activities offers the opportunity for innovation in campus programs and creates a culture that is more likely to promote best practice.

Building on this premise, i.e. environmental programs should be founded on a broad participatory framework across all elements of the campus community; another important consideration is reducing the complexity of environmental management issues. By establishing a simple environmental management infrastructure, university employees and students know whom the responsibility for environmental programs rests with, what the role of each group is, what programs are out there, and who to contact about environmental issues—this fosters interest and involvement. People will not participate in programs if it is overly difficult to do so. Universities are large, complex bureaucratic institutions and it is usual for people to feel confused about management issues. Clearly articulating the environmental infrastructure of an institution simplifies the issues and promotes the natural tendencies of individuals to be good citizens. If, through well functioning programs employees and students know how to recycle or conserve energy and the infrastructure facilitates it, people are more likely to participate if, for no other reason, than the perceived social responsibility demonstrated in their behaviour will promote a greater sense of self worth.

The above discussion suggests that in the majority of the surveyed institutions environmental management programs could not, at present, be considered mainstream. In general, principles are not operationalised through programs, resourcing and control processes are insufficient and substantive connections to executive level management and the broader campus community are barely adequate. However, the fact that a
number of universities have already established programs (and it would be reasonable to assume that as legislation changes and community pressure is applied, more will join them) is positive. As these universities and others progress towards mainstreaming environmental management an increasing need for frameworks against which they can evaluate their progress will develop. Discussed below are two frameworks that may aid tertiary institutions in this regard.

The five-stage development continuum suggested by Hunt and Auster (1990) provides a good starting point. Given that this model is not specific to organisational types, the authors suggest a slightly modified continuum that is applicable to universities (see Table I). As the framework suggests, environmental management is a developmental process. Performance is assessed against the criteria in column one and universities are classified as beginners, fire fighters, concerned citizens, pragmatists, or proactivists, with the level of mainstreaming increasing as they move from left to right across the continuum. As indicated in the framework this equates to a shift from indifference, to simple statements of principle, to a culture that promotes environmental best practice in all business activities.

Other frameworks that may be useful are the models of organisational change developed by Laughlin (1991), if only because they provide a means by which organisational commitment to change can be assessed. This is relevant as moving environmental management into the mainstream is, by any definition a significant organisational shift. Laughlin’s models compare the interpretive schemes (beliefs, values, norms), design archetypes (organisational structures) and sub-systems (tangible organisation elements) of organisations in various stages of change, brought on by a “jolt” or sudden requirement to change (for example, new commercial realities, community expectations or legislative changes).

According to Laughlin, first order, or morphostatic change can be of a ‘rebuttal’ or ‘reorientation’ nature. In the first instance, no significant organisational change takes place and the change is externalised; in the latter, some changes in sub-systems occurs but the organisational essence (i.e. interpretive scheme and design archetypes) remains unchanged. Laughlin also refers to second order or morphogenetic change. In this instance, changes ‘penetrate so deeply into the genetic code [of the organisation] that all future generations acquire and reflect the change’ (Laughlin, 1991). This change can occur through ‘colonisation’ i.e. change is forced through regulative or other outside pressure, or by ‘evolution’ where a proactivist stance is adopted. In both cases the interpretive schemes, design archetypes and sub systems of an organisation are fundamentally changed for good. This equates to the proactivist stance discussed above and is analogous to the concept of mainstreaming environmental management.

**Conclusion**
This paper has provided an analysis of environmental management at ten Australasian universities, with a focus on the ANU. Three indicators were used to assess the extent to which environmental management is mainstreamed in the above institutions, these were: the presence of environmental plans and resources, the presence of control processes, and the extent of community involvement. The survey data was discussed in light of the above and the importance of these indicators was explicated. Based on these indicators it was concluded that, at present, environmental management could not be considered a core
Table IV. Developmental Stages of University Environmental Management Programs (after Hunt and Auster 1990)

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Stage one ‘Beginner’</th>
<th>Stage two ‘Fire fighter’</th>
<th>Stage three ‘Concerned citizen’</th>
<th>Stage four ‘Pragmatist’</th>
<th>Stage Five ‘Proactivist’</th>
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<tbody>
<tr>
<td>Indifference Principles</td>
<td>Mainstreaming Continuum</td>
<td></td>
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**COMMITMENT OF ORGANISATION**

<table>
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<tr>
<th>General mindset of executive and facilities managers</th>
<th>Environmental management (EM) is unnecessary</th>
<th>Environmental issues should be addressed only as necessary</th>
<th>EM is a worthwhile function</th>
<th>EM is an important university function</th>
<th>EM is a priority</th>
</tr>
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<tbody>
<tr>
<td>Resource Commitment</td>
<td>Budget and human resources as problems occur</td>
<td>Minimal budget, but mostly from project orientated monies/some human resources</td>
<td>Dedicated budget/adequate staffing</td>
<td>Large dedicated budget/high level of human resources</td>
<td></td>
</tr>
<tr>
<td>Support and involvement of top management</td>
<td>No involvement (e.g. ignorant of EM)</td>
<td>Piecemeal involvement (e.g. vaguely aware of EM)</td>
<td>Commitment in theory (e.g. signing an environmental policy)</td>
<td>Aware and moderately involved (e.g. reported to)</td>
<td>Actively involved (e.g. university council and executive managers on committees, reported to, shaping policy)</td>
</tr>
</tbody>
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**PROGRAM DESIGN**

<table>
<thead>
<tr>
<th>Performance objectives</th>
<th>None</th>
<th>Resolve problems as they occur</th>
<th>Satisfy corporate responsibility</th>
<th>Minimise negative impacts</th>
<th>Actively manage environmental matters through an environmental management plan</th>
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<tr>
<td>Integration within university</td>
<td>Not integrated (e.g. no academic or student involvement)</td>
<td>Involved with other departments on a piecemeal basis (e.g. academic advise on environmental issues; one-off student participation)</td>
<td>Minimal interaction with other areas</td>
<td>Moderate integration with other areas (e.g. representation on committees)</td>
<td>Actively involved with other areas (e.g. representation on committees; using academic knowledge to solve environmental problems; active student involvement)</td>
</tr>
<tr>
<td>Reporting</td>
<td>No reporting</td>
<td>Exceptions reporting only (e.g. after an environmental problem)</td>
<td>Some internal reporting, but not systematic</td>
<td>Consistent and targeted internal reporting (e.g. audit reports, annual environmental reports)</td>
<td>Consistent and targeted reporting including external assessments</td>
</tr>
</tbody>
</table>

Source: Hunt and Auster (1990)
management issue within the majority of the surveyed institutions. A conceptual framework was presented that could prove useful to universities who would like to assess their progress in mainstreaming environmental management; and reference was made to Laughlin’s (1991) organisational change model, which may also be useful in this regard. As a complement to this study the authors suggest that further research should aim to explicate how environmental programs have been successfully mainstreamed within tertiary institutions.

References


