

Green Campus Policy Framework

for the University of Cape Town

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EXECUTIVE SUMMARY

This document presents a policy framework for responsible resource use and environmental sustainability for the University of Cape Town. This has entailed an initial scoping exercise towards integrated sustainable planning, development and management at the university and a comment period. This policy framework places energy savings alongside water conservation and waste management and re-cycling as factors that, when combined, can contribute to a targeted reduction in our carbon emissions - approaches that are increasingly accepted as good practice for universities and other institutions both internationally and in South Africa.

The initiative to develop a policy framework was launched by Vice-Chancellor Njabulo Ndebele following discussions at the Global University Leaders Forum at the World Economic Forum and in the context of the Talloires Declaration to which UCT is a signatory. The intention is that the University will be able to adopt approaches to energy saving that are contextualized within a principled policy for environmental sustainability.¹

While this policy framework is concerned with immediate environmental issues, it is increasingly evident that the most effective approaches align environmental sustainability with economic development, poverty reduction and broader improvements in the quality of life. UCT has considerable expertise in these areas of work and it is anticipated that, as the momentum towards environmental sustainability grows in the university community, so policies will expand to occupy a wider and more inclusive stage.

Following a period in which comment and endorsement of the proposals in this policy were invited and received from the Senior Leadership Group, experts in the area and the student sector, the following recommendations are made:

- this policy framework should be formally adopted by the University Building and Development Committee, Senate and Council;
- following the adoption of the policy framework, specific milestones and delivery targets should be adopted for the areas identified and by the appropriate agencies within the university;
- policies for partnerships and the appointment of outside operators should be drawn up where deemed necessary, including consultants and contractors for specific project directed tasks;
- an awareness and communication strategy, including web and on-line information, should be introduced.
- faculties and administrative and support departments should be encouraged to adopt practices which contribute to the objectives of this policy framework, with appropriate recognition of the implementation of good practices.

¹ Comments and contributions to the first draft are gratefully acknowledged from, among others, Professors Njabulo Ndebele, Richard Hill, Andrew Marquard, John Critien. Geoff de Wet, Susan Botha and senior students engaged with issues of environmental sustainability..

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- This framework should be regarded as an initial stage in widening the concept of sustainability to embrace the core work of the university.

This report has been reviewed and endorsed by the University Building and Development Committee. The report has been discussed by Senate. While noting specific points of detail that will require clarification, Senate strongly supported the policy framework (as Senate did not have a quorum, formal endorsement will be via the Principal's Circular).

Council is asked to endorse the policy framework for implementation.

INTRODUCTION

'...there are steps we have to take to change the legacy we will leave our children: adjustments to our growth path we have to make as a global community, as nations working together, as citizens of a shared humanity, in response to the challenge of climate change and environmental responsibility. We are in these things together, the war on poverty, infrastructure development and financial stability, responding to global warming – we share these obligations: rich and poor, urban and rural, men and women, business and community organisations, labour and government. ...because we march together under the banner of social solidarity to improve the lives of all South Africans.'
(Manuel,2008:8-9)

These were the words of Minister Trevor Manuel delivering the 2008 Budget speech in parliament. Echoing these sentiment in a recent newspaper article, Karin Ireton, the Head of Sustainable Development, Markets and Economics at Anglo American, stated that 'the issues that dominated the global media in 2007 were climate change and global warming' (Ireton, 2008:4). In academic circles too, sustainability has increasingly become a global concern, so much so that the issue of sustainable campuses was a key part of the Global University Leaders Forum at the World Economic Forum in 2007 (WEF, 2008:1).

As such, questions of sustainability have generated a large body of scholarship across a range of disciplines and sectors in many countries. Significantly, approaches are mainly based in 'first world', western and northern countries and there is a noticeable lack of comparable research that has emerged from Africa. South Africa, however, is an exception in this respect and universities including UCT have significant research expertise which could be usefully drawn upon in developing policies for implementation. There is also an important body of research emerging from countries in South America such as Brazil and others which provides informative possibilities for comparison. While a project of contextualising South Africa in the global community is not the key focus of this policy framework, this is an important aspect and direction for consideration in future. Such a focus will be of particular significance in the implementation phase of the Green Campus Plan as the effects of climate change and global warming will affect Africa directly, as poor people on the continent experience increased food shortages and

associated challenges. UCT's role in relation to addressing questions of sustainable development, social responsibility and poverty reduction will be critical in this respect.²

Returning to the 2008 Budget Speech, Minister Manuel cites Brazilian Roberto Unger:

'In his recent book on social democratic policy challenges, Harvard academic Roberto Unger, currently a minister in the Brazilian cabinet, speaks of the need to enliven democracy by confronting the interplay of global and local forces, by building the capacity to negotiate from a position of strength, by mobilising the resources of local knowledge and national capabilities. Unger points out for example that higher national savings is about expanding the scope to benefit from globalisation, and fiscal and monetary policies must be focused both on adapting to new circumstances and strengthening local institutions.' (Manuel, 2008:8)

An objective in preparing this policy framework has been to draw together the work done to date towards environmental and other areas of sustainability at the university.

BACKGROUND AND KEY COMMITMENTS

UCT has been committed to environmental sustainability since the 1990s. This has been emphasised through commitment to a number of policy initiatives.

The Talloires Declaration of 1990 is a statement by the Association of University Leaders for a Sustainable Future (ULSF) expressing concern about environmental degradation and identifying the need for urgent action to reverse this trend. Universities are seen to play a major role in education, research, policy formation and information exchange, necessary to move towards these goals' (Handler *et al*, 2003:7-8). As a signatory to the Talloires Declaration in 1990 and again in 2002 (Appendix 1), the University of Cape Town agreed to:

- create programmes and develop the capacity to teach environmental literacy to undergraduate, graduate and professional students;
- set an example of environmental responsibility by establishing institutional environmental policies and practices of resource conservation, recycling, waste reduction and environmentally sound operations;
- develop curricula, research initiatives, operational systems, and outreach activities to support an environmentally sustainable future;
- establish a secretariat and a steering committee to continue this momentum, and to inform and support efforts in implementing this declaration.

The Global University Leaders Forum was held in conjunction with the World Economic Forum in Davos (Switzerland) 26-27 January 2007. During this forum Rectors, Presidents and Vice Chancellors from prestigious universities met to discuss issues and

² This point is emphasised in the SRC's comments on the earlier draft of this policy framework: 'We are strongly in favour of an all encompassing approach that is "directed towards education, saving money, social responsibility and poverty reduction, contributing to urban sustainability, amongst other key strategic objectives" alongside goals for Recycling, Water Conservation, Energy Savings and Reducing Carbon emissions' (SRC Comment, 2008:1).

topics such as partnerships for education and models for the future; strategies for the globalization of the university; collaboration promoting faculty development and the use of technology, and challenges to global institutional governance. Over twenty university leaders attended the meeting, including UCT's Vice Chancellor, Professor Njabulo Ndebele.³

An initiative on sustainable campuses was introduced by Professor Richard C. Levin, President of Yale University. It was proposed that universities should give world-wide prominence to the pressing issue of global warming. It was agreed that most of the participating institutions have staff engaged in research that is tackling many aspects of the growing environmental challenge. What was needed in addition was a way for universities to show leadership by taking a public stand that would simultaneously draw attention to the issue and offer an example to the next generation of leaders and students. Lewin argued that 'by making significant institutional commitments to reducing our own emissions of greenhouse gases (GHGs), we could underscore that all individuals and institutions must play a role in reversing the deterioration of our environment.' He continued: 'such action would be a welcome refutation of the widely held view that university presidents are failing to be forceful participants in addressing the crucial public issues of our time. By banding together to show leadership in the critically important area of global warming, we could attract international attention that might inspire other members of the World Economic Forum, both for profit businesses and NGOs, to join the cause.'

Levin envisioned a 'manifesto' that Presidents would sign to commit their institutions to a specific goal of reducing GHG emissions by 2020 or sooner. The goal for reduction might vary from one institution to another depending on its own situation. The precise details were less important at this point than the general concept, which was to lead a broad coalition of institutions around the world to more responsible environmental behaviour. He added: 'I hope that each of you will consider joining in this important work of ameliorating global warming by adopting a significant goal for reducing GHG emissions between now and 2020. For example, rapidly growing institutions in developing countries might consider a 10% reduction in GHGs from today's levels, or perhaps a policy of 'no growth' in GHG emissions, while institutions in developed countries might aim for something akin to the Kyoto goals: a 10% reduction from 1990 levels'.⁴

At the January 2007 meeting a three-step plan was proposed which focuses on the development of energy efficient campuses on the basis that: 'the environmentally benign production, transportation, distribution and end-use of energy which are commensurate with research activities is a major challenge for Universities' (WEF, 2008: 1). The three steps were:

³ The Global University Leaders Forum was launched in 2006 with the aim of providing a mechanism to support universities in developed as well as in developing countries in finding solutions and common approaches to global educational challenges.

⁴ E-mail correspondence from Richard C. Levin January 9, 2007, to: Members of the Global University Leadership Forum.

- participating universities should establish an ‘energy footprint analysis’ of their campuses, building a network for the exchange of information including methodologies, metrics and results. This would be co-ordinated by a small working group;
- the development of the concept of internal ‘energy compensation’ in a context specific manner. The main aim is to achieve ‘climate neutrality’ by compensating for energy loads which are not reducible by a reduction in consumption and the production of renewable energy. Universities were also identified as ideal places in which to deploy alternative technologies and to run ‘real-size’ demonstration projects.
- the development of ‘technological demonstrators’ for a ‘virtual energy efficient campus’ (WEF,2008:1).

WHY A GREEN CAMPUS PLAN?

Internationally universities, businesses, cities and countries have begun to consider environmental sustainability. Many corporations have linked environmental initiatives to Corporate Social Responsibility (CSI) programmes and have sought high level executive buy-in to prioritise sustainability within their corporate cultures. Increasingly too, students, consumers and citizens are becoming more demanding that the institutions, goods and places that they purchase, use or are associated with display good environmental practices.⁵ Universities are no exception to this ‘green wave’ where issues of sustainability are becoming bottom-line economic factors and the rewards for investing in green practices and policies are viewed as ‘eco-advantage’ (Esty and Winston, 2006:30).

The terms ‘green’ and ‘sustainable’ are fast becoming key words in campus planning circles. Universities all over the world are putting in place processes towards establishing sustainability within their core business practices, in recognition of the role that they can play in taking responsibility for global environmental issues.

According to Stanford University’s Vice-President for Land, Buildings and Real Estate, ‘carbon is really the basis of it, all of the other sustainable initiatives that we are doing – green building, green procurement, recycling – all of that feeds into this umbrella of carbon reduction’ (Stanford News Service, 2007: webref). The priority is to achieve greenhouse gas reductions via implementing initiatives on campus-owned land, with the best balance of planned reductions often being achieved through partnering with outside entities (Yale, 2007: webref).

At Yale, alternative energy projects requiring significant capital investment by the University are evaluated on the basis of ‘resulting carbon reduction per dollar of interest

⁵ For example, locally the Vineyard Hotel has been attracting discerning visitors who enquire about the hotel’s green practices and this has become one of the criteria thought which tourists are choosing to use the hotel. (Interview with Chris van Zyl, Vineyard Hotel Environmental Manager, January 2008)

and amortization incurred.’ Projects yielding the largest return are undertaken first so that emission reductions can be achieved as quickly as possible.’ The net impact of this greenhouse gas reduction program has been to reduce Yale’s annual per square foot greenhouse gas emission from its high in 2004 by nearly 55% in 2020. Similar targets have been set by universities in the United Kingdom, for example at Oxford Brookes University (Oxford Brookes, 2007: webref).

At the École Polytechnique Fédérale de Lausanne (EPFL) sustainability is offered as an education option for continuous education, alongside research and other teaching options. The architecture of the campus is designed along sustainable principles, including the use of high thermal isolation, green roofing, natural ventilation and lighting, modularity for adaptability, durable materials, and natural landscaping for which the EPFL has won a national award (WEF,2008:2). The sustainable campus initiative at the University of Tokyo follows the three steps towards achieving a sustainable campus formation resulting in a footprint analysis, a remedial plan for implementation and a strategy towards outreach and collaboration (WEF,2008: 2-6).

In 2004 Yale University took its Green Plan further and strengthened its commitment by creating the position of Sustainability Director and the Office of Sustainability, with the slogan ‘Sustainable Yale’ appearing prominently on all official documentation and on the university website (Yale, 2007: webref). Yale has further established a comprehensive Sustainability Strategy that invites a broad based coalition of participation and is iterative in nature. The strategy has two primary components, ‘one time events’ and ‘on-going actions’ (Yale, 2007: webref).

University sustainability programmes, once integrated into the operational aspects of the institution, provide further opportunities for innovative practices. These can include: sustainable travel plans such as those instituted by Oxford Brookes University (Oxford Brookes, 2007: webref); green conferencing (Munnik, greexnenergy, 2006: webref); on-line monitoring of electricity consumption such as at many Australian universities; and the possibility of linking to city-wide initiatives such as ‘Sustainable Melbourne’ or ‘Sustainable Rotterdam’ where universities play a central role in local urban initiatives (Sustainable Melbourne, Sustainable Rotterdam: webrefs).⁶

UCT’s own Green Campus Initiative, started by students in the Department of Botany, is based on the example of Harvard University’s ‘Green Campus Initiative.’ Almost ten years since its inception, Harvard’s is an impressive initiative, based on a business model has grown into an independent unit that works on targeted projects and programmes across research, teaching and administration. ‘Start-up story’ on the Green Campus Initiative website (www.greencampus.harvard.edu) tells how the project began with a modest grant to fund the employment of one staff member for a year in 1999. During this time a ‘well supported’ strategic plan was developed after which funding was sought for a five year period, enabling ‘[the director] to focus on building an organistaion capable of

⁶ At UCT any Campus Green initiative should link with the existing and proposed City Improvement District CID across its campus. (suggestion via comment received from Councillor Owen Kianhan, E-mail correspondence with Noëleen Murray 11 April 2008)

providing green campus programmes and services to multiple schools and departments across Harvard University' (Harvard webref: 'Start Up Story'). Much could be gained by UCT from the Harvard experience, both from the website which is both a resource and communication tool, or possibly through a more formal exchange arrangement between the two Universities.⁷

Green Campus Initiative

At UCT, the student sector has taken the lead in designing a Green Campus Initiative, which has the following manifesto:

The problem

Published last year, the Stern review contributed towards understanding the economics of climate change. The review states that instead of acting later, immediate action to reduce greenhouse gas emissions will reduce the environmental and social cost of climate change considerably. Research from our own university and other institutes predict that with a 3°C increase in temperature, extensive parts of the country's flora and the wildlife that depends on it will be in danger of extinction by 2050. Clearly climate change is one of the most important challenges our planet currently faces. UCT has historically led social change, and has the potential to lead the way in addressing this issue.

The vision of a Green Campus Unit

Shift UCT towards a carbon neutral, sustainable institute.

Be an independent Unit that is a connection point between academic and administrative staff and students.

The role of the Green Campus Unit

Determine the total greenhouse gas (GHG) footprint of UCT, set a greenhouse gas reduction target, prepare and implement a GHG reduction project

Prepare a GHG inventory according to international standards

Set a GHG reduction target

Prepare and implement GHG reduction projects

Develop the use of UCT as a living laboratory for educational purposes

Many exciting opportunities exist for course content across a range of disciplines to be tailored to help inform and develop implementation of real-life sustainable practices at UCT e.g. worm farming, energy loss of a geyser

One example would be for the Unit to develop a sustainable practices course suitable for undergraduate students

Develop educational programs that will achieve campus environmental impact reduction

The Unit, in close collaboration with students and staff can drive the development and implementation of an educational program that achieves campus environmental impact reductions.

One example would be to create a residences program with the purpose of educating and engaging students in a wide range of campus sustainability initiatives which would include water conservation, environmental procurement, paper conservation, mindful use of heating and cooling, minimization of food waste, learning about climate change and renewable energy, recycling and reuse of paper, cardboard, clothes, equipment and furniture and more.

Research to advise procurement and energy saving incentives

The Unit can be used as a research body to support administrative and faculty staff in best sustainable practices.

Some examples would include identifying the most suited environmentally friendly products to purchase, the feasibility of switching to renewable energy, which renewable energy options are most suited, small improvements to existing buildings to improve their performance and lower energy consumption.

The structure of the Unit

It is suggested that the Unit is established with a director position and two chairs, representing academic and faculty staff member. In addition a student arm of the Green Campus Unit, the Green Campus Initiative should work closely with the Green Campus Unit.

⁷ Suggestion made by UCT Green Campus Initiative members during meeting with Martin Hall, 13/04/08

It is advised that a director is appointed that would develop the vision and roles of the Green Campus Unit and be responsible for developing and implementation of different programs in accordance with the vision of the unit.

The director should be allowed to research and develop the vision and roles of the Green Campus Unit for the first year in close association with the chairs and Green Campus Initiative. As the programs develop, additional staff members can be appointed by the Unit.

Financing the Green Campus Unit

It is envisioned that the energy saving reductions developed and implemented by the Green Campus Unit pays for the running of the Unit. Start up funding may be required for the first few years of the life of the Unit, after which the Unit should pay for itself.

Implementing an integrated Green Campus Plan will require the adoption of an appropriate methodology for achieving the university's goals. For the purposes of this policy framework the UK based Carbon Trust's Higher Education Carbon Management Programme has been utilized as a model. This is an established programme, specifically directed at institutions of higher learning.⁸

The primary focus of the Carbon Trust's work is to reduce emissions that are under the control of the university, for example academic work, accommodation and leisure buildings and vehicle fleets. Registration for the programme entitles a university to practical support in areas such as identifying carbon saving opportunities, developing an emissions reduction implementation plan, provision of analysis software, workshop support for staff and senior management training.

The programme is designed to help raise awareness of the impact of climate change amongst university campus communities –including staff and the students. Participating universities benefit from consultant support in the form of workshops and limited dedicated support tailored around a specially prepared '5-Step process': 'this process guides universities through a systematic analysis of their carbon footprint, the value at stake and the opportunities available to help them manage carbon emissions in a strategic manner. The programme's duration is 10 months.' 'Partnership' on the programme requires a minimum university input of 2 days per week in order to effectively complete a 5-Step method:

Step 1 Mobilise the organisation

Step 2 Set baseline, forecast and targets

Step 3 Identify and quantify options

⁸ In exploring the methods available to assess carbon levels, another view emerged amongst some of the researchers consulted. This view holds that in terms of carbon mitigation studies there are more than enough skills in the university to deal with this and that some of these are probably amongst the best in the country at present. It was their view that UCT could manage its own programme or parts of the programme and 'easily' become a leader in this field in South Africa, and potentially in the world. (ERC perscom, 26:01:2008). (Minutes EMWG 12 March 2008, Item 5)

Step 4 Finalise Strategy and Implementation Plan

Step 5 Implement plan

The programme is supported by the Higher Education Carbon Management Toolkit, a web-based self-help workbook. The Toolkit is a resource aid that ‘captures lessons learned, is updated every year, and provides detailed carbon management process instructions, technical guidance and relevant tools.’

To date the Carbon Trust has partnered with 48 universities across the UK. There are currently no African or South African universities participating (Carbon Trust, 2007: webref). The three step plan outlined by the Global University Leaders Forum for the Gulf region would need to be considered and incorporated into this methodology (WEF, 2008:1).

TOWARDS A GREEN CAMPUS PLAN FOR UCT

The main aim in formulating a policy framework for UCT is to draw together existing initiatives, enabling an operational Green Campus Plan.

A Green Campus Plan for UCT needs to have as its main strategy the reduction of the university’s carbon footprint through targeted objectives for:

- energy savings;
- reducing carbon emissions;
- recycling;
- water conservation.

The Green Campus Plan will include a status quo document that surveys the existing situation at the university, a plan of action tabling what should be done, and a policy statement, indicating the institution’s key objectives and aims. At UCT all three of these currently exist in forms that could be adapted for university-wide use:⁹

- An assessment of the status quo: Rich Handler, Zola Hlatshwayo and Sandra Rippon, *Initial Review towards an Environmental Management System for the University of Cape Town, 2003*.
- A proposed plan of action: Rich Handler, Zola Hlatshwayo and Sandra Rippon, *Review towards EMS – Aspects Impacts Register, 2003*.
- A draft policy for UCT: John Critien, *Revised Draft: The University of Cape Town Environment and Sustainable Development Policy*, Property and Services Department, UCT (included here as Appendix 1).

The adoption of these documents, and their modification as appropriate, is a key first step towards compliance with the Talloires Declaration and the Davos objectives.

⁹ Members of the EMWG suggested that these documents be revisited regularly so that become ‘living documents’ and track achievements and priorities for action.

The responsibility for the overall management and monitoring of a Green Campus Plan will rest with Properties and Services. However, the success of the plan will depend on its adoption across all sectors of the university

KEY OBJECTIVES

The table below summarises the key objectives of a Green Campus Plan that would follow from the adoption of the proposed policy framework.

	Main objectives	Targets and timeframes
Energy savings	Reduce consumption, demand management, increase user awareness and management. Negotiate with Eskom for support towards retrofitting old infrastructure towards 2 Megawatt savings target.	Immediate and urgent
Carbon emissions	Audit has begun but needs to be completed	Initiated, ongoing process for completion June 2008
Recycling	Proposals received from contractors. These need to be reviewed and a contractor appointed to operate according to the P&S Plan. Student and staff participation needs to be addressed and communicated.	Immediately achievable
Water conservation	New projects landscape plans, stormwater management and harvesting, building codes and retrofitting and maintenance plan	Ongoing, target maintenance audit for November 2008

Energy Savings

The current Eskom crisis has brought energy savings into the spotlight. Electricity consumption and demand management is discussed in the Environmental Management Working Group Annual Report (Critien, 2007: 2). The report states that UCT has consumption per capita information stretching back over the past five years. This survey indicates trends and efficiencies.

By far the highest load levels are caused by outdated heating and cooling infrastructure. The process of retrofitting of facilities has begun but is a costly exercise.¹⁰

From initial discussions with those working in this field, there are suggestions that there is significant scope for UCT to improve its energy usage patterns. This is viewed as imperative as the current context of ‘cheap electricity’ will not last. UCT therefore needs to explore costing options. These and other budgetary considerations need to be viewed

¹⁰ In addition Critien states: ‘The re-lamping of buildings and lecture theatres is being done incrementally. We are in talks with ESKOM/City and CHEC to set up a DSM for the combined tertiary institutions in the WC with an in house ESCO. Given our recent investment in power generation and backup, it is hoped that ESKOM and the NECC will sponsor both HV/AC and lighting projects to a 75% level.’(Critien, 2007:2). This saving is envisaged to be in the order of 2 megawatts of power which could be redeployed to power new developments on campus. Continued negotiations with Eskom and between universities in the Western Cape region in this regard are proceeding well.

holistically enabling Properties and Services to prioritise green building methods which often carry larger capital costs but which have recurrent savings.¹¹

Education and communications strategies for staff and student user awareness has also been highlighted as imperative for implementing better user patterns.¹²

Reducing carbon emissions

In conjunction with Properties and Services, the Energy Research Centre (ERC) at the University of Cape Town has embarked on a research project aiming at establishing the university's carbon footprint (ERC Carbon Assessment study EU Internship Programme). Based on the developed work plan for this project, a literature survey on the carbon footprinting field has been conducted and various consultations have been held with key institutional staff and field experts.

The report contains a conceptual framework onto which all components of the carbon footprint will be presented. A first-order carbon footprint for direct GHG emissions will be developed, followed by a list of outstanding issues and an action plan (Guma *et al*, 2008: 1).

An initial first draft of the carbon footprint of the university has been completed. This estimates UCT's direct carbon emissions from liquid fuel use and indirect carbon emissions from electricity use.¹³

Recycling

A recycling programme is ready for implementation at UCT, with achievable targets for 2008. This initiative will entail on-site sorting and management of recyclable waste generated by the university. This will form part of a larger waste management plan.¹⁴

Implementation will require the appointment of a contractor and the implementation of waste management control, such as the placement and installation of recycling bins across campus and the training of SuperCare staff, university staff and students around awareness and daily practice. The long-term view objective is that the project will become financially self-sustaining. This is the first step towards developing impetus for the 'green initiative' at UCT. Students from the SRC and other interest groups will be invited to key tender events so that the student voice can be heard and considered. Student representation has also been arranged for students to join a team from Properties

¹¹ Specific suggestions made by many who commented on the paper include the monitoring of energy consumption on a 'building by building' basis by installing meters and providing incentives for savings made, and the publishing of these stats on the web. Student involvement in this has been in the Residence Project.

¹² See the draft Electricity Regulation proposal for public comment in terms of the Electricity Regulation Act, 2006. Comments have been compiled by the Cape Town Partnership for submission to Province and Department of Mineral and Energy Affairs.

¹³ Marquard, e-mail correspondence. Progress towards emissions management is assessed in the section entitled *Transport* in the EMWG Annual Report (Critien, 2007:4) and is dealt with extensively in the Sector: Emissions (Handler *et al*, 2003: 13).

¹⁴ This is dealt with substantially in the EMWG Annual Report (Critien, 2007: 3), as part of the Environmental Management System.

and Services to go to Wits University to look at their recycling programme in the next few months. To date more than 280 interested students and staff have been signed up during orientation-week, making to total members and volunteers over 300.¹⁵

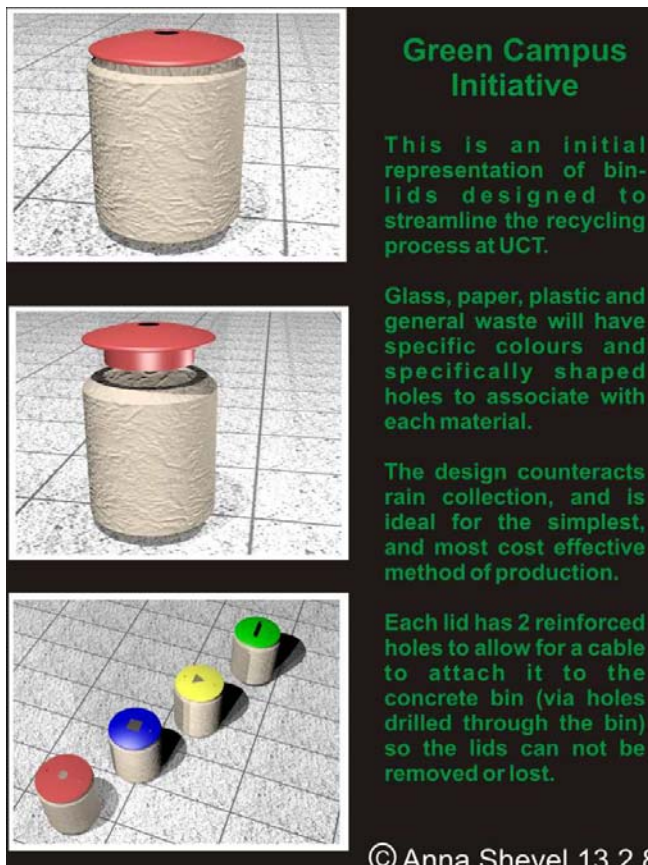


Figure 2: Draft 'Bin Lid' designs by the UCT Green Campus Initiative for the retrofitting of existing refuse bins at UCT for recycling purposes.

(Source, Green Campus Initiative, Sandra Botha, final design 15 April 2008)

Water conservation

The Aspects and Impacts Review contained in the Handler *et al* study identifies twenty-six instances where water could be better conserved (Handler *et al*, 2003:1-2). Plans are underway for water-wise planting, and drip irrigation. The harvesting of storm water, permeable paving (also called Sustainable Urban Drainage Systems), and grey water management are all part of future development plans.¹⁶

. In general there are short and longer-term interventions that could make a significant difference to UCT's water consumption patterns and practices, many of which are in place or planned.¹⁷

WAY FORWARD

In considering how this framework should serve to guide the university in embracing the concepts of sustainability, valuable advice was received from a review group convened by the Department of Environmental and Geographical Sciences.¹⁸

¹⁵ Staff and student comment in support of the recycling programme has been overwhelming, from the suggestion to do away with plastic water bottles to the ideas of bringing cups to vendors for coffee etc.

¹⁶ Water conservation is dealt with in the EMWG Annual Report under the sections: *Utilities and Rates: Water Management and Horticulture and Tree Planting policy*, as well as in the section *Development: Sustainable Development Policy*. (Critien, 2007: 2-3)

¹⁷ Comments received from engineering staff members in this respect support the need for storm water harvesting, permeable paving and grey water management, along with the monitoring of the use of pesticides. There is considerable expertise in this regard across the university that could be drawn on toward implementation. Student suggestions focussed on ideas such as dual flush toilets, water wise shower heads and waterless urinals.

¹⁸ "Comments on an Environmental Sustainability Plan for UCT". Professor Merle Sowman, on behalf of ENGEO review group. Received 8 May 2008.

A key objective must be to develop a holistic approach to integrating sustainability thinking and practice across all aspects of university life. Such an approach would include addressing sustainability issues in teaching, research, outreach, strategic planning and operations. This should build on earlier initiatives, including the 2002-2003 Environmental Thrust and the Partnership for a Sustainable Environment (PASE) where the vision was to establish UCT as “the internationally recognized leader of research, teaching and outreach in the field of environmental sustainability within the African context”.¹⁹ There are many valuable ideas emanating from these earlier initiatives which can strengthen the sustainability initiative.²⁰ This provides the opportunity for this programme to broaden to include objectives and actions that integrate environmental sustainability principles into teaching, research, outreach and operational systems.

The following steps are recommended:

- this policy framework should be formally adopted by the University Building and Development Committee, Senate and Council;
- following the adoption of the policy framework, specific milestones and delivery targets should be adopted for the areas identified and by the appropriate agencies within the university;
- policies for partnerships and the appointment of outside operators should be drawn up where deemed necessary, including consultants and contractors for specific project directed tasks;
- an awareness and communication strategy, including web and on-line information, should be introduced.
- Faculties and administrative and support departments should be encouraged to adopt practices which contribute to the objectives of this policy framework, with appropriate recognition of the implementation of good practices.
- This framework should be regarded as an initial stage in widening the concept of sustainability to embrace the core work of the university.

¹⁹ The PASE initiative was essentially concerned with facilitating and supporting inter-faculty information, networking, capacity building and collaborative research in the field of sustainable development. This initiative generated a wealth of information about what UCT was already doing in the general field of sustainable development and provided ideas about how UCT could progress its sustainability commitments with particular focus on developing research capacity and programmes in the sustainability arena.

²⁰ see PASE: Comprehensive end of year report and handover documentation to the UCT Research Office, 2003.

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Waste Management Schedule

Appendix 1

REVISED DRAFT

THE UNIVERSITY OF CAPE TOWN ENVIRONMENT AND SUSTAINABLE DEVELOPMENT POLICY

PREAMBLE

In 1990 former vice–chancellor, Dr Stuart Saunders signed the Talloires declaration on Sustainable development commitment on behalf of the University of Cape Town. This declaration was initiated by university leaders from all over the world who had become concerned with the “-unprecedented scale and speed of environmental pollution and degradation and the depletion of natural resources”.

In 2002 the Vice-Chancellor, Professor Njabulo Ndebele, recommitted the university to the Talloires Declaration.

As a signatory, the University of Cape Town agrees *inter alia* to:

- Create programs to develop the capability of university academics to teach environmental literacy to all undergraduate, graduate and professional students.
- Set an example of environmental responsibility by establishing institutional environmental policies and practices of resource conservation, recycling, waste reduction, and environmentally sound operations.
- Utilise university academics and administrators together with environmental practitioners to develop curricula, research initiatives, operational systems, and outreach activities to support an environmentally sustainable future.
- Establish a secretariat and a steering committee to continue this momentum, and to inform and support each other’s efforts in carrying out this declaration.

* The Talloires Declaration 1990.

POLICY STATEMENT

The University of Cape Town is committed to being a positive and creative force in the protection and enhancement of the environment through its teaching, research, administration and operational activities.

The University of Cape Town will actively pursue a policy of environmental best practise aimed at achieving sustainable development and will continually strive for improvement.

To give effect to this policy statement the University will take all reasonable steps to meet the following objectives.

EDUCATION

The University of Cape Town will:

- Increase awareness of environmental issues amongst students, irrespective of their field of study, through the incorporation into courses of material on the environment and sustainable development.
- Promote research programmes aimed at achieving environmental responsibility and sustainable development as part of the University's central mission.
- Support the networking and interdisciplinary processing of environmentally relevant issues in research and teaching at the university, also in co-operation with other institutions.
- Encourage and provide education on environmental issues to University employees, so that they can pursue their work in an environmentally responsible way.

OPERATIONS

With regards to achieving improvements in environmental performance related to institutional practice, the University of Cape Town will:

- Adopt ways to minimise energy use and reduce water consumption in all the university's facilities, thus using these resources more effectively and efficiently.
- Develop an effective waste management policy, which will minimise waste in the following order of priority, reduce, re-use, and recycle.
- Develop design policy for all new buildings and refurbishments that will promote water and energy efficiency, reduce any adverse environmental impacts the buildings may cause, whilst developing a productive and healthy environment for work, studies and leisure.
- Avoid the unnecessary use of hazardous materials and take all reasonable steps to prevent damage to either public or ecological health where such materials are used.
- Monitor, manage and minimise polluting effluents and emissions into air, land and water.
- Recognise its obligations through the health and safety policy, to take all reasonable precautions to provide and maintain an environment that is safe and without risks to health for employees, students and visitors.
- Manage and protect the University's natural environment in a sustainable manner, and enhance the environmental quality of the estate to reflect the unique character of the Cape flora and fauna.
- Establish an integrated transport policy, which will provide improved facilities for disabled people and reduce the environmental impact associated with transport to and from the University by encouraging the use of public transport, cycling and walking.

COMMUNICATION

- Use the University's academic expertise and influence to promote its own achievements on environmental issues and to encourage others to do like wise.

Green Campus Policy Framework: 20

- Develop links with the surrounding community and other similar institutions in the context of local sustainable development.
- Keep all staff and students informed of the University's environmental and sustainable development initiatives.