



# Sustainable Campus Master Plan

April 2016

Temporary format – can  
replace PJC logo's etc with  
the University logo's and  
branding when available



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## DATES

Ratified: [04 May 2013]

Takes Effect: [07 may 2013]

Due for Review: [May 2018]

## RATIFIED

Approved by [Sustainability Steering Committee], [meeting number, date, agenda page].

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Terminology and which stakeholders will be responsible needs to be confirmed with the University's administration

## VERSION CONTROL

Date: January 2014

Version: DRAFT

Amendments: none

# INTRODUCTION AND SCOPE

## Introduction

This document is mandated by the Sustainability Charter to ensure that an updated understanding of Sustainability is striven for in all activities related to the University. It is a living document that is revised at 5 year intervals and mandates; quantifiable targets, implementation strategies to achieve the targets and responsibility and reporting structures for tracking of progress towards long term quantifiable goals. This inaugural version recognizes the challenges and opportunities in that the University is being established and the first five to ten years will be focused on the building of the university's physical, administrative and educational infrastructure with little to no actual on site references against which performance can be compared.

The next three years are important for the founding principles and establishing how best they are entrenched. This will require a strong process of review, reflection and evolution against what is working and what is not and will also include the establishment of benchmarks based on other precedents with a methodology in place to contextualize those benchmarks to the university as it develops.

It is critical that workings of the Sustainability Master Plan are integrated into the regular activities so that they become entrenched ensuring the highest probability of success. This is done through mandating sector plans that are deemed applicable at this point in the University's existence and the detail of implementation will be documents in the individual sector plans with further goals and direction provided to ensure the goals set out in the Sustainability Master Plan is achieved

## Scope

This Master Plan will be implemented to ensure the University meets environmental legislation and regulatory obligations. It provides a framework for sustainability and responsible practices, activities and operations on all the University's campuses. This Master Plan applies to all facets of the University campus, departments and facilities, staff, students, faculty, campus visitors and contractors at the University.



All images are placeholder images – can be replaced when the document is formatted properly by the university – would prefer to keep the images in the meantime as it does make the document a more friendly and inspiring to read

# CONFIRMATION OF COMPLIANCE WITH SUSTAINABILITY CHARTER

The following table includes the contents of the Sustainability Charter that mandates the Sustainability Master Plan requirements and records where this has been complied with in this document.

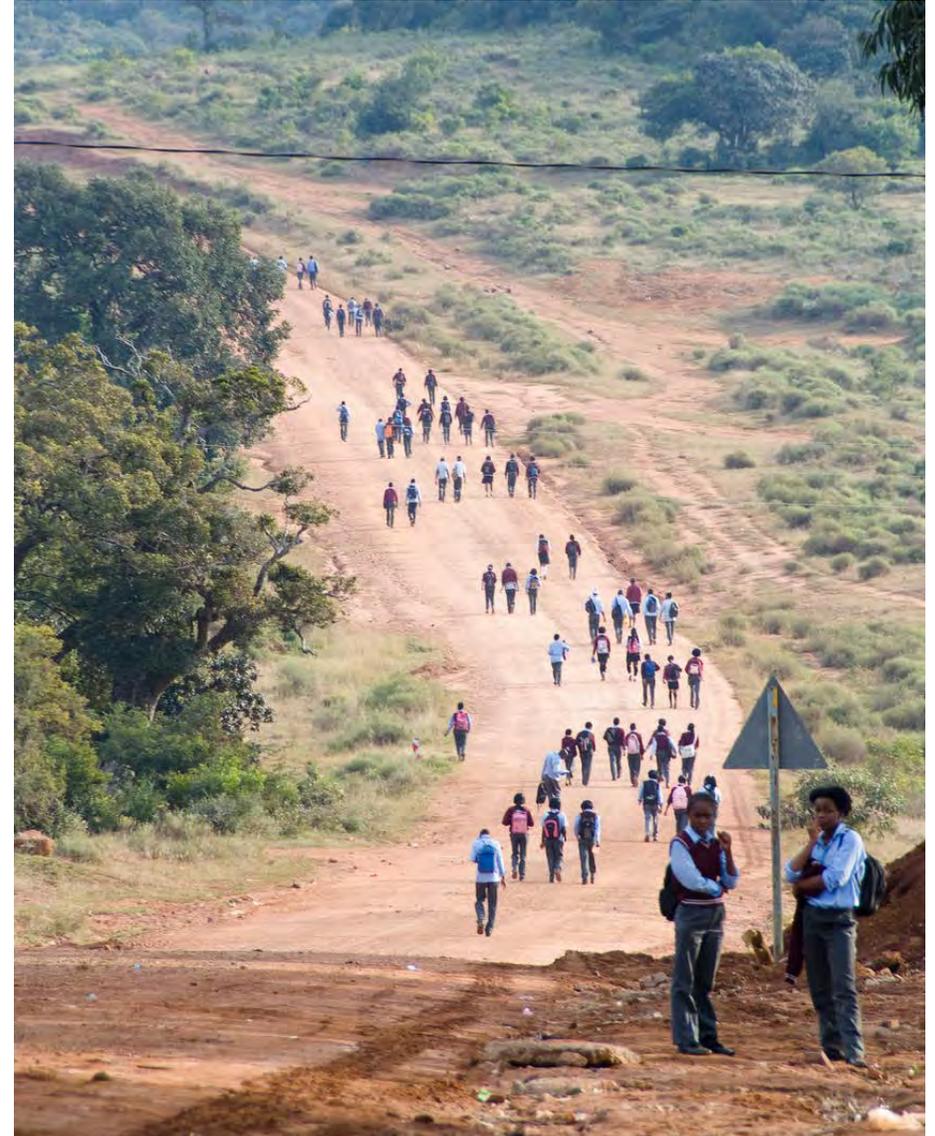
Mandated Master Plan Requirements	Page #	Notes
Set and communicate clear quantifiable long term and incremental objectives and targets for a minimum of 20 years to reduce environmental impact and use of resource	14 - 22	Mandate sector plans with 20 year goals
Identify alternative and sustainable courses of action to minimize the environmental impact of the university	14 - 22	Mandates sector plans which identify courses of action to achieve the related goals
Course of action will be tracked against the targets set for the established key performance indicators with regular reporting through the structures indicated in the sustainability master plan	7 - 9	Main reporting structures are indicated as well as further reporting structures mandated in the sector plans
Reporting structures will include current independent validation	10	Independent validation is included as a specific section
Reviewed every 5 years and updated according to the understanding of sustainability at that time taking into consideration the results of the reporting	3	Indicated in the introduction
Drawn up by representatives of all relevant stakeholders and ratified at the highest level of university leadership	7 - 9	Main reporting structures are indicated as well as further reporting structures mandated in the sector plans
Mandate responsibility to the different stakeholders for the various aspects of delivery against the objectives and targets	7 - 9	Main reporting structures are indicated as well as further reporting structures mandated in the sector plans
Include clear financial decision making criteria and parameters for the related activities and how reporting against these will be undertaken	11	Financial model and decision making is a section of its own
Include a clear communication strategy so that all stake holders are aware of its existence, the process of activities and their required involvement with methods of measuring awareness and how reporting against these will be undertaken.	14	Communication is indicated as its own sector plan requiring a dedicated responsible employee and goal on communication and awareness

## SUSTAINABILITY DEFINED

In order to facilitate the required rapid process needed to establish the university, it is proposed that the following documents are used to inform the draft Sustainability Master Plan for the first year:

- Brundtland Report
- CIDB Best Practice Project Assessment Scheme, Requirements And Sector Plan For Green Building Certification, Framework Document, January 2011
- Department Public Works, Green Building Charter, Draft 3, October 2013
- International Sustainable Campus Network, Global University Leaders Forum, (2010) *Sustainable Campus Charter*, October 27
- Green Building Council of South Africa Public and Education Buildings Tool v.1. Technical Manual, the Socio-Economic Category and the Communities Rating.
- Broad-Based Black Economic Empowerment Act (53/2003): Issue of Codes of Good Practice as amended by Notice 1019 of 2013

At the end of the first year, a workshop will be held with the initial administrative academic and technical stakeholders including various external independent consultants considered to be experts in this field. The aim of the workshop will be to refine and contextualize Sustainability for the purposes of the Master Plan moving forward.



## ASPIRATIONAL GOALS

While this document is intended to promote pragmatic interventions that can be measured against quantifiable goals, the following aspirational goals are set to provide a collative context that go beyond the immediate measurable results, including:

- Most interesting career opportunities in Africa in the field of sustainability
- Benchmark for the Department of Higher Education and Training
- Listed with prestigious international universities with regards to Sustainability particular with regards to socio economic aspects

The purpose of this is to promote a comprehensive approach avoiding comparing initiatives in different aspects against each other. As Sustainability itself is a comprehensive and interrelated concept, striving for it requires the same.

The annual Sustainability Report will include these goals and report on progress with regards to their being achieved/maintained by the Sustainability Steering Committee.

### *Most interesting career opportunities in Africa in the field of sustainability*

To draw the best candidates to positions that have the largest impact on implementation, these positions should be considered to be the most interesting in Africa. This is to be achieved through providing high levels of responsibility with adequate decision-making authority, promoting and rewarding creativity and assistance in ensuring that all stakeholders are aware of the importance of these aspects of the University's activities. This does not necessarily mean bottomless budgets, but a promotion and support of innovation to achieve difficult goals within affordable budgets.

### *Benchmark for the Department of Higher Education and Training*

As a goal for the whole university and to ensure that these reflect the South African context, the Sustainability Masterplan and its implementation and report will set a benchmark for DHET that other universities in South Africa should try to follow. The targets set should be high and comprehensive enough so that no existing higher education institution should be able to achieve all of them, not through lack of effort on their side, but due to the base infrastructure at the new universities providing a distinct advantage.

### *Listed with prestigious international universities with regards to Sustainability particular with regards to socio-economic aspects*

Promoting international excellence will ensure that the university has a high standard in this aspect, while still recognizing the South African context as an additional facet. This would provide an example to universities in countries with similar context.

# RESPONSIBILITY AND REPORTING STRUCTURES

## Relevant Documents

The following documents contain the varying detail of the elements relating to the Universities:

- Sustainability Charter
- Sustainability Masterplan
- Sector plans

### *Sustainability Charter*

This is a high level document stating the University's position on Sustainability that will be relevant for the next twenty years as a minimum and mandates the Sustainability Masterplan

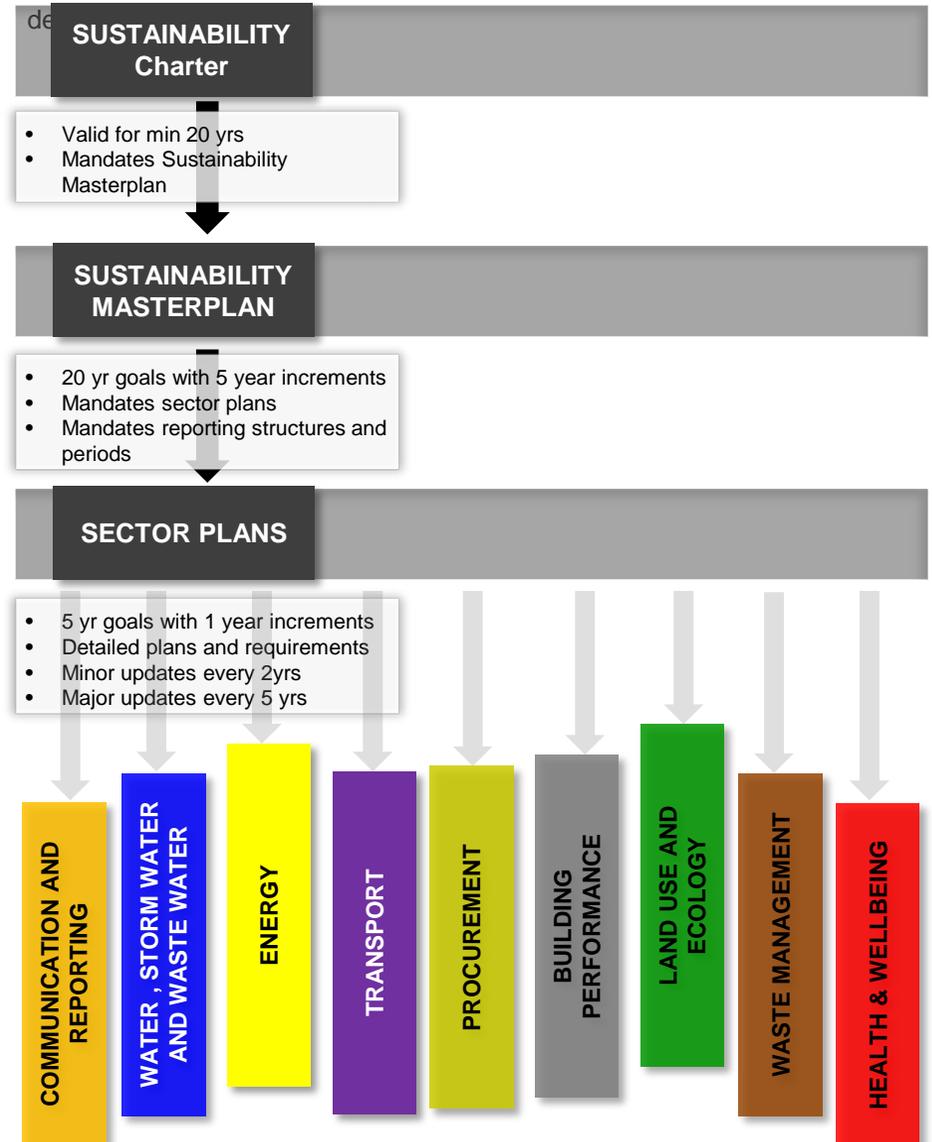
### *Sustainability Masterplan*

This document communicates the understanding of Sustainability at that point in time and context, sets out the long term goals and indicates how this will be carried out through defining the responsibility and reporting structures and mandating shorter term sector plans

### *Sector Plans*

These are detailed plans to that set out medium term goals of the Sustainability Masterplan and are updated annually.

- Communication and reporting
- Land Use and Ecology
- Water , Storm water and treated effluent
- Energy
- Transport
- Building performance
- Procurement
- Health & Wellbeing
- Waste Management



# RESPONSIBILITY AND REPORTING STRUCTURES

## Responsibility and Reporting

The following dedicated structures and positions will exist to ensure the implementation master plan:

- University Council
- Sustainability Committee
- Sustainability Executives

### Sustainability committee

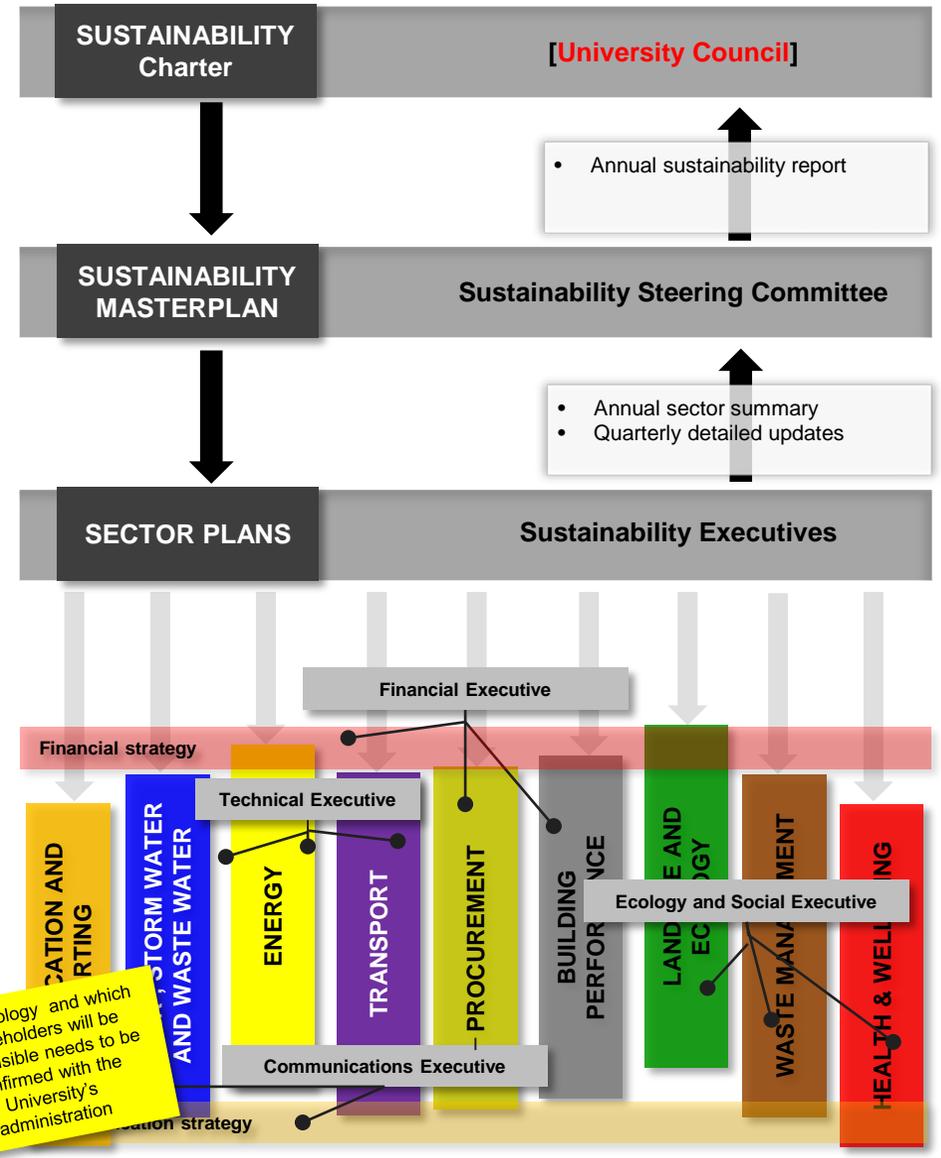
This committee consists of representatives from each academic [college], representatives from the [technical] and [financial] departments, the sustainability executives as indicated below and external engineer, architect, ecologist and social economist. These external representatives are selected by the previous sustainability committee and the position is for, and limited to five years. This committee is chaired by a member elected by the committee members and the chair is held for five year terms and can be renewed twice. The five year cycles will coincide with the start of the process of updating the Sustainability Masterplan. The Sustainability Steering Committee is responsible for drawing up and maintaining the Sustainability Master plan and providing the annual sustainability report for ratification by the [University Council]

### Sustainability executives

The sustainability executives will be employed at the level of [high position, just below chairs of colleges etc] and be independent of the various departments that they would typically form part of in order to be incentivized via comprehensive performance. The following executive positions will be held. They will have responsibility in reporting on the various sector plans and overarching financial and communication strategies per the adjacent diagram.

- Sustainability Communications Executive
- Sustainability Financial Executive
- Sustainability Technical Executive
- Sustainability Ecology and Social Executive

Further details of each position is provided on the following page



# RESPONSIBILITY AND REPORTING STRUCTURES

## Sustainability Executives

These position would be collectively responsible for coordination of the technical sustainability targets with social, ecological and financial targets in cooperation with the other Sustainability Executives including communication and reporting. Performance would be measured on a collective as well as individual basis to drive comprehensive performance and promote an holistic approach.

### Sustainability Communications Executive

The position would be for dedicated and experienced Sustainability Officer in both technical and communication aspects whose primary role is to take responsibility for coordinating all sustainability activities at the University as well as the reporting thereof. The communications skills of the Sustainability Officer and the success thereof will be a key performance aspect that their position will be measured against.

### Sustainability Technical Executive

The position would have the responsibility of overseeing, supporting and reporting on technical targets of the sustainability interventions, including capital, operational and maintenance and end of life aspects. This position would be independent and separate to the [facilities management and capital projects] and responsible for auditing the [facilities management and capital project] against the technical targets

### Sustainability Ecological and Social Executive

The position would be responsible for overseeing, supporting and reporting on social, socio-economic and ecological targets of the sustainability interventions, including local and global impacts. This position would be independent and separate to the [facilities management and capital projects] and responsible for auditing the [facilities management and capital project] against the technical targets

## Sustainability Financial Executive

The position would be responsible for overseeing, supporting and reporting on the financial model and decision making aspects of the sustainability interventions at the university. The position would be independent and separate to the [financial department] and responsible for auditing the [financial department] against the Financial Model and Decision Making.

Red text: Terminology and which stakeholders will be responsible needs to be confirmed with the University's administration

This needs to be discussed with the team dealing with the administrative aspects – in essence, the positions should be focused on delivering on the masterplan and not be primarily about other deliverables with this as a side deliverable. The intention is that clearly measurable and financially beneficial aspects like energy saving should subsidise related activities that are not as easy to put numbers too, but do not come at a lot of cost either. In the long term, these aspects collectively with ensuring that the university has a significant presence in South Africa and it should be easier to include up front than to retrofit or copy other organisation structures that to date have not caught up.

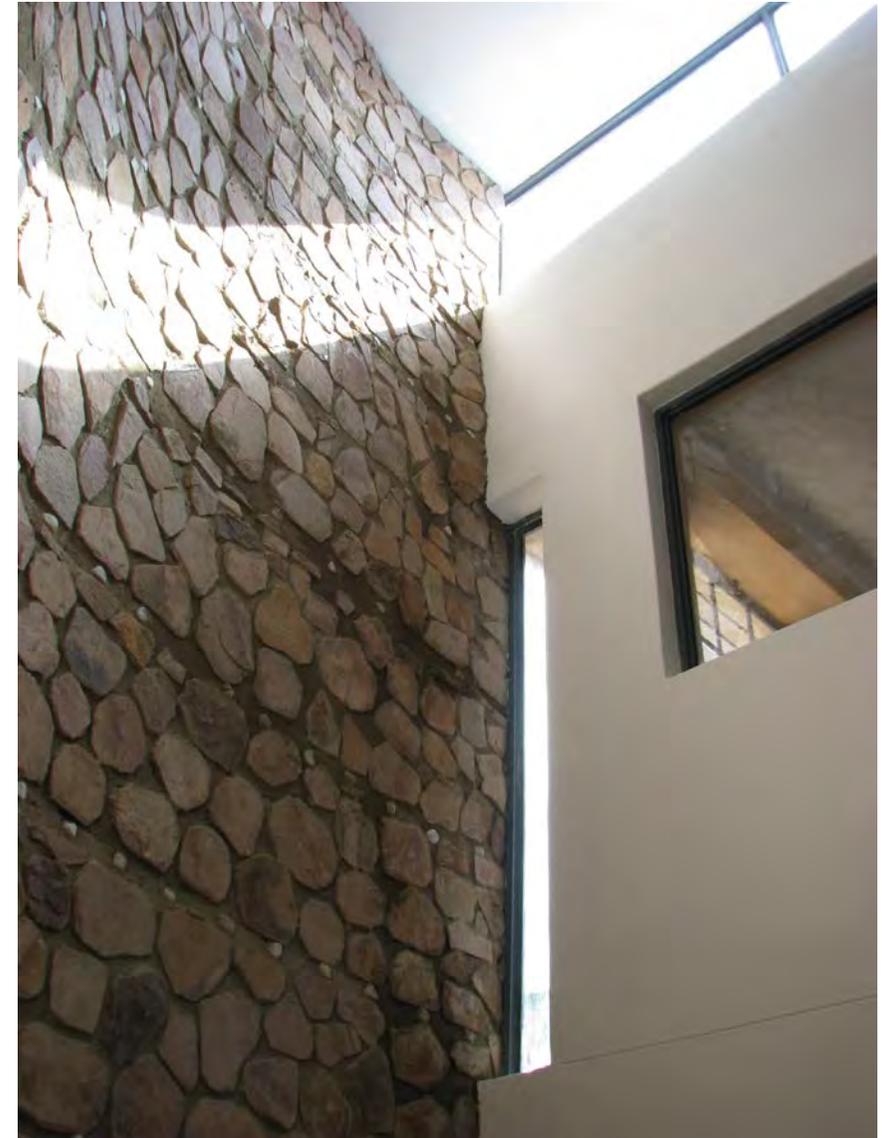
Quantitative goals	value	unit	comments
Sustianability Communications Executive	2	years	appointed within 2 years of the administration infrastructure being officially established
Sustianability Communications Executive position	10	top	considered to be within the top 10 executive sustainability positions in South Africa through a relative independent industry survey
Sustainability Financial Executive	2	years	appointed within 2 years of the administration infrastructure being officially established
Sustainability Financial Executive position	10	top	considered to be within the top 10 executive sustainability positions in South Africa through a relative independent industry survey
Sustainability Technical Executve	2	years	appointed within 2 years of the administration infrastructure being officially established
Sustainability Technical Executive position	10	top	considered to be within the top 10 executive sustainability positions in South Africa through a relative independent industry survey
Sustainability Ecological and Social Executve	2	years	appointed within 2 years of the administration infrastructure being officially established
Sustainability Ecological and Social Executive position	10	top	considered to be within the top 10 executive sustainability positions in South Africa through a relative independent industry survey

## INDEPENDENT VALIDATION

The sustainability goals and related interventions will be independently validated through:

- The inclusion of independent professionals on the Sustainability Steering Committee as described in the Reporting and Responsibility Section
- Public availability of the Annual Sustainability Report
- Public availability of the quarterly Sector Plan reports and Annual Sector summaries
- Belonging to international related bodies that required reporting in order for membership to be maintained
- Independent green building and precinct certification for infrastructure projects over a certain size or value

Quantitative goals	value	unit	comments
Establishment of Steering Committee	2	years	appointed within 2 years of the administration infrastructure being officially established
Membership of international body	-	-	refer to communication sector plan
% of buildings (GBA) with x Star rating	-	-	refer to building performance sector plan



# FINANCIAL DECISION MAKING

The Financial Model and Decision making will be coordinated and overseen by the Sustainability Financial Executive within the following parameters:

*All reporting and decision are to be based on life cycle costing*

In both the institutional set up and the financial reporting capital spend, operation and maintenance and utility cost will always be reported together to avoid budget splits resulting in capital cost savings increasing running costs.

*A standardized financial model for decision is to be established*

Life cycle cost reporting will be undertaken in a standard format and will be mandatory for all capital cost projects above X or resulting in a utility cost of more than R(Y) per annum including building and large equipment purchases

## *Sustainability fund*

An internal fund will be made available for internal departments to borrow against for utility and operational cost saving through additional capital investment that is borrowed against at X% above inflation and paid back over the technical lifespan of the project - feasibility is to be determined via the life cycle cost reporting mechanism.

## *Green Budgets*

A green budget will be established and spent on all building projects established as a percentage of the expected capital cost. The percentage will be according to the value of the project. This green budget is protected against value engineering in that the total budget should be spent on that project and value engineering can be performed to buy more green interventions, but the green budget itself cannot be reduced to ensure project viability. The green budget is considered as an extra over environmental efficiency required by building regulations.

## *Alternative sources of green funding*

A list of potential sources of investment into sustainability aspects is to be kept up to date annually - e.g. Eskom incentives for efficiency and renewable energy investment. Reporting of projects is to confirm that these have been reviewed against that project with a explanation on applicability or not.

Quantitative goals	value	unit	comments
Internal Rate of Return	+2%	over prime	this the irr that will be used in the life cycle costing exercise as defined in the financial sector plan
Duration of analysis	x	years	where x is the technical life span of the major component being analysed
Sustainability fund	R100m	R	for 5 years
Sustainability fund lending rate	+4%	over prime	should be around 9% and would result in approximately 10yr payback periods - services companies are looking at 30% returns - roughly 3yrs as they control less risk
Green Budget extra over	+10%	% over capital cost	building <2,000m2 - including additional related consulting fees
Green Budget extra over	+7.5%	% over capital cost	building 2,000m2><8,000m2 - including additional related consulting fees
Green Budget extra over	+5%	% over capital cost	building 8,000m2>>20,000m2 - including additional related consulting fees
Green Budget extra over	+3%	% over capital cost	buildings >20,000m2 - including additional related consulting fees

# INFRASTRUCTURE ASPECTS THAT ARE CRITICAL TO LONG-TERM SUSTAINABILITY

The following is a summary of the various aspects indicated in the respective sector plans that are critical to the long term plan. These aspects should not be altered on a project by project basis and require approval from the highest level for deviations in the case of extreme relevance

- services spine and services located within it - only the services that have been identified in the master plan to be buried can be and in the designated locations in strict accordance with the master plan
- recycling waste management minimum areas per building
- integrated storm water strategy combining landscaping, infrastructure and civil engineering aspects
- buildings to be renewable energy ready with a clear strategy for future retrofit of inclusion of appropriate renewable energy electricity generation
- each building to be metered separately for electricity in addition to major building services and equipment loads and lights and small power per floor and all meters connected to the monitoring system that provide automated warnings at a minimum of monthly intervals
- each building to be metered separately for water consumption for all major consumption with sufficient meters to determine leaks and unusual use - connected to a monitoring system that provide automated warnings at a minimum of monthly intervals
- building tuning for all new buildings to be carried out for a minimum of a year to test design assumptions against actual occupant and climatic behaviour with a final recommissioning and a summary report indicating the findings and future seasonal changes expected for FM to carry out
- all office spaces will have openable windows for natural ventilation and will be able to operate without the need for heating or cooling for 80% of the occupied hours per year
- all office spaces will have sufficient daylight for occupants to be able to keep their lights off for more than 60% off day time hours
- no residential spaces will have heating or cooling in excess of what is indicated in the accommodation subsidy norms and all spaces will have openable windows for natural ventilation

- all teaching spaces, including raked auditoria, will be naturally lit to a level where normal instruction activities would not rely on electric light for more than 30% of the of the floor area of the space for more than 75% of daylight teaching hours
- teaching spaces will have augmented comfort with passive cooling and heating strategies making it possible to occupy the spaces with no mechanical assistance with occupancies of less than 60% of peak design capacity and for 6 months of the year - mechanical systems can be included and sized for periods and occupancies outside this, but require controls and visible and intelligible communication for the occupants to understand the particular logic with visible indications when the logic is not being followed



## SECTOR PLANS

The following sector plans will be established:

- Communication and Reporting
- Land Use and Ecology
- Water , Storm Water and Waste Water
- Energy
- Transport
- Building performance
- Procurement
- Waste management
- Health and Wellbeing

Each sector plan will have a committee of representatives representing the stakeholders affected by the sector plan and will be chaired by the respective Sustainability Executive. The sector plan will be established by the committee and passed on to the Sustainability Committee for ratification.

The sector plan will include quantifiable goals consisting of those included in this document and interim short term goals towards achieving the long term goals. The sector plans will have a clear strategy on achieving the goals, including technical and financial aspects. Responsibility for implementation of the different strategies will be clearly defined with reporting of progress clearly defined.

A list of stakeholders that the sector plan will impact on will be included in the sector plan. A strategy for communicating the sector plan will be developed and coordinated with the Communication and Reporting Sector Plan.

The Sector Committee will produce an annual report on progress of meeting goals including success and shortcomings. This report must be presented to the Sustainable Campus Committee for inclusion in the annual Sustainable Campus report. Interim quarterly progress reports will be produced by the relevant stakeholders.

COMMUNICATION AND REPORTING

LAND USE AND ECOLOGY

WATER , STORM WATER AND WASTE WATER

ENERGY

TRANSPORT

BUILDING PERFORMANCE

PROCUREMENT

WASTE MANAGEMETN

HEALTH & WELLBEING

# SECTOR PLAN – COMMUNICATION AND REPORTING

A Communication Sector plan will be set up and fall under the responsibility of the Sustainability Communications Executive

## Scope

This Sector Plan will provide strategies on overall communication and coordination of the University's Masterplan to all internal and external stakeholders as well as reporting requirements. This will include awareness training, coordination of communication of the various sector plans. Membership of related local and international entities related to sustainability will be coordinated through this sector plan.

## Minimum Sections

The sector plan will have the following minimum sections:

- Executive Summary
- Goals
- Implementation of goals
- Reporting against goals
- List of other sector plans and their stakeholders
- Communication strategy on ensuring stakeholders are aware of their sector plans

## Minimum Content:

The University will be a member of:

- International Sustainability Campus Network
- Green Building Council of South Africa

It will mandate that each education department will have it's own sustainability plan related to it educational activities including:

- how sustainability has been incorporating into the pedagogical aspects
- procurement of related resources/material/equipment

- including clear reporting methodologies and structures for recording the implementation with regard to success and shortcomings

The Sustainability Communications Executive will be responsible for providing a template for these sustainability plan, provide guidance on drawing up and maintaining the plan and reporting

Quantitative goals	value	unit	comments
<b>20 year goals</b>			
Awareness results success	80	%	surveyed people provide a response that they are aware of the particular campaign being undertaken
<b>5 year goals supporting the 20 year goals</b>			
Awareness results success	60	%	surveyed people provide a response that they are aware of the particular campaign being undertaken
Minor reporting	3	monthly	quarterly reporting
Executive reporting to Sustainability Committee	6	monthly	semester reporting
Sustainability Report	1	annually	executive reporting to be attached to financial reporting - summarising minor and executive reporting
Minor review of sector plan	2	years	review of performance against target and adjustment of sector plan against results as agreed with the Sustainability committee - purpose to keep it active and real
Minor review of sector plan	5	years	review of sector plan in line with major review and update of Sustainability Master Plan
Penetration surveys	1	annually	to determine awareness of issues at the university
Sector awareness campaigns	2	years	major drives per sector not annually so that the drive still catches attention
deadline for membership of GBCSA	2016	year	
deadline for membership of ISCN, GULF	2017	year	International Sustainable Campus Network, Global University Leaders Forum

# SECTOR PLAN – LAND USE AND ECOLOGY

A Land Use and Ecology Sector plan will be set up and fall under the responsibility of the Sustainability Ecological and Social Executive

## Scope

This Sector Plan will provide strategies on:

- Biodiversity stewardship
- Agricultural best practice
- Climate change mitigation

## Minimum Sections

The sector plan will have the following minimum sections:

- Executive Summary
- Goals
- Implementation of goals
- Reporting against goals

## Minimum Content:

The biodiversity management plan will aim restore and promote biodiversity through infrastructure and stewardship programmes. It will restore landscaped areas to plantings naturally occurring within the local bioregion, identify sites for the establishment of native faunal habitats and be integrated with the stormwater management plan for aligning biodiversity networks with water networks. Social benefits will include education and opportunities for leisure activities in natural spaces.

The agriculture plan will identify opportunities for reducing chemical reliance, improving biodiversity and protecting and promoting seed sovereignty. Social and health considerations must include lower toxicity in natural produce, promotion and assistance of initiatives that promote poverty alleviation and food security, sustainable harvesting and urban agriculture.

Climate change mitigation is a cross-cutting issue that will refer to stormwater management and energy sector plans. It will consider landscape interventions that prepare for increased flooding instances and higher coverage of green landscaping aimed at the mitigation of urban heat island effect..

Quantitative goals	value	unit	comments
<b>20 year goals</b>			
agriculture land restored to permaculture/ organic/ biodynamic farming	50	%	% of agricultural land [Nelspruit]
Agriculture land restored according to biodiversity best practice.	50	%	% of agricultural land [Nelspruit]
Endemic landscapes, where plantings are indigenous to the bioregion.	90	%	% of soft landscaping
max impervious hard landscaping and roof	30	%	% of total site area
<b>5 year goals</b>			
max use of chemical based pesticides no greater than	15	%	limited both in area treated and volume relative to other treatment methods, resulting in the lowest target
fair-trade certified farms	15	%	% of agricultural land [Nelspruit]
New planting indigenous to bioregion	100	%	limited to newly landscaped areas
New landscaping for endemic habitats	2	%	Areas (e.g. rocky outcrops) designed with habitat provision of endemic species in mind
Existing landscaping replanted with species indigenous to local bioregion	10	%	% existing soft landscaping.
Biodiversity for agriculture	10	%	% of agricultural land [Nelspruit] which aligns/ studies biodiversity in agricultur

# SECTOR PLAN – WATER , STORM WATER AND WASTE WATER

A Water , Storm Water and Waste Water Sector plan will be set up and fall under the responsibility of the Technical Executive

## Scope

This Sector Plan will cover potable and rain water, it's use on site and the quality and quantity of its disposal with regards to impacts on the water bodies it is sourced from and delivered to.

## Minimum Content:

The sector plan will include a comprehensive approach including efficiency, recycling of waste water, purchasing of treated effluent, harvesting of rain water, detail metering of all buildings and all major used of building internal and external to buildings. It will include a leak detection strategy, detailed commissioning requirements and on going tuning and maintenance.

The storm water management plan will integrate the soft and hard landscape design, storm, rain and recycled water infrastructure and civil works so that all of these components are active in ensuring optimum storm water quality and quantity control and no potable water used for irrigation.

It will include aspects related to teaching and research activities undertaken at the University – covering efficiency in the activities themselves.

## Minimum Sections

The sector plan will have the following minimum sections:

- Executive Summary
- Goals
- Implementation of goals
  - Efficiency
  - Recycling
  - Ongoing improvement of existing facilities
  - Measurement
  - Integrated storm water management
- Reporting against goals

Quantitative goals	value	unit	comments
<b>20 year goals</b>			
potable water used for aspects other than drinking, meals preparation including dishwashing	5	%	% of total potable water used for uses other than those described
TSS reduction for 1-in-2 year storm	90	%	based on values per Municipal Stormwater Management 2nd Ed. (2003) and • New York State Stormwater Management Design Manual
peak storm water flow for reduction for 1-in-20 year storm	0	%	no increase in peak based on natural state pre development
Litter, oil and grease	98	%	measured in volume based on common events like oil dripp from cars
<b>5 year goals</b>			
potable water used for aspects other than drinking, meals preparation including dishwashing	15	%	% of total potable water used for uses other than those described
TSS reduction for 1-in-2 year storm	80	%	based on values per Municipal Stormwater Management 2nd Ed. (2003) and • New York State Stormwater Management Design Manual
peak storm water flow for reduction for 1-in-20 year storm	0	%	no increase in peak based on natural state pre development
Litter, oil and grease	98	%	measured in volume based on common events like oil dripp from cars



# SECTOR PLAN – ENERGY

This sector plan will fall under the responsibility of the Sustainability Technical Executive

## Scope

This Sector Plan will describe and guide the implementation of strategies to monitor and control the reduction of dependence on fossil fuel based energy consumption on campus covering equipment purchases, building design, external and security lighting and on site energy production.

## Minimum Content:

The sector plan will include a comprehensive approach including efficiency of equipment and buildings, energy conservation through management and passive design measures, on site and grid supplied renewable energy, detail metering of all buildings and major energy use internal and external to buildings. It will include detailed commissioning requirements and on going tuning and maintenance.

All buildings and the grid serving them will be renewable energy ready.

It will include aspects related to teaching and research activities undertaken at the University – covering efficiency in the activities themselves

## Minimum Sections

The sector plan will have the following minimum sections:

- Executive Summary
- Goals
- Implementation of goals
  - Efficiency
  - Renewable Energy
  - Ongoing improvement of existing facilities
  - Measurement
- Reporting against goals

Quantitative goals	value	unit	comments
<b>20 year goals</b>			
Carbon neutrality	100	%	all energy consumption will be based on fossil fuel free energy sources
Measurement resolution	50	kVA	all energy uses above 50kVA will be monitored
<b>5 year goals</b>			
Energy efficiency	20	%	the annual electricity consumption will be less than the University of Witwatersrand based per enrolled student adjusted to allow for residence and non residence students
Renewable energy	20	%	Of electrical or thermal energy will be sourced from a renewable source



# SECTOR PLAN – TRANSPORT

A Communication Sector plan will be set up and fall under the responsibility of the Sustainability Technical Executive

## Scope

This Sector Plan describe and guide the implementation of strategies to increase the proportion of faculty staff and students using alternative transportation methods to single car travel to and from the University..

## Minimum Content:

The Sector Plan will provide and promote alternative transport networking resources. It will include the development and implementation of incentives to increase use of alternative transport, including carpooling, bicycling and public transport. It will monitor the number of staff and students using alternative transport methods.

## Minimum Sections

The sector plan will have the following minimum sections:

- Executive Summary
- Goals
- Implementation of goals
- Reporting against goals

Quantitative goals	value	unit	comments
<b>20 year goals</b>			
Carbon nuetrality long distance travel >100km	100	%	all transport direct related to acedmic conference and workshops will be Carbon nuetral
Carbon nuetrality communiting travel travel	95	%	Of all students and employees of the university will travel to the university daily on carbon nuetral transport
<b>5 year goals</b>			
Dedicated green parking bays	20	%	number of bays dedicate to fuel efficient and car pooling bays
Collective transport	50	%	of students and employees travelling daily from off campus will do so via collective transport
Non-motorised transport	10	%	of students and employees travelling daily from off campus will do so via non motorised transport



# SECTOR PLAN – BUILDING PERFORMANCE

A Building Performance Sector plan will be set up and fall under the responsibility of the Sustainability Technical Executive

## Scope

This Sector Plan will cover the overall communication and coordination of the University’s Masterplan including awareness campaigns to all internal and external stakeholders as well as reporting requirements. The Sector Plan will include coordinating the membership of various related organizations.

## Minimum Content:

Buildings and precincts greater than 5,000m<sup>2</sup> will be certified by the relevant GBCSA Green Star SA tool. The level of certification targeted will be per the adjacent goals table. The sector plan will include a strategy on reducing the extra over costs of certification to within the green budgets indicated in the financial design making framework.

Infrastructure will be served to each building via a dedicated service trench incorporating electrical, data, water and cooling or heating water.

All regularly occupied spaces will be provided with opportunities for natural ventilation and daylight and for a significant portion of the year should not rely on mechanical heating or cooling.

All building infrastructure will be comprehensively commissioned and monitored and adjusted according to real world operational requirements from the original design assumptions.

Building performance will be coordinated with the requirements of other sector plans that impact on building design and operation.

## Minimum Sections

The sector plan will have the following minimum sections:

- Executive Summary
- Goals
- Implementation of goals
- Reporting against goals

20 year goals			
Independent Performance Certification - World Leadership	15	%	% of total GLA of all buildings with a GBA > 5,000m <sup>2</sup> should have an equivalent rating to this description with regards to actual operation
Independent Performance Certification - South African Excellence	50	%	% of total GLA of all buildings with a GBA > 5,000m <sup>2</sup> should have an equivalent rating to this description with regards to actual operation
Independent Performance Certification - Best practice	35	%	% of total GLA of all buildings with a GBA > 5,000m <sup>2</sup> should have an equivalent rating to this description with regards to actual operation
5 year goals			
6 Star Green Star - As Built	1	no	no of buildings with this level of Green Star As Built Certification
5 Star Green Star - As Built	2	no	no of buildings with this level of Green Star As Built Certification
4 Star Green Star - As Built	2	no	no of buildings with this level of Green Star As Built Certification
operational certification	1	no	no of buildings with an independent certification related to its operational performance
Green Budget extra over	-	-	Based on achieving efficiencies in the certification process the above targets will become achievable within the green budgets indicated in the financial decision making framework



# SECTOR PLAN – PROCUREMENT

A Procurement Sector plan will be set up and fall under the responsibility of the Financial Executive

## Scope

This Sector Plan will cover the procurement of consumables and services during operation. In addition, it provides the minimum sustainable procurement imperatives for buildings that are not pursuing certification and must make reference to the same standards used in the establishment Building Performance Sector Plan.

## Minimum Content:

The University will be a member of:

- International Sustainability Campus Network
- Green Building Council of South Africa

It will mandate a University-wide procurement plan that addresses:

- The procurement of low-impact, low-emission consumables and building materials.
- The procurement of products and materials with significant local content.
- Job creation through the support of start-ups, SMME's and/ or BBBDE service-providers as well as skills development through university assistance to businesses.

## Minimum Sections

The sector plan will have the following minimum sections:

- Executive Summary
- Goals
- Implementation of goals
- Reporting against goals

Quantitative goals	value	unit	comments
<b>20 year goals</b>			
Procurement of Services provided by BBBEE	50	%	% of total service-provider bill e.g. IT, cleaning, landscaping, canteen service-providers.
Procurement of services provided by SMME	30	%	% of total service-provider bill e.g. IT, cleaning, landscaping, canteen service-providers.
Zero-toxicity, biodegradable Consumables	95	%	% of total consumable budget excluding food. Applicable to cleaning chemicals, ink, paper etc.
Proudly South African / Locally produced content	60	%	Cost of consumables, Applies to fit-out items, excludes Electronic equipment
Recycled, or certified sustainable sources.	95	%	Cost of paper, timber, plastics.
<b>5 year goals</b>			
Services provided BBBEE	5	%	% of total service-provider bill e.g. IT, cleaning, landscaping, canteen service-providers.
Services provided by SMME Contractors	20	%	% of total service-provider bill e.g. IT, cleaning, landscaping, canteen service-providers.
Zero-toxicity, biodegradable Consumables	50	%	% of total consumable budget excluding food. Applicable to cleaning chemicals, ink, paper etc.
Proudly South African / Locally produced content	20	%	Cost of consumables, Applies to fit-out items, excludes Electronic equipment
Recycled, or certified sustainable content	50	%	Cost of paper, timber, plastics.
local procurement of food	80	%	of food in Rand turnover is sourced from within 100km from the university



# SECTOR PLAN – HEALTH AND WELL-BEING

The Health & Wellbeing Sector plan will be set up and fall under the responsibility of the Sustainability Ecological and Social Executive

## Scope

This plan will cover the overall co-ordination of strategies that seek to improve human health and promote well-being for campus users and dwellers.

## Minimum Content:

It will mandate the establishment of facilities and programmes that foster and enable:

- universal accessibility between and within all buildings
- understanding of primary health-care issues in order to promote better life-choices and good habits that affect health;
- natural landscapes promoting both physical and psychological well-being through providing space for leisure and fitness activities. These should be developed in consultation with stakeholders.
- healthy food and nutrition.
- multi-cultural places for spiritual reflection.

## Minimum Sections

The sector plan will have the following minimum sections:

- Executive Summary
- Goals
- Implementation of goals
- Reporting against goals

Quantitative goals	value	unit	comments
<b>20 year goals</b>			
Existing building retrofit for Universal Access	100	%	Number of buildings
Existing streetscape universal access refit	100	%	Applies to pavements and internal road networks.
Basic health testing facility and information centres.	1:5000		Number of satellite clinic facilities per 5000 students.
healthy diet	75	%	of meals bought on site are considered to be healthy diet meals per the referenced standard
Provision of fitness/ exercise facilities.	10	%	of recreation spaces designed with informal fitness / exercise in mind.
<b>5 year goals</b>			
Existing building retrofit for Universal Access	20	%	Number of buildings
Existing streetscape universal access refit	50	%	Applies to pavements and internal road networks.
New Build: Priority areas delivered with best practice universal access facilities	100	%	Prioritise according to public-private heirarchy of access.
New Build: Secondary priority areas delivered with enabling facilities for future retrofitting.	100	%	Prioritise according to public-private heirarchy of access.
Basic health testing facility and information centres.	1:5000		Number of satellite clinic facilities to 5000 students.
healthy diet	20	%	of meals bought on site are considered to be healthy diet meals per the referenced standard
Provision of fitness/ exercise facilities.	5	%	of recreation spaces designed with informal fitness / exercise in mind.
Place of Worship	1		multi-cultural meeting place/ place of worship per campus.





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