The Strategic Framework
The Strategic Framework

This report focuses on strategies to give effect to sustainable development as a primary mechanism for addressing the challenges of poverty, inequality and environmental degradation. The report focuses on Stellenbosch Municipality as a key component of the Cape Winelands Biosphere Reserve that was listed by UNESCO on the World Network of Biosphere Reserves on 18 September 2007.

A value-based approach has been adopted in this report, having regard for the fact that the concept of sustainable development has a ethical foundation and that the principle of sustainability, as it relates to development, is a shared and acceptable principle in the international arena (in particular as it relates to the ethical challenges of climate change). It is accepted that the degree to which climate change occurs depends upon the sustainability of development and that humankind has a moral duty to address this phenomenon.

The figure below illustrates the structure and content of the report.

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1. The need and challenge

1.1 Accelerating Sustainable Development

Poverty, unemployment and growing inequality with accompanying high population growth rates are threatening the stability of the country.

In a review by Prof. Sampie Terreblanche, emeritus professor at Stellenbosch University, of the National Dynamics Study (2008) approximately 50% of the South African population lives in a state of chronic poverty and 40% of the country’s potential work force is unemployed.

The richest 20% of the South African population receives approximately 75% of the national income while 30% of the population receives less than 4% of the national income.

The above concerns are reiterated in the National Development Plan (NDP), tabled during a joint sitting of Parliament, on 15 August 2012.

South Africa’s development challenges are comprehensively addressed in the NDP and a broad range of actions are proposed to give effect to stated objectives. Whilst it is proposed that the economy should be expanded almost three times in the period up to 2030, emphasis is also placed on ensuring environmental sustainability and the need to address climate change. Following on the tabling of the NDP the President announced that a detailed programme for implementation would be prepared soon.

Whilst the Greater Stellenbosch enjoys socio economic advantages that are better than national averages, the area also has to deal with its divided past and legacy of discrimination and exclusion, impoverishment, displaced farm workers, unemployment and poverty on a significant scale (Stellenbosch IDP).

According to the NDP, a developmental state that gives effect to sustainable development will, in the years to come, be of increasing importance as a mechanism to address the challenges of the country. Stellenbosch is no exception in this regard.

The International Institute of Sustainable Development (IISD) states that sustainable development contains two key concepts, i.e.:

- the concept of need, in particular, the essential needs of the poor, to which overriding priority should be given;
- the concept of limitations imposed by the state of technology and social organization on the environment’s ability to meet present and future needs.

The importance of sustainable development should be considered in context of the imperative to promote global sustainability, of which climate change is a key element. Sustainable development is, in fact, the only way forward.
conduit through which global sustainability can be attained. Whilst there is consensus globally that the promotion of sustainable development is a central concern of humanity, agreement on the strategies, methodologies and processes to attain it, remains a vexing challenge.

Over the past forty years the United Nations has made significant progress in consolidating global policies, strategies and action plans to give effect to sustainable development. The first major step taken in this regard was the launch of the MaB (Man and the Biosphere) Programme in 1971 by UNESCO. Since then, a major milestone was the publication of ‘Our Common Future’ (also known as the Brundtland Report) in 1987, which deals with sustainable development and the strategies needed to achieve that. The report includes the well-known definition for sustainable development, namely development that meets the needs of the present without compromising the ability of future generations to meet their own needs.


The UNCED (1992) established the main framework conventions which are guiding the sustainable development process namely:

a. Agenda 21: A comprehensive plan of action to promote sustainable development on a global, national and local level.

b. The United Nations Framework Convention on Climate Change (UNFCCC) with the objective to ‘achieve stabilisation of greenhouse gases in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system’.

c. The United Nations Convention on Biodiversity (UNCBD) which established an agreement and commitment by nations to maintain the world’s ecological resource which is critical to sustainable development.

Rio+20 was built upon the major decisions, agreements and strategies prepared at the 1992 Earth Summit and presented an opportunity for the parties to renew political commitments to promote sustainable development and to continue to adapt and formulate plans and strategies to address global challenges such
as environmental degradation, poverty, climate change, food security, resource depletion and inequality. The Rio+20 conference focussed on two main themes namely:

- A green economy in context of sustainable development and poverty reduction.
- The institutional framework for sustainable development.

It identified seven priority areas which require urgent attention, namely:

a. Decent jobs.
b. Disaster readiness.
c. Energy.
d. Food security and sustainable agriculture.
e. Oceans.
f. Sustainable cities.
g. Water.

UNESCO’s MaB Programme is a model for the practical implementation of sustainable development programs and projects, as such, serving as an enabling framework for the above objectives and priorities.
2. International context for addressing the need and challenge

2.1 UNESCO’s Man and the Biosphere (MaB) Programme

The MaB Programme is a global programme of international scientific, strategic planning and co-operation dealing with people-environment interactions over the entire realm of bioclimatic and geographic situations of the biosphere.

The World Network of Biosphere Reserve provides the platform for implementing the MaB Programme and for creating partnerships for knowledge-sharing, research and monitoring, education and training, and participatory decision-making.

Biosphere reserves are defined as areas of terrestrial and coastal/marine ecosystems or a combination thereof, which are internationally recognised within the framework of UNESCO’s MaB Programme. Each biosphere reserve is intended to fulfil three basic functions, which are complementary and mutually reinforcing, namely:

a. Conservation function - to contribute to the conservation of landscapes, ecosystems, species and genetic variation.

b. Development function - to foster economic and human development which is socio-culturally and ecologically sustainable.

c. Logistical support function - to provide support for research, monitoring, education and information exchange related to local, national and global issues of conservation and development.

Biosphere reserves aim to provide the ecological and social framework within which government, community, corporate and other private interests, share responsibility for co-ordinating land-use planning, for both public and private land and for dealing and implementing development options that would ensure that human needs are met in a sustainable way (WRI, et al, 1992)\(^3\). There are currently 580 biosphere reserves globally.

The main objective\(^4\) of biosphere reserves is to promote and test innovative approaches to sustainable development challenges. This structural framework, to promote sustainable development, is a unique asset of biosphere reserves.

Spatially, biosphere reserves consist of three interrelated zones or areas, namely a core conservation area, a buffer area and a transition area. Only the core area requires legal protection and hence can consist of an existing protected area such as a nature reserve or a national park. This flexibility can be used creatively and is one of the strong points of the biosphere reserve concept, facilitating the integration of protected areas into the wider landscape.

2.2 Role of the Western Cape Government in promoting the MaB Programme

2.2.1 Establishment of biosphere reserves

The Provincial Government of the Western Cape (PGWC) has taken the initiative to implement the MaB Programme and to establish biosphere reserves during the early 1990’s. The proposed cluster of biosphere reserves across the Cape Floral Kingdom illustrated by Figure 4 was a provincial strategy that responded to the global significance of the Cape Floral Kingdom. The latter is the smallest of the world’s six floral kingdoms and is largely located within the borders of the Western Cape Province. This biome is recognised as an international biodiversity hotspot and includes about 9 600 plant species of which about 70% are endemic, i.e. found nowhere else on Earth (McIntosh, 2006)\(^5\).

During 2003 and 2009 PGWC prepared draft bills on biosphere reserves that inter alia made provision for the establishment of a provincial MaB Committee to facilitate the listing of and management of biosphere reserves across the province. In 2011 PGWC passed the Western Cape Biosphere Reserve Act which is to direct the management of biosphere reserves, the preparation of framework plans, funding and regulations.

PGWC also prepared the Manual for Bioregional Planning in the Western Cape (PGWC, 2003)\(^6\) (further referred to as the Bioregional Planning Manual) to support the
implementation of the MaB Programme and to promote sustainable development in general.

During the past 12 years three biosphere reserves have been established in the Western Cape namely the Kogelberg Biosphere Reserve (1998), Cape West Coast Biosphere Reserve (2000, extension 2003) and the Cape Winelands Biosphere Reserve (2007).

2.2.2 World Heritage Sites

CapeNature in collaboration with SANBI (South African National Biodiversity Institute) et al, facilitated the inscription by UNESCO of the Cape Floral Region Protected Areas World Heritage Site during 2004. The Cape Floral Region Protected Areas World Heritage Site was nominated as a series of different sites (serial nomination) which is a relatively new concept. Eight clusters, which together form a representative sample of the eight phytogeographic centres of the Cape Floral Region over an area of 553 000 ha, were identified and include the following (refer to Figure 6):

- Baviaanskloof Protected Area (174 000 ha)
- Boland Mountain Complex (113 000 ha)
- Boomsmansbos Wilderness Area (15 000 ha)
- Cederberg Wilderness Area (64 000 ha)
- De Hoop Nature Reserve (32 000 ha)
- Groot Winterhoek Wilderness Area (26 000 ha)
- Swartberg Complex (112 000 ha)
- Table Mountain National Park (17 000 ha)

The Boland Mountain Complex, which constitutes the core area of the Cape Winelands Biosphere Reserve (refer to Figure 6) is acknowledged as the most important site in the Cape Floral Region in terms of floristic diversity and represents the highest concentration of threatened and locally endemic species in the Fynbos biome (Indigenous Vegetation Consultancy et al, 2003). Unique opportunities exist for the above world heritage sites to be enlarged and for cultural world heritage sites to be established in the Cape Winelands Biosphere Reserve in terms of public/private agreements.

Stellenbosch Municipality participated in the investigations into the viability of registering World Heritage Cultural Landscapes for the Cape Winelands as part of their studies pertaining to the establishment of a biosphere reserve during the late 1990’s and early 2000. During 2006 the Cape Winelands Cultural Landscape was tentatively listed by UNESCO’s World Heritage Centre. Both the MaB Programme and the World Heritage Site Programme fall under the auspices of UNESCO.

A unique opportunity therefore exists for the Greater Stellenbosch, being located in a UNESCO-registered
biosphere reserve within which a World Heritage Site has already been proclaimed, to take the required steps to obtain the Cultural Landscape listing. The two conventions referred to also provide a unique framework within which the cultural heritage of Stellenbosch as a whole can be managed.

2.3 The Cape Winelands Biosphere Reserve

The Cape Winelands District Municipality facilitated and funded the establishment of the biosphere reserve and is its permanent custodian. The District Municipality is inter alia responsible for the integration of the interests of all stakeholders, in particular, the various authorities involved in the biosphere reserve.

Stellenbosch Municipality played a leading role in the initiation and establishment of the biosphere reserve. Actions of the municipality included various submissions to PGWC and formal, written support for its listing on the World Network of Biosphere Reserves.

2.3.1 International and inter-governmental agreement

As is stipulated by UNESCO’s guiding principles on biosphere reserves, the Cape Winelands Biosphere Reserve is based upon an international agreement between South Africa and UNESCO.

The signatories of the agreement are as follows:

a. National Government of South Africa (represented by the Department of Environmental Affairs and Tourism).
b. Provincial Government of the Western Cape (represented by the Department of Environmental Affairs and Development Planning).
c. Cape Winelands District Municipality
d. Breede River Valley Municipality
e. Drakenstein Municipality
f. Overberg District Municipality
g. Stellenbosch Municipality
h. Theewaterskloof Municipality
i. Witzenberg Municipality
j. CapeNature
k. Elandsberg Farms

All of the signatories are bound by the following terms of agreement stipulated in the application to UNESCO (May, 2007) and the Spatial Development Framework Plan that has been prepared for the biosphere reserve (refer to Chapter 2.3.2):

i. Conservation (contributing to the conservation of landscapes, ecosystems, species and genetic variation).
ii. Development (fostering economic and human
development, which is socio-culturally and ecologically sustainable);

iii. Logistical support (supporting demonstration projects, environmental education and training, research and monitoring related to local, regional, national and global issues of conservation and sustainable development).

iv. Implementation of bioregional planning and management in all projects.

v. Promotion of UNESCO’s MaB Programme (fostering sustainable economic and human development and environmental conservation).

2.3.2 Legal status of the Cape Winelands Biosphere Reserve

A Spatial Development Framework Plan (SDFP) has been prepared for the biosphere reserve. The SDFP was approved by the Cape Winelands District Municipality on 29 March 2011 in terms of the Municipal System Act 32 of 2000. This gives legal status to the biosphere reserve, its broad zonation and, in particular, the intergovernmental terms of agreement cited above.

The SDFP is an implementation mechanism, in terms of the relevant statutes and policies, for the biosphere reserve and its functions as described in the UNESCO Application. In general terms, the purpose of the SDFP is to lay down guidelines for the future spatial development of the area to which it relates in such a way as will most effectively promote the order of the area as well as the general welfare of the community concerned. As such, the SDFP serves to:

a. Indicate, in a detailed manner, the spatial implications of the Biosphere Reserve.

b. Serve as spatial plan and strategy that facilitates Local Economic Development (LED).

c. Lay down strategies, proposals and guidelines for the future spatial development of the Biosphere Reserve. This includes, without being limited to, development objectives, proposals for land reform, urban renewal, reconstruction, integration, environmental planning, and urban design so that the general well-being of the relevant local communities and order in the area are promoted in the most effective manner.

d. Promote social, economic, and environmental sustainability in an integrated and holistic manner and in accordance with the applicable legislation, policy and protocols. The SDFP has to create conditions that will facilitate economic benefit through the promotion of the comparative and competitive economic advantages of the Biosphere Reserve.
3. Policy framework for addressing the need and challenge

3.1 National Strategy for Sustainable Development

The need and the challenge have to, in the first instance, be considered in context of the National Development Plan (NDP). With regard to sustainable development in particular, South Africa’s National Strategy for Sustainable Development and Action Plan (NSSD) (2011-2014) has to be considered in context of the NDP and, from an international perspective, in context of South Africa’s policy commitments made at Rio+20. The following five strategic objectives have been identified in the NSSD:

a. Building sustainable communities.

b. Enhancing systems for integrated planning and implementation.

c. Promotion of a green economy.

d. Responding effectively to climate change.

e. Sustaining ecosystems and using natural resources efficiently.

The concepts of sustainability and sustainable development are defined in the NSSD in a South African context. Sustainability implies ecological sustainability which recognizes that healthy ecosystems and natural resources are preconditions for human well-being and that human beings are part of nature and not a separate entity. Sustainable development, in turn, is considered the process followed to achieve the goal of sustainability. Sustainable development implies the selection and implementation of a development option, which allows for appropriate and justifiable social and economic goals to be achieved, based on the meeting of basic needs and equity, without compromising the natural system on which it is based.

A systems approach to sustainability has been adopted in the NSSD. This is considered as one where the economic system, the socio-political system and the ecosystem are embedded within each other, and then integrated through the governance system that holds all the other systems together in a legitimate regulatory framework. Sustainability implies the continuous and mutually compatible integration of these systems over time. Sustainable development means making sure that these systems remain mutually compatible as the key development challenges are met through specific actions and interventions to eradicate poverty and severe inequalities.

The NSSD is a proactive strategy that regards sustainable development as a long-term commitment, which combines environmental protection, social equity and economic efficiency within the vision and values of the country. NSSD marks the continuation of a national partnership for sustainable development.

The implementation of the international agreement between South-Africa and UNESCO pertaining to the Cape Winelands Biosphere Reserve can serve as an ideal platform for the promotion of such cooperation. In this regard Stellenbosch has a unique opportunity to be a global partner in helping to address developmental and conservation challenges. The area of jurisdiction of Stellenbosch Municipality can become a theatre to reconcile people and nature, it can bring knowledge of the past to the needs of the future, and it can demonstrate how to overcome the sectoral nature of our institutions (Seville Strategy, 1996).

The promotion of sustainable development on the local scale must be considered in a global context. In a recent UN Habitat report9 it is stated that urban areas have a pivotal role in both climate change mitigation and adaptation. Strategies and approaches are required for strengthening this role. The UN report also states that the main responsibility for implementing policies to address the impacts of climate change in urban areas rests with local government. It is argued that many local governments around the world have so far failed to accept and/or act on this responsibility.
The UN report singles out South Africa as an unusual case in that the latter has moved beyond risk assessment to discussions regarding what should be done to address the effects of climate change. The UN report mentions that a number of South African cities have developed plans for adapting to climate change. In this regard, reference is made to the June 2010 article of Cities Alliance: Cities Without Slums on what is being done in Durban, as well as to Cape Town’s Energy and Climate Change Strategy and Cape Town’s Framework for Adaptation to Climate Change. With regard to the national and provincial spheres of government reference is made to the October 2011 White Paper National Climate Change Response Paper of national government and the Approach To Address Climate Change of PGWC (October 2011).

The central objective is to ensure that the pressing challenges referred to above are addressed in a practical way and to ensure measurable success and progress. It is emphasized that the integrated and co-ordinated conduit for success is sustainable development. As provided for in government policy, the latter has to be given effect by government in partnership with local communities and the private sector in terms of specific policies.

3.2 Applicable provincial and municipal policy

Sustainable development in the Western Cape Province is promoted by the Provincial Spatial Development Framework (PSDF, 2009) as well as municipal Integrated Development Plans (IDPs) and municipal Spatial Development Framework (SDFs). The above policies and legislation provide guidelines and directives to help secure sustainable development. The PSDF incorporates the provincial bioregional policies and principles prepared during the period 1998-2001 and the official Bioregional Planning Manual of 2003. The stated purpose of the Bioregional Planning Manual is to facilitate the implementation of bioregional planning and management throughout the province.
Provincial policy must be considered in context of enfolding provincial initiatives, programmes and directives aimed at promoting sustainable development. In this regard PGWC's 110% Green initiative, briefly described in the Executive Summary of this report, should inform decision making.

The PSDF states that it is a tool of governance that must comply with the requirements of the Municipal Systems Act, the National Spatial Development Perspective (NSDP) and the Development Facilitation Act (DFA). The PSDF furthermore states that, whilst there have been a number of criticisms of the bioregional approach, these criticisms have failed to detract from pertinent insights that the bioregional planning approach brings to regional planning and development and how to address the myriad of environmental, economical and social problems facing regions such as the Western Cape. It is furthermore stated that the relationship between cities, towns and their hinterlands is a fundamental problem of regional planning. Bioregional planning theory identifies a greater range of relationships which have far more profound implications for long-term sustainability of these relationships, than regional economic planning theory. These relationships are rooted in the concept of Ecological Footprint.

It is further stated in the PSDF that, the bioregional planning approach appears to be far more effective and strategically embrace the wide range of environmental, social and economic issues faced by the province than does conventional regional economic planning. There is a need for a wide range of bio-physical, social and urban policies. The bioregional planning approach provides the necessary broad-based theoretical basis on which these could be based.

According to the PSDF, bioregional planning principles highlight the necessary and enormous challenges of the province by trying to move the development trajectory of the province onto a sustainable basis. These challenges could be deemed unrealistic or politically unacceptable, particularly in the face of pressure for short-term development profits and as a consequence, ignored or inappropriately minimised under a regional economic planning approach.

However, the unsustainable development trajectory must be challenged and Bioregional Planning Policy has been incorporated into the PSDF as a cornerstone which, inter alia aims to achieve the following:

a. Provide a standard format for the implementation of bioregional planning with the aim to facilitate sustainable development throughout the Western Cape.

b. Support the municipalities in the preparation of their IDPs and, in particular, their SDFs prepared in terms of the Municipal Systems Act or the Land Use Planning Ordinance (LUPO).

c. Facilitate the land-use classification of the entire land surface of the Western Cape Province in a standard format in accordance with defined Spatial Planning Categories, which are based on a broad spectrum of environmental parameters and a system of values and ethics.

d. Facilitate cross-boundary co-operation and co-ordination between municipalities in respect of issues that are of mutual interest for their respective areas of jurisdiction (refer to inter alia issues pertaining to land-use, biodiversity conservation, and resource utilisation).

e. Provide a framework that would inform any future municipal demarcation with the aim to reconcile future municipal boundaries with defined bioregional parameters.

In terms of its consistency principle, the PSDF incorporates local-scale spatial and design policies aimed at the promotion of the comparative economic advantages of the province and the protection of the heritage resources vested in cultural landscapes such as the Cape Winelands.

These policies include the application of five design principles to be applied in new and restoration projects, i.e. sense of place, sense of nature, sense of craft, sense of history, and sense of limits. These principles should serve as important informants for the preparation of a holistic and integrated heritage policy for both the urban and built environment.

The Bioregional Planning Manual provides a spatial and managerial framework for efficient bioregional management and planning on scales ranging...
from the international to the local. The manual inter alia provides for the delineation of macro biogeographical regions such as the Karoo, Mountain Valleys and Coastal Plains, dropping down to the level of the catchment such as the Eerste River, Berg River and Breede River. One level down from the catchment/ecological level is the human settlement scale. The delimitation of settlement domains is the product of the juxtaposition between settlement boundaries and natural/ecological boundaries.

Stellenbosch Municipality has provided for neighbourhood planning and an inclusive planning and decision-making process in its IDP. Specific reference was made to a ward-based planning approach, neighbourhood revitalization and effective community participation and the preparation of area development and area action plans (refer to Figure 8 and 9).

The important correlation between integrated development planning and the delimitation of appropriately-scaled community areas is recognised in planning theory. It would therefore be of value to consider the bioregional planning principles as a premise for the refinement of the ward plans, neighbourhood revitalization area plans, etc. This could, for example, be used for the delimitation of, what could be termed, ‘settlement domains’ such as Dwars River Valley, Jonkershoek, Upper-Blauuwklippen, etc. as is illustrated by Figure 10. Such ‘settlement domains’ can serve as an overlay for ward area demarcation incorporating ecological and settlement patterns as is promoted by the bioregional planning approach.

For the provincial and local government to succeed in their endeavours to promote sustainable development it is of importance that the vital links between area plans and the bioregional planning scales are established, maintained, co-ordinated and managed over time. Ideally every project that may impact on sustainability should be considered in context of a hierarchy of spatial scales as provided for in the bioregional planning approach. Of critical importance is the participation of the business sector in development planning and management, and, in particular, in the implementation of sustainable
development projects on the site, settlement domain and the neighbourhood area scales.

Of value in this regard is the work that Stellenbosch Municipality has undertaken in the past as it relates to the implementation of bioregional planning. During 2006 the municipality commissioned the preparation of a set of dedicated municipal policy documents that comply with the provincial Bioregional Planning Manual. The relevant documents are as follows:


d. Bothmaskop / Idas Valley Spatial Development Plan (Dec 2006).

In addition, the draft Stellenbosch Municipal Land Management Plan (September 2004) and various documents pertaining to the Cape Winelands Biosphere Reserve have been prepared.

The package of bioregional planning frameworks and plans listed above was prepared to inform the Stellenbosch IDP and, in particular, the Stellenbosch SDF. Figure 11 illustrates the relevant documents in a hierarchical relationship with other municipal planning and development frameworks and plans, in particular, the Stellenbosch IDP and SDF.

The relevant documents collectively serve as an inventory of projects, or actions, to be undertaken under the IDP, and also provide a broad framework for measuring and managing the performance of the municipality in terms of a set of performance management criteria. While generally applicable as informants to municipal policy these documents require updating and review.
3.3 Implementing bioregional planning as an integrated dimension of policy

Bioregionalism is a comprehensive manner of defining and understanding the place where one lives in a sustainable and respectful manner. Bioregionalism acknowledges that people do not only live in cities, towns, villages and countryside, but also in watersheds, ecosystems and eco-regions. The awareness of those connections to the planet is vital to one’s health and the health of the planet (Loheed et al, 2001)\(^{10}\).

3.3.1 Bioregional management guidelines

For ease of reference the provincial bioregional planning guidelines are summarised below.

**Guideline No.1: Building capacity**

a. Develop leadership for the bioregional management programme. Ideally a well-respected local individual or organisation who has leadership capabilities and who knows the community and its resources should be involved in this task.

b. View bioregional management as a social and governance issue. The manner in which authority and responsibility is distributed amongst spheres of government and between public and private interests, is a central issue in promoting co-operation and mobilising skills and capacities.

c. Use authority to foster co-operation. It is idealistic to expect constituents to work together as a ‘tight band of well-meaning stakeholders’. Experience has shown that a measure of authority to provide the backbone to efforts is both needed and appreciated. An authority must ensure that minimum goals, standards and criteria are met.

d. Redistribute power over land and resources to develop authority and responsibility in the bioregion. The challenge here is to:
   i. Establish incentives for local residents to take on responsibility for biodiversity protection and management.
   ii. Foster a fair sharing of benefits from the use of resources.
   iii. Place the authority to protect, control and use, closer to the ground (community level).

e. Identify and assess the capacities of organisations and individuals in the bioregion and fill the gaps. This action requires a detailed and systematic evaluation
Fig. 11: Draft bioregional planning policy documents of Stellenbosch Municipality in hierarchical relationship with other municipal policy.
of skills and capacities in the bioregion, and the filling of gaps can often be achieved by establishing a new structure through which existing skills can be co-ordinated and where shortcomings can be supplemented by employing new skills.

f. Use and build upon existing capacity wherever possible. The establishment of large regional structures should be avoided and priority should be given to reinforcing local technical capacity through networking on a larger scale.

g. Build the capacity to deal with challenge. Bioregional planning takes place in the context of dynamic change and flux and it is, therefore, important to promote and foster capacity to anticipate and manage challenge.

Guideline No.2: Fostering stakeholder participation

a. Leaders, planners and policy makers should get to know the stakeholders and their concerns, interests and perspectives. If too little is done to get to know and understand the region’s people, bioregional planning and management will fail.

b. Initially, focus on a few issues of interest to the widest possible set of stakeholders. Experience suggests that it is of decisive importance to begin simply by limiting the programme to one, or a few, issues of common concern. Programs should rather grow gradually to embrace more comprehensive issues.

c. Link conservation and restoration activities with socio-economic development goals in the bioregion. The challenge is to integrate development with conservation goals and measures.

d. Provide access to decision-making. Give local residents and communities access to decision-making processes and the skills needed to participate fully in the development and implementation of democratically managed bioregional programs.

e. To keep stakeholder participation fair, give all participants information of equal value. Constituents need to be well and equally informed and a scientifically sound information base must be established at an early stage.

f. Give stakeholders incentives to get involved in and committed to bioregional programs. Whilst it is recognised that in some areas interest in conservation is great and that volunteerism may be assured, few stakeholders can do more than attend a number of public meetings or respond to questionnaires. To, for example, alter farming practices and other resource practices in the interest of conservation, will require compensation for time, expenses and alternative uses.

g. To foster involvement and commitment, ensure that individuals and group stakeholders receive a fair share of the benefits. Where conservation-linked programs are linked to reward, ensure that it is both fair and forthcoming.

h. In areas of multiple jurisdictions, develop co-ordination mechanisms that do not challenge existing sovereignty. The biosphere reserve approach, for example, leaves intact the authority of public agencies and private property rights.

i. Honour all commitments that result from negotiations. It is especially important that authorities ensure that commitments are honoured and that such commitments do not fall prey to changing budgets, personnel departures which leave unfilled vacancies, etc.

Guideline No.3: establishing co-operative arrangements among institutions

a. Establish co-operative management options with and among stakeholders. A cardinal rule of ecosystem management is that people with interest in a bioregion are not simply to be placated with marginal give-away or menial jobs, but are understood to be partners.

b. Adjust the design and delivery of technology to allow for the space and time necessary for communities and institutions to adapt. Innovation and technology have to be introduced carefully and adjusted to local and social institutional circumstances.

c. Do not hesitate to rely on short-term financial support from external sources for bioregional programs initially, as long as it is replaced in a timely manner by a sustainable flow of resources. Consideration should be given to the setting up of an environmental fund for the bioregion in which grants and contributions from international, national, provincial, local and private resources can be held in trust and capitalised.

d. Stimulate and promote programs of high quality, inter-disciplinary research into determinants of the
occurrence of ecosystems and natural resources and the uses made of them by rural and/or regional communities. Provide a supportive environment for creative and innovative research or applications development in sustainable conservation, resource use and management on bioregional bases. Attract postgraduate research to this field.

3.4 Municipal strategies for sustainable development

In terms of the bioregional planning documents referred to in Chapter 3 read together with the Stellenbosch IDP, the strategies for sustainable development of the municipality recognise the following:

- Eradication of poverty is an indispensable requirement for sustainable development.
- Eradication of poverty requires environmentally sustainable solutions.

In the provincial bioregional planning policy it is recommended that the following strategies be considered by municipalities:

a. Providing a mechanism for integrating environmental and poverty concerns into municipal decision-making.
b. Providing a strategic and participatory process of analysis, debate, capacity strengthening, planning and action towards sustainable development.
c. Integrating both poverty eradication and environmental sustainability perspectives with national and provincial economic policies and programs.
d. Serving as a catalyst to analyze economic, social and environmental development trends, taking stock of inter-related policies and plans, and identifying key problems – with the objective to achieve economic efficiency, social justice and environmental sustainability simultaneously.
e. Integrating sustainable development strategies and strategy processes into the national, provincial and district development planning frameworks.
f. Mobilizing communities to promote continuous democratic dialogue and debate amongst broad sections of society.
g. Participation, representation, ownership and involvement of all relevant stake-holders promoting broad-based policy learning and capacity development.
3.5 Municipality’s leadership role regarding sustainable development

Provincial bioregional planning policy highlights the following municipal leadership roles at it relates to the promotion of sustainable development:

**Role No.1: Leading by example**

In this regard, reference is made to the following:

a. Purchasing and procurement. A municipality is a large consumer of resources. The adoption of sustainable purchasing and procurement programs can demonstrate leadership and shape energy and resource consumption patterns locally and elsewhere.

b. Municipal properties, including buildings, parks and open space. Applying sustainable development principles to the planning and management of such properties can help a municipality to operate in a sustainable manner and provide excellent examples in this regard.

c. Investment policies. Supporting or investing resources in sectors, firms or activities that promote sustainability is important to demonstrate leadership.

d. Renewable energy use as well as water and energy conservation. A municipality should aim to lead by example and save money by adopting sustainable practices in this regard.

e. Workforce transit patterns and motor fleets (cars, trucks, buses, etc.). A municipality should aim to reduce energy consumption and shift towards renewable energy by managing the transit patterns of employees.

**Role No.2: Promoting public-private-community based sustainable development programs and partnerships**

In Stellenbosch IDP it is emphasized that local communities should play an active part in the planning and implementation of projects in their neighbourhoods. Figure 12 illustrates this IDP principle.
Bioregionalism is not about solving problems for people, but rather solving them with people in a way that acknowledges the uniqueness and value of each person and place.
3.6 The Special Management Area approach

Provincial bioregional planning policy and the Bioregional Planning Manual provide for Special Management Areas (SMAs) to be established by both the public and private sector under specific circumstances.

An SMA is defined as an area of excellence and good practice, where the ethos of sustainable development is served in practice. It is also seen as a land unit (or compilation thereof) which is formally recognised and managed as an area where sustainable developmental is promoted in practice and in accordance with international standards for environmental sustainability (Bioregional Planning Manual).

An SMA does not replace any other official planning units such as those recognised in a municipal IDP and SDF, including a neighbourhood area, development area, etc. In theory, an SMA can include a number of official neighbourhood areas and/or development areas.

The management and associated costs pertaining to an SMA should ideally be approached in the spirit of a public/private partnership. Funding could be provided by government, land-owner(s) other stakeholders, and institutions. If an SMA is planned and managed in accordance with international standards it may attract international funding from, for example, UNDP (United Nations Development Programme), GEF (Global Environmental Facility), etc.

An SMA is managed in accordance with an Environmental Management System (EMS) and programme-specific Environmental Management Plans (EMPs). These plans are to conform to international standards for environmental management (e.g. ISO 14001) (refer to Section 10 below).

SMAs may be established over all types of land use zones, including urban, agricultural and natural zones. Various SMA’s have been created in the Western Cape, the most notable of which is the Nuwejaars Wetland SMA near Bredasdorp which was initiated by private landowners. The Nuwejaars Wetland SMA is supported by DBSA, PGWC, Department of Agriculture, SANBI, SANParks and CapeNature.
approval that an Environmental Management System (EMS) be prepared to facilitate such management. The EMS should be based upon sound economic and technical decisions and careful consideration of alternative strategies, and include a comprehensive statement on the vision, goals and objectives of the development. It should furthermore deal with the formulation of strategies to achieve the general goals and objectives stipulated in the development framework of the project in a manner that complies with ethical, social, and political norms.

The primary aims of the EMS should include the following:

a. Ensuring appropriate management of all aspects of both the developmental and the operational phases of the project.
b. Ensuring conformance with the stated environmental policy.
c. Enabling certification/accreditation of the estate in terms of ISO 14001.
d. Complying with stated zoning conditions.

The EMS should be structured in accordance with a standard best practice format (e.g. SABS ISO 14004:1996(E)). In accordance with the ISO 14004 format, the EMS incorporates five distinct, but interrelated phases, namely:

i. Determine management policy.
ii. Planning of all projects and phases.
iii. Implementation and operation.
iv. Monitoring and corrective action.
v. Management review.
vi. Continual improvement.

The concept of continual improvement should be embodied in the EMS. Continual improvement is achieved by continually evaluating the relevance and performance of the EMS against the set environmental policies, objectives and targets with the purpose of identifying opportunities for improvement.

3.7 Preparation of Spatial Development Plans and strategies for specific areas

According to Stellenbosch IDP, area development plans are to be prepared for specific places (including cultural and biodiversity ‘hot-spots’). Such documents would be enhanced if they were to be based on a Strategic Environmental Assessment (SEA) that incorporates in situ detail of the full spectrum of environmental aspects, including ecosystems, habitats, sensitivity, irreplaceability, visual aspects, etc. as provided for in the PSDF.

On a local municipal level, there are many areas that require special planning attention in order to direct resources, investment and action to such areas. In accordance with the planning principles of the municipal IDP, the private sector, communities or individuals, can help identify zones where development could serve as economic drivers to promote the objectives of the IDP and its SDF in particular as it relates to LED (Local Economic Development). Area plans are powerful instruments for promoting and achieving the desired outcomes that the municipality and its constituent communities.

According to the bioregional planning policy no area should be planned and managed in isolation and consideration has to be given to issues beyond the boundaries of a specific planning area. The following objective are particularly important:

a. Improve co-operation between all spheres of government and other stakeholders.
b. Promote a conservation ethos in the minds of the stakeholders.
c. Promote on-going environmental restoration and conservation (including cultural and natural dimensions).
d. Implement management practices that benefit current and future generations, and honour obligations and undertakings at all levels of society.
e. Promote a shared responsibility to maintain the health, diversity and productivity of the area in a spirit of stewardship and caring.
f. Ensure that future growth and development proposals for the particular area are compatible with the vision, goals and objectives of the area.
3.7.1 Built environment

All urban areas within the Stellenbosch municipal area are located within the biosphere reserve. They should therefore not be considered to be separate entities or components. The biosphere reserve can serve as a powerful instrument to promote, manage and protect the unique heritage of the built environment and enhance the unique sense of place of the settlements.

3.8 Partnership with University of Stellenbosch

Stellenbosch Municipality and the University of Stellenbosch have a vision for Stellenbosch as a sustainable university town and a mission of reinventing Stellenbosch. A formal Memorandum of Understanding to this effect was entered into between the Executive Mayor of Stellenbosch and the Rector of Stellenbosch University during 2007.

The principles upon which the partnership is based are as follows;

a. The parties have a responsibility, individually and jointly, to address the challenges facing Stellenbosch and to work towards a better future for all its inhabitants, temporary or permanent.

b. The exercise of their joint responsibilities can best flow through collaborative efforts under the auspices of the Rector of the University and the Executive Mayor of the Town.

c. Addressing the problems and optimising the opportunities of Stellenbosch can best be done by adopting the core principle of sustainability in all spheres of activity, whether educational, social, economic, technological, infrastructural or ecological.

d. They will pursue international interaction and initiatives to their mutual benefit.

In the IDP it is stated that the formal partnership between Stellenbosch Municipality and Stellenbosch University serves as the point of departure for the following:

i. To pursue this vision and mission collaboratively through continuing and formalising within their respective structures the regular Rector/Mayor Forum which has already been meeting successfully for some years;

ii. To work in a non-partisan manner with local business and industry, non-governmental and community organisations towards sustainable local economic development;

iii. To draw on the intellectual capital available at the University and the civic infrastructure of the Town in capacity-building and addressing the development needs of the Town;

iv. To set up such joint projects as required and feasible; and

v. That these initiatives will form an integral part of the IDP of the Stellenbosch Municipality.
4. Project planning and implementation requirements

4.1 Project planning in compliance with the National Environmental Management Act (NEMA)

In order to ensure sustainability it is imperative that all land-use be planned and implemented in a manner that complies with legislation, policy and international best-practice. Project planning is to be undertaken in accordance with the principles of the National Environmental Management Act (NEMA) 107 of 1998 and the Integrated Environmental Management (IEM) approach where land has to be rezoned or subdivided and NEMA is applicable. IEM is defined as an integrated approach for environmental assessment, management, decision-making, the promotion of sustainable development, and the equitable use of resources (DEAT, 1998)\(^1\) The following principles of IEM are particularly relevant:

a. Informed decision-making. Project proposals and associated resolutions are to be informed by the baseline studies and assessments undertaken by specialist consultants and regular iterations among the project proponent, the relevant specialists and other stakeholders. Baseline studies should inform the compilation of a ‘constraints and opportunities map’ which, in turn, should serve as the premise for the planning and design of project proposals.

b. An open, participatory approach in the planning of proposals. Project proposals should be subject to a coherent process of stakeholder consultation. Projects should be planned and implemented in collaboration and in co-operation with the local communities and other stakeholders.

c. Analysis of alternative options. Alternative options are to be prepared in context of specialist studies, iterations between all concerned, and the EIA to be undertaken for a project proposal.

d. An attempt to mitigate negative effects and enhancement of positive aspects of proposals. The planning and design of the various alternatives are to be informed by specialist reports on potential impacts and the mitigations proposed by specialist consultants.

e. An attempt to ensure that the ‘social costs’ of development proposals (those borne by society, rather that the developers) be outweighed by the ‘social benefits’ (benefits to society as a result of the actions of the developers). A strategy should be implemented to ensure that the potential social benefits of the proposed development conclusively outweigh any detrimental impacts. Formal agreements should be concluded pertaining to the benefits that are to accrue to the beneficiaries of any development.

f. Compliance with these principles during all stages of the planning implementation and decommissioning of proposals (i.e. from ‘cradle to grave’). Implementation of proposed projects should be regulated and (facilitated by an Environmental Management System (EMS) and by a dedicated Environmental Management Plan (EMP) for each implementation programme of the proposed project. Thorough monitoring, performance auditing, and continual improvement should be embodied in the EMS and EMPS. The local communities and other stakeholders must be involved in these activities in the long-term.

4.2 Comprehensive project planning documents

IEM provides the opportunity to facilitate and achieve integration of goals, objectives, principles and guidelines for sustainability at all levels of planning and implementation from the local to the international and through the programs and projects in terms of which any large-scale project proposal is to be given effect.

A general objective is that development should help to improve the state of the environment and the well-being of the inhabitants of those communities that live in the proximity where it occurs. In this regard, planning documents should illustrate how the project will give meaningful effect to the objectives of environmental restoration / rehabilitation and long-term conservation of both the cultural and the natural environment.
In particular, planning documents should conclusively illustrate the scope and sustainability of the contributions that the development would make in terms of the following:

a. Eradication of poverty and inequality and empowerment of the affected communities.
b. Restoration of degraded cultural landscapes and features and the construction of qualitative human-made features in accordance with place-specific design criteria and the principles of critical regionalism provided for in policy.
c. In situ and system-wide rehabilitation of degraded habitats that are highly irreplaceable and sensitive and long-term conservation of such habitats and systems.

The project planning documents should ideally record the developer’s commitments pertaining to project implementation and environmental management, thus providing a control instrument and reference framework of undertakings given, against which their actual activities can, over time, be audited and measured. The project planning documents should furthermore serve the following purpose:

i. Serve as a background information document for I&A consultation.
ii. Describe the planning and implementation model and methodology adopted for the proposed project.
iii. State the strategic and policy aspects of the proposed project and clarify key aspects that are to guide the planning and implementation of the programs associated with the project.
iv. Summarise the various programs associated with the project.
v. State the understanding and compliance of the proposed project with the relevant planning and development policies of the municipality.
The private sector has the responsibility to engage with the municipality and other organs of state to help/support government, in the spirit of partnership, to give practical effect to sustainable development.
5. Private Sector strategies for addressing the need and challenge (The SDI model)

The private sector has the responsibility to engage with the municipality and other organs of state to help support government, in the spirit of partnership, to give practical effect to sustainable development. This chapter addresses an approach/methodology to promote and facilitate sustainable development through private sector involvement and co-operative strategies.

5.1 The Sustainable Development Initiative model

Dennis Moss Partnership has, over the past three decades, taken various initiatives to help give effect to the implementation of provincial and municipal policy aimed at promoting sustainable development. Of particular relevance is the development of a standard methodology for the planning and implementation of sustainable development. This methodology is referred to by this office as the Sustainable Development Initiative (SDI).

• An SDI is described as an over-arching socio-economic development and environmental rehabilitation strategy that is enabled and funded through the utilization of the resources (capital) vested in a defined area consistent with the international definition of sustainable development. The SDI model is about helping to promote a dynamic developmental state as is contemplated by the South African Constitution.

• The model is based on DMP’s Sustainability Platform which constitutes a comprehensive knowledge base and experience over decades in the disciplines of urban, regional and environmental planning, architecture, urban design, landscape architecture, environmental sciences, climate neutrality, and green economy, which is applied, in an integrated, coherent and practical manner, in the planning and implementation of projects with the objective to promote sustainability through sustainable development. In accordance with the principles embedded in the Sustainability Platform the approach adopted in the SDI planning model is pro-active and value-based. In terms of the model the core objectives and interests pertaining to the planning, design and implementation of a project are identified and then it is demonstrated how these are to be achieved.

• The SDI model recognises that global sustainability depends upon the successful implementation of development projects on the local scale linked to all other scales up to the international/global scale. The SDI model includes a framework for a climate-neutral strategy and action plans without which global sustainability is not possible.

The SDI model responds, in a practical and exemplary manner, to the most critical and fundamental challenges facing the country and the globe, namely poverty, inequality and environmental degradation. The central objective of an SDI is to help give effect to the objects of the Constitution. On a local level this requires that support be given to the local municipality within which an SDI is undertaken. In this regard the following objectives and provisions of the Municipal Systems Act are considered as decisive:

a. Municipal planning must be developmentally-orientated. Through development planning, municipalities must fulfil the objectives of Section 152 and 153 of the Constitution. Development planning must, together with other organs of state, contribute to the progressive realisation of the fundamental rights to a safe and healthy environment, protection of property, housing, health care, food, water and social security, and education.

b. Municipal planning must take place within the framework of co-operative government, implying that municipal planning cannot take place in isolation – it must be aligned with the plans and strategies of national, provincial and local government. The converse is also a Constitutional requirement.
5.1.1 Pillars of the SDI model

The SDI model stands on three pillars, namely:

Pillar 1: Finance

Sustainable development has to be financed. The employment of monetary capital is the conventional method considered necessary for this purpose. However, to ensure the stability of the capital resources that are required for sustainable development, it is imperative that a broader view pertaining to capital and finance be adopted.

Financing sustainable development entails the employment of monetary capital together with three other forms of capital i.e. environmental capital, infrastructural capital and social capital. The four forms of capital must be strategically incorporated into a single form of capital that would be considered bankable by financial institutions. In the SDI model this is referred to as sustainability capital or sustainability finance.

In an SDI, it is imperative to establish an organisational structure that would include a sustainability fund to facilitate and administer the employment of capital to fund the economic drivers of sustainable development. Economic drivers for sustainable development are diverse and could include property development, solar or bio-fuel energy plants etc.

It is important to recognise that development can only be optimised through positive economic intervention within a framework of an IDP and strategy. In order to optimise the potential of the economic drivers of sustainable development, the SDI model builds upon the principle that an SDI, for any given area, must be supported by projects to be implemented in terms of specific programs. Projects should ideally promote the comparative economic advantages of the region or the area within which the SDI is undertaken.

Pillar 2: Community participation, inclusivity and human well-being

The SDI model builds on the principle of inclusivity. This implies that the planning, implementation and management of an area should be an ongoing inclusive process that gives meaningful consideration to the changing and dynamic interests, needs and values of the people that live in the area and that have an interest in ensuring a prosperous future for the area. In this regard, it is important that the following should result from an SDI:

- Continuing participation, representation and involvement of stakeholders in the SDI area.
- Creating adequate and appropriate opportunities during the inception phase of the SDI planning, and thereafter, for community participation in decisions that may affect the area.
- Consideration of, and agreement on, the values which would form the basis of the SDI and the associated projects.
- Developing and utilising the skills and capacities of the people living in the area (especially previously disadvantaged people, and women) in the planning and implementation of the SDI and its projects.
- Encouraging on-going involvement of local people in the programs identified for the SDI.
- Recognising that historic injustices need to be addressed in a practical and sustainable manner as a matter of high priority. In particular, recognition needs to be given to the rights of local previously disadvantaged people to share in the benefits that development brings to the area in a spirit of partnership.

The SDI model is based upon, and gives effect to, the Community Public Private Partnerships Programme (CPPP) of the Department of Trade and Industry, which targets private partners with the aim to position community initiatives/enterprises as ideal repositories for corporate social investment as well as relevant local policy (such as Stellenbosch IDP). The programme’s core role in stimulating enterprises is to facilitate mutually beneficial, sustainable CPPPs that would eventually result in ownership by the community.

The importance of CPPPs is emphasised by the following statement of Price Waterhouse Coopers, namely: ‘Government is under significant pressure to improve public services and roll out more infrastructure. This places an undue burden on government resources and public sector capital. Increasingly, the private sector is asked to provide capital and resources through CPPPs, which have taken on many forms, including concessions and joint ventures. CPPPs allow the public sector to achieve value for money by accessing private sector capital, resources and skills, thereby obtaining the benefits of innovation, risk transfer and improved quality and service levels.’
The planning, implementation and management of an area should be an ongoing inclusive process that gives meaningful consideration to the changing and dynamic interests, needs and values of the people that live in the area.
The inclusivity approach provides for the participation and involvement of local communities in the planning, implementation and management of the SDI through an appropriate community-based structure such as a Public Benefit Organisation (PBO).

**Pillar 3: Environmental rehabilitation and conservation**

The SDI model supports the principle that biodiversity conservation is a prerequisite for sustainable development. It accepts that, for biodiversity conservation to succeed, the maintenance of environmental integrity (as defined by ecological, economic and social criteria) must be one of the primary determinants of land-use planning and development. The SDI is accordingly founded on the principles of the NEMA:

a. Environmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests equitably.

b. Development must be socially, environmentally and economically sustainable.

c. Sustainable development requires the consideration of all relevant factors including:

d. (That the disturbance of ecosystems and loss of biological diversity; pollution and degradation of the environment; disturbance of landscapes and sites that constitute the nation's cultural heritage are avoided, or, where they cannot be altogether avoided, are minimised and remedied;

i. that waste is avoided, or where it cannot be altogether avoided, minimised and re-use or recycled where possible and otherwise disposed of in a responsible manner;

ii. that the use and exploitation of non-renewable natural resources is responsible and equitable, and takes into account the consequences of the depletion of the resource;

iii. that the development, use and exploitation of renewable resources and the ecosystems of which they are part do not exceed the level beyond which their integrity is jeopardised;

iv. that a risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions; and

v. that negative impacts on the environment and on people's environmental rights be anticipated and prevented, and where they cannot be altogether prevented, are minimised and remedied.

5.2 Core interests and objectives of the SDI model

The SDI encapsulates the principles of a strategic value-based approach to sustainable development as provided by the UN Habitat. This requires the identification of the core interests and objectives of a project and a demonstration of how these are to be achieved in practice.

5.3 Structure of the SDI model

An SDI is planned and implemented in accordance with six distinct steps or components that are applied in a cyclic sequence (refer to the summary and the figure below). The steps are as follows:

Component 1: This constitutes the formulation of a vision for the SDI project. Having regard for the central objective of an SDI, this has to be founded on ethical values, with sustainability as the central objective. An appropriate organisational structure (e.g. PBO) should ideally be established early in the process to ensure inclusivity. The vision is then given effect through the following:

Component 2: Formulation of strategies to unlock, align and re-invest the resources (capital) vested in the SDI area. The rationale for such strategies is that sustainable development has to be financed and monetary resources (money) alone cannot achieve this. The SDI strategically aligns monetary, environmental, infrastructural and social capital into a form of capital that is bankable and that can be used to finance sustainable development. The main purpose is to create economic drivers that would generate funds for the financing of both human well-being and the integrity of the natural environment. Innovative planning and design is a critical dimension for the optimization of sustainable outcomes.

Component 3: This includes the consideration of the desirability of the SDI project proposals in terms of all relevant scales, from the international to the local, and in terms of the applicable legislation, policy, and the spatial and design dimension. Qualitative place making through urban, architectural and landscape architectural design is considered an imperative for human well-being and is therefore an inextricable component of sustainable development. Accordingly, this is a critical dimension of the SDI model.

Component 4: This constitutes use of the various forms of capital to fund projects under defined programmes. These are to be planned and implemented in accordance with clear guidelines which collectively address the key socio-economic and environmental needs of the SDI area.
The SDI programmes are defined as strategic clusters of related activities that together achieve a specific goal.

Component 5: This constitutes the measurement and assessment of the performance of the SDI and its projects in terms of the criteria of efficiency and justice. This should be undertaken in context of statutory and policy requirements pertaining to need and desirability.

Component 6: The final step is the implementation of the SDI through an adaptive management strategy in terms of an ISO 14001 Environmental Management System (EMS) that embodies continual improvement of all aspects of the SDI. As state previously, the various steps are undertaken in an on-going cyclic sequence, which means that they are subject to on-going performance scrutiny and evaluation and continual improvement for the duration of the SDI.

5.4 Sustainability and bankability of SDI projects

A key dimension of the SDI is innovative and sustainable
funding which is to be provided through bankable projects. Component 2 of the SDI model provides for the alignment and integration of the four forms of capital in a manner which could be bankable. Sustainability, as it relates to funding, is described as the stabilising point between the three dimensions of the triple bottom line, i.e. economic efficiency, environmental integrity and human well-being (social justice), each of the elements contributing to an on-going sustainable equilibrium. Typically the individual ‘weight’ of each of the three elements varies across a portfolio of sustainability projects. It is therefore likely that the sustainability investment spectrum, corresponding to a specific portfolio, will range from highly quantitative (and therefore more likely to be immediately bankable) to highly qualitative (and therefore more challenging to be bankable), as shown by Figure 14.

Bankability is defined as the assessment of a project that provides the investor with a competitive rate of return over a short or extended period of time (e.g. 1 to 30 years), incorporating an acceptable risk profile to the investor, while also capable of providing short-term liquidity when required.

Monetary capital constitutes an appropriate selection of amongst others, private equity, venture capital, corporate finance, project finance and possibly donor funding and philanthropy. The challenge in sustainability finance is to provide suitable investment structures that will deliver bankable sustainability project portfolios with full accounting of the individual contributions of natural, environmental, infrastructural and social capital to the portfolio.

5.4.1 A vision for sustainability finance

The vision for sustainability finance formulated by the ISDC and Dennis Moss Partnership in 2002 is as follows: Globally utilise financial market driven-mechanisms for the delivery of sustainable development solutions, focusing on and providing the following:

- sustainable communities with the financial capability to alleviate poverty and inequality and to develop more sustainable lifestyles;
- a variety of countermeasures against climate change (including ‘clean energy’ and the reduction, retention and removal of carbon);
- biodiversity protection mechanisms in conjunction with biosphere reserves and other integrated land-use initiatives and through the application of bioregional planning; and
- development of innovative solutions, incorporating state of the art technology, in a range of focus areas underpinning the duality of sustainable development and climate change (e.g. water conservation, energy efficiency, health, agriculture, forests and other ecosystems, waste management, sustainable buildings/industry/transport).

5.4.2 Sustainability investment platform (SIP)

ISDC developed the concept of the Sustainability Investment Platform (SIP) in order to provide a specialised environment enabling the effective application of sustainable finance and its various functions, in particular, addressing the various forms of capital. The primary aim of the SIP is to provide the broad investment community

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**Figure 14** Achievement of sustainability and bankability (ISDC London).
with an attractive and competitive sustainability project portfolio, with the sustainability finance as its ‘currency’. The overall objectives of the SIP relate to the following (refer to Figure 14):

a) Quantitative:
   i. To achieve a highly competitive rate of return for the overall project portfolio.
   ii. To provide appropriate sustainability orientated hedging instruments.
   iii. To allow investors with competitive facilities e.g. early liquidity and exit opportunities.

b) Qualitative:
   i. Each of the projects in the sustainability project portfolio has a clear set of objectives in support of the vision.
   ii. A further consideration in each project is the opportunity to establish a benchmark/icon standard, also incorporating transferability and scalability to other future projects.

5.4.3 Components of the SIP

The SIP incorporates the following:

a. Financial Instruments: In order to provide the necessary risk protection to the potential investor, a variety of financial instruments are available. These are adjustable in order to address a broad range of qualitative issues while meeting the investment requirements of investors.

b. Sustainability Investment Models: This constitutes a methodology and process to define and unlock value pertaining to qualitative sustainability issues, into structured projects, followed by the quantification of the defined and unlocked value in financial terms.

c. Sustainability Investment Fund: A Luxembourg-based and regulated fund, incorporating fund related financial/technical specialist support.

   i. Fund custodianship: Investments are in care of a well-established banking group.
   ii. Fund administration: Providing investors with a monthly Net Asset Value analysis.
   iii. Investment management: Expert management ensuring that invested funds are fully utilized.
   iv. Fund management: Specialised project management dedicated to the various aspects of the fund structure.
   v. Fund structuring: Specialised legal advice ensuring that investors have the necessary benefits e.g. tax structuring relative various geographic areas.
   vi. Investment liaison: On-going communication with investors.
   vii. Advisory Committee: A list of members worldwide with banking or technical expertise and a common focus on sustainability.

5.5 Climate-neutral strategy as an integral dimension of the SDI

Climate change is the defining issue of our era, with sufficient scientific evidence that climate change is upon us and that it is here to stay. However, there is also evidence that it is still in our power – as individuals, businesses, cities and governments – to influence the ultimate significance of the phenomenon.

We have the choice on how to act and we can all make a difference by supporting the transition to a climate-neutral world. There is however a huge gulf between where we currently are and the climate-neutral future that we need to establish if we were to achieve sustainability.

What is required is a reasonably simplistic and cost-effective approach to proceed from a vision to an implementable and sustainable climate-neutral strategy. The preparation of such a strategy relies on the internationally-recognised climate-neutral knowledge base and the integration thereof with the SDI model on the appropriate scales and levels of governance and in accordance with the six components of the SDI model as summarised in Chapter 5.1. The SDI model provides the required reference structure from where to implement a suitable climate-neutral strategy. Due to the complexity of expertise required, this office Dennis Moss Partnership has engaged in on-going research into the subject in collaboration with the London-based ISDC Sustainability Consortium.

5.5.1 Developing a climate-neutral strategy

The development of a suitable strategy is a process to be implemented over a realistic timeframe and in full synergy with the SDI model, resulting in the implementation of projects at grass roots level. Figure 15 illustrates the methodology for developing a climate-neutral strategy.
The methodology is premised on the principle that climate-neutrality, sustainable development and biodiversity management are not independent issues – they are the three legs of a tightly knitted system. ISDC and Dennis Moss Partnership propose that a climate-neutral strategy be developed in three phases as summarised below.

**Phase 1: Climate-neutral policy framework**

The vision and requirements of the subject area are considered as an integral part of the SDI model (Component 1 of the SDI). This is translated into a mission statement by combining it with key climate-neutral objectives. The mission statement needs to take cognizance of existing legislation, policy and international standards, from the international to the local level (Component 4 of the SDI), in so far as they affect the climate-neutral strategy development process.

The mission statement should address the following:

a. **Sustainability** – with special reference to the objectives of sustainable development projects to be implemented.

b. **Mitigation and adaptation** – this presents a very important area of consideration presented by the Adaptation Policy Frameworks (APF) for Climate Change, developed by the United Nations Development Programme (UNDP) on behalf of the Global Environment Facility (GEF).

c. **International knowledge base** – represented by a range of international organizations, from where the frameworks summarized in Phase 2 are derived. The international organizations and protocols considered in this regard include:
   - Agenda 21.
   - World Symposium on Sustainable Development.
   - Millennium Development Goals.
   - African Development Bank Extensions.
   - Millennium Ecosystem Assessment.
   - Organisation for Economic Cooperation and Development.
   - Intergovernmental Panel on Climate Change.

**Phase 2: Climate-neutral strategy framework**

In this phase a climate-neutral strategy framework is formulated, the aim of which is to integrate the objectives of the sustainable development project portfolio with the key climate-neutral strategy focus areas. The climate-neutral action matrix is utilized to achieve such integration. The latter is introduced in Phase 3.

In order to establish the strategy framework, the climate-neutral strategy focus areas (drivers) need to be identified first. A number of frameworks, derived from the international knowledge base, provide the extensively tested focus areas (drivers) required to develop the necessary guidelines for arriving at a suitable climate-neutral strategy.

The five key focus areas are water, energy, health, agriculture and biodiversity, which are also referred to as ‘WEHAB’. The latter was the focal point of an announcement by the UN Secretary-General ahead of the World Summit on Sustainable Development (WSSD) held in Johannesburg in 2002. A further five additional focus areas have since been suggested, namely waste, transport, buildings, infrastructure and forestry.

The next step is to formulate a set of sustainable development guidelines for each focus area. Specific reference is, for example, made to the efficient use of energy in the construction and building industries as is provided for and contemplated in SANS 10400 – XA: 2011 and SANS 204: 2011. Simultaneously, an evaluation process is introduced, in which Finance, Innovation and Technology (FIT) considerations are evaluated and considered for introduction into the strategic development process. This is of specific importance with regard to the creation of suitable economic drivers, required for the successful integration of a project’s sustainable development guidelines and the subsequent implementation as a climate-neutral strategy. Furthermore, economic drivers (agriculture, solar plants, bio fuels, property development etc.) are created in order to generate the required monetary capital from which to effectively finance the strategy.

**Phase 3: Climate-neutral sustainable development projects**

The completion of a Climate-Neutral Impact Matrix© represents the final stage of the development of a climate-neutral strategy, a process in which the selected focus areas, each with their accompanying guidelines, are integrated with respect to each of the proposed SDI programs (Component 3 of the SDI), effectively delivering...
a range of implementable action plans. In considering Component 2 of the SDI (capital to be employed) and in order to generate the required cash flow from which to finance a climate-neutral strategy, it is essential that the action plans are combined with suitable economic drivers. In order to achieve this objective, FIT considerations are evaluated, considered and introduced into the strategy development process. Economic driver examples include property development, agricultural enterprises, tourism development, solar energy plants and waste water and recycling plants that deliver a service and contribute financially to each of the SDI programs.

5.6 The concepts of climate-neutral communities and settlements

Sustainable development has climate-neutrality as its ultimate goal. For this to be achieved in practice dedicated policies and strategies and action plans are to be prepared and implemented that would be measurable. The SDI model, incorporating a climate-neutral strategy, could help give effect to the above goal.

In practical terms the implementation of an SDI require that new settlements be designed and development with climate-neutrality as an overriding objective, and that communities develop a culture that embraces the principles of sustainability. To develop a culture within which sustainability is embedded, it is imperative that practical effect be given to sustainable settlements and communities. New settlements should be designed to qualify as climate-neutral settlements. Communities should develop lifestyles that would be recognised for their contribution to sustainability. The manner in which the standards can be measured for both climate-neutral settlements and climate-neutral communities is described in Chapter 5.6.

For communities to succeed in promoting climate-neutrality a culture of sustainability is required as the guiding principle in the development of new, purpose-made settlements. Such culture should spread across all forms of existing settlements, whether rural or urban. This will require retrofitting of existing settlements and the planning/design and ensuring that all types of resource use conform to climate-neutral criteria as summarised in Chapter 5.5. Communities everywhere should be encouraged, guided and assisted to adopt climate-neutral lifestyles and practices in order to realize the carbon neutral community ideal across the board.

5.7 Performance measurement and management

The degree to which sustainable development is achieved has to be measured. Ultimately this has to be done on the biosphere (global) scale as success or failure has to be measured against climate change and climate-neutral criteria indicators.

On the settlement scale, the methodology of Kevin Lynch15, which focuses on the quality of place (a holistic concept that Lynch refers to as goodness) can be measured in terms of performance dimensions. Qualitative place-making is an integral dimension of both human well-being and environmental integrity and is therefore a key imperative for sustainable development.

The biosphere and human settlements are inextricably linked. Accordingly, the degree to which sustainable development is achieved in practice has to be measured on both of these scales. This is an imperative to enable climate-neutrality and continual improvement. With climate-neutral strategy framework at hand, it would be possible to measure the outcome of the climate-neutral impact matrix described in Chapter 5.5. Specific emphasis must be placed on measuring Green House Gas (GHG) emissions. GHG accounting and reporting practices are evolving and are new to many businesses.

The principles listed below are partly derived from generally-accepted financial accounting and reporting principles. They reflect the outcome of a collaborative process involving stakeholders from a wide range of technical, environmental, and accounting disciplines. GHG accounting and reporting is based on the following principles (ISDC London):

a. Relevance: Ensure the GHG inventory appropriately reflects the GHG emissions and serves the decision-making needs of users – both internal and external to the settlement (or project).

b. Completeness: Account for and report on all GHG emission sources and activities within the chosen inventory boundary.

c. Consistency: Use consistent methodologies to allow for meaningful comparisons of emissions over time. Transparently document any changes to the data, inventory boundary, methods, or any other relevant factors in the time series.

d. Transparency: Address all relevant issues in a factual and coherent manner, based on a clear audit trail. Disclose any relevant assumptions and
make appropriate references to the accounting and calculation methodologies and data sources used.

e. Accuracy: Ensure that the quantification of GHG emissions is systematically neither over nor under actual emissions, as far as can be judged, and that uncertainties are reduced as far as possible. Achieve sufficient accuracy to enable users to make decisions with reasonable assurance as to the integrity of the reported information.

5.8 Measuring the quality and performance of settlements

The Stellenbosch municipal area is dominated by urban, peri-urban and agricultural settlements. The degree to which this settlement system performs well, from a sustainability perspective, has to be determined in order to plan and manage it consistent with sustainable development policy and the aim to promote climate-neutrality.

The question arises as to how the functionality and quality (goodness) of this complex settlement system should be measured. It has to, in the first instance, be recognized that the sustainability of a settlement system depends upon the sustainability of the biosphere. Therefore, the measurement of the quality of the settlement system as such cannot be fully measured in terms of the climate-neutral criteria alone (refer to Phase 2 Climate-neutral Strategy Framework in Figure 15). It has to be supplemented by measuring the functioning / performance and quality of other features of the settlement system that are not covered by the climate-neutral criteria.

Planning policy for the Greater Stellenbosch provides for the guidelines of Kevin Lynch to be used for such measurement. Lynch argues that, to measure the quality of a settlement, a set of performance dimensions should be developed against which the goodness of a settlement can be measured. Such performance dimensions should have the following characteristics (Lynch 1998:112).

a. They should refer primarily to the spatial form of a settlement.

b. The characteristics should be as general as possible, while retaining their explicit connection to particular features of form.

c. It should be possible to connect these characteristics to the important goals and values of any culture, at least through a chain of reasonable assumptions.

d. They should cover all the features of settlement form which are relevant to those basic values.

e. The characteristics should be in the form of dimensions of performance, along which various groups in various situations will be free to choose optimum points or ‘satisfying’ thresholds. In other words, the dimensions will be usable where values differ or are evolving.

f. Locations along these dimensions should be ‘more or less’ identifiable and measurable, using available data.

g. The characteristics should be at the same level of generality.

h. If possible, they should be independent of one another. That is, setting a level of attainment along one dimension should not imply a particular setting on some other dimension. Lynch argues that if one is unable to produce uncontaminated dimensions of this kind, one can settle for less, if the cross-connections are explicit. Testing for independence will require detailed analysis.

i. Ideally, measurements on these dimensions should be able to deal with qualities which change over time, forming an extended pattern which can be valued in the present. More likely, however, the measurements will deal with present conditions, but may include the drift of events toward the future.

Based on the above, Lynch suggests the following five performance dimensions:

i. Vitality.

ii. Sense.

iii. Fit.

iv. Access.

v. Control.

Lynch appended two meta-criteria to the above five performance dimensions, namely:

• Efficiency: The cost, in terms of other valued things for creating and maintaining the settlement for a given level of attainment of the environmental dimensions listed above.

• Justice: The way in which environmental benefits and costs are distributed amongst persons, according to principles such as equity, need, intrinsic worth, ability to pay, effort expanded, potential contribution, or power. Justice is the criterion which balances the gains amongst persons, while efficiency balances the gains amongst values.
These meta-criteria are distinct from the five performance criteria. Firstly, they are meaningless until costs and benefits have been defined by specifying the prior basic values. Secondly, the two meta-criteria are involved in each one of the basic dimensions and thus they are not independent of them. They are repetitive sub-dimensions of each of the five performance criteria.

In each case, one asks what is the cost (in terms of anything else we choose to value) of achieving the degree of vitality, sense, fit access and control? And who is getting how much of it? Lynch, accordingly, proposes that these five dimensions and two meta-criteria are the inclusive measures of settlement quality. Groups and persons will value different aspects of them and assign different priorities to them. But, having measured them, a particular group, in real situations, would be able to judge the relative goodness of their place, and would have the clues necessary to improve or maintain that goodness. Figure 16 illustrates these principles.

A summary of each of the five performance dimensions and the two meta-criteria efficiency and justice based on the proposals of Lynch, is provided below.

5.8.1 Vitality

Vitality depends on both the social and the environmental structure. This holds true for the area as a whole and the settlements located in it. Lynch has identified three principal features for a healthy environment, namely:

a. Sustenance: Adequate supply of food, energy, water and air, and the disposal of wastes.
b. Safety: Free of hazards and is physically secure.
c. Consonance: The spatial environment should be consonant with the basic biological structure of the human being – it should support the basic requirement of ergonomics from the rural scale to the building scale.

According to Lynch the above features are supplemented by a vitality for:

- other living things; and,
- the present and future stability of the total ecological community.

While it is accepted that every person has the right to basic vital requirements it is also a fact that the costs to attain it is not even. The obligation to preserve the habitat for future generations is hard to achieve by people who cannot afford it and it would therefore be unjust to expect people to carry equal weight or to have to take equal financial responsibility to do it.

It is to be noted that vitality includes all the considerations described in Chapter 5.5 pertaining to a Climate-Neutral Strategy and the measurement thereof.

5.8.2 Sense

Lynch describes sense as the joint between the form of the environment and the human processes of perception and cognition. ‘Sense depends on spatial form and quality, but also on the culture, temperament, status, experience, and current purpose of the observer. Sense is furthermore the degree to which a place can be clearly perceived and mentally differentiated and structured in time and space by its residents and the degree to which that mental structure connects with their values and concepts – ‘the match between environment, one’s sensory and mental capabilities, and one’s cultural constructs’.

Sense therefore depends on the spatial form and quality of a place for the observer. Therefore, the sense of a particular place will vary for different observers. However, there are significant and fundamental consistencies in the
experience of the same place by different people, and a greater consensus can be reached on divergent views if a closer analysis of the concept of sense is undertaken, namely, to consider five specific aspects of ‘sense’; i.e. identity, structure, congruency, transparency, legibility. Lynch points out that places are modified to fit ways of behaving, and behaviours are, in turn, changed to fit a place.

Issues of justice as it relates to sense seem less critical as it is seen to deal more with emotional and intellectual satisfaction than sheer survival. However to exclude people who are deprived of financial means, from an environment with high sensed qualities would be unjust.

5.8.3 Fit

Lynch explains that the term fit is loosely related to such common words as comfort, satisfaction, and efficiency and justice. Fit is easier to identify in its absence.

A common sense question would be, does this place work well? To this should be added, does this type of use fit into its surroundings? Lynch states that the measure of general fit is the degree of congruence between daily behaviour, overt or intended, on the one hand, and the spatial setting on the other hand. It can be achieved by the modification of place, or behaviour, or both.

Justice and fit presents a complicated picture. Lynch suggests that, in this particular realm, the simplifying criterion of equalizing income and power rather than trying to equalize a great array of described facilities (of place) seems to be a more cogent rule. This view is however based on the understanding that baseline standards have to be set higher for disadvantaged people.

5.8.4 Access

Lynch points out that complete and maximum access to all places in a settlement is not an expectation. However, an optimal level is desirable and one that can be increased. The three sub-dimensions of access are diversity, equity and control. Equal access is second only to vitality as a pivotal issue of environmental justice. This should however be read together with the manner in which places are controlled.

5.8.5 Control

Lynch argues that, while it is accepted that space and behaviour associated with it must be regulated, it also has to be recognised that spatial controls have strong psychological consequences. The application of minimum unobtrusive control which is necessary to keep heterogeneous uses at peace is a delicate art. Tolerance supports that art - learning ways of co-existing in space and time.

A good settlement is one in which place control is certain, responsible and congruent, both to its users (present, potential, and future) and also to the structure of the problems of the place. The relative importance of these dimensions and their level of adequacy will depend on the social and environmental context of the settlement. The ideal state, to express it in vague, general (and perhaps even contradictory) terms, is one of ‘responsible, capable, and certain local control, which is open to potential users, and which is interspersed with areas of low control and, tolerant of diversity and deviance’. The continuity of any human society depends on good control of its living space, but responsible control is also critical to the development of the individual and of the small group.

A just distribution of one type of spatial control can be considered crucial, since the ability to maintain private territory is an important component of freedom. Justice may require that all people should be able to participate in the control of those activity settings in which they have a vital interest and to which they are willing to devote substantial effort.
A rise in the temperature of the human body indicates that the biological system is not performing as nature had intended and that not all is well. Rising temperature is a sign that action is required – if it is left unattended and allowed to get out of control, death could be the final outcome (non-action would therefore be regarded as highly reckless). This can serve as a metaphor for the globe – its temperature has been rising steadily for a considerable period – it is clear that the system is not performing as it should and that action is urgently required.

The factors that have caused, and which are continuing to cause, the rise in global temperature is well known. Legislation and public policies to address it on all scales, from the national to the local scale have been well considered and are in place. On a global scale there is hope that the international community can make progress to arrest the deterioration of the biosphere as was recently testified by COP 17 and Rio+20.

As is stated in Stellenbosch municipal policy, comprehensive place-specific solutions will have to be found for chronic and interdependent problems such as crime, health care, education, pollution etc. It is on the local level, where the greatest challenge lies and where the greatest opportunities exist to effectively address these challenges.

However, it is imperative to carefully consider the nature of the challenges - one of which is a lack of alignment between private sector development interests, community developmental interests, and local government interests. In this report the Sustainable Development Initiative (SDI), methodology incorporating a strategy for climate-neutrality, is proposed for consideration in promoting sustainable development and long-term sustainability.

Care must be taken that the implementation of policy is consistent with the community’s understanding and expectations. ‘Community understanding’ is defined by the Sociologist, Prof. Dian Joubert16, in ‘Sosiologies-Gesproke - Die Aard van Sosiologiese Interpretasies’ as ‘the agreement between persons based on common expectation and responsibilities which determines the way in which people interact with one another’.

Joubert argues that, for any community to sustain itself, but also to grow and to develop in accordance with the interests and ideals of its members, there are four problem areas that need constant attention, namely:

a. Maintaining existing norms - the maintenance of entrenched and appreciated normative patterns – an area that is often threatened in a period of social change.

b. Achievement of objectives - achieving the collective ideals and objectives through participation and decision-making processes.

c. Integration - care must be taken that the relationships between people remain satisfactory and positive.

d. Adaptation - the adaptation to other communities and structures that are important for their own community - such as economic interdependence, administration and financial associations.

From a sociological perspective, policy must make provision for all four of the above areas. Communities exist in time and space and these two dimensions must also be taken into consideration when formulating goals and objectives when resource use and spatial development proposals are made and when strategies are formulated.

The area that is being planned is the space in which all inhabitants must satisfy their aspirations and interests, their ideals and values within context of the applicable policy and statutory frameworks. It follows logically that the highest level of participation of all residents in an area (the place) in question must be obtained in the sustainable development process.

Of fundamental importance for the maintenance of an ordered community life, is the way in which formal and informal control is exercised within community structures. Joubert (1973) differentiates between four
levels of control, namely:

i. Values and norms that determine direction.

ii. Regulations (acts) that regulate people’s behaviour through sanctions and punishment if not adhered to.

iii. Organisational and positional controls from specific roles and positions that have both authority and role expectations as characteristics.

iv. Technical prescriptions such as municipal regulations that apply to specific areas or communities.

In order for the communities of the Greater Stellenbosch to grow and develop in accordance with their interests and ideals, the four problem areas referred to above, should be recognised and addressed. In particular, attention needs to be given to the achievement of collective ideals and care must be taken that relationships between people remain satisfactory and positive. The challenge is to help create a developmental state in the Greater Stellenbosch area which is in fact, a complex settlement area in the Cape Winelands Biosphere Reserve. The promotion of a state of development (which is a constitutional obligation), is a bedrock value that requires constant attention.

In the latter regard one should reflect on the views of Lynch (1998:142) who argued that, if human life is a continued state of becoming, then its continuity is founded on growth and development. If development is a process of becoming more competent and more richly connected then an increasing sense of connection to one’s environment in space and in time is one aspect of growth. So that settlement is good which enhances the continuity of a culture and survival of its people, increases a sense of connection in time and space, and permits or spurs individual growth: development, within continuity, via openness and connection.

South Africa’s new democracy coincided with a new century and a new millennium as well as a new challenge facing humankind – one of ensuring that the carrying capacity of the globe is not exceeded. Having regard for the outcomes of the COP17 in December 2011, the vision of 2010 – 2030 National Development Plan, Rio+20 and the relevant provincial, district on local policies that are in place, Greater Stellenbosch is in a privileged position to contribute to the challenges of our time by giving practical effect to sustainable development on the local scale in context of UNESCO’s MaB Programme.

The planning and management of Greater Stellenbosch therefore has the potential to evolve into an exemplary model that can make a significant contribution to the improvement of an understanding of how to promote and give effect to sustainable development, sustainability and climate-neutrality on the local scale in a place recognized by UNESCO as an international ‘theatre for reconciling people with nature, that can bring knowledge of the past to the needs of the future and that can demonstrate how to overcome the problems of the sectoral nature or our institutions’ (Seville Strategy).

To make practical progress it would be of value to promote a vision easily understood for both its simplicity and profound meaning. The Greater Stellenbosch has the potential to become one of the most appreciated and respected places on earth for its contribution to sustainable development and climate-neutrality. Having regard for the fact that the people of Greater Stellenbosch have, in terms of an international agreement, been recognized as the curators and managers of a significant part of the Cape Winelands Biosphere Reserve, it is imperative for Greater Stellenbosch to rise to the occasion.

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6. Footnotes


4 UNESCO Fact Sheet: 40 years of the UNESCO “Man and the Biosphere” Program

5 McIntosh, F. 2006: Cape Floral Region Protected Areas: World Heritage Sites of South Africa. South Publishers, Johannesburg.

6 PGWC, 2003: Manual for the application of bioregional planning in the Western Cape. Department of Environmental Affairs and Development Planning.

7 Stellenbosch Municipality has played a leading role in supporting the initiative of the Provincial Government of the Western Cape in the 1990’s to establish a clustered system of biosphere reserves across the fynbos biome as illustrated by Figure 4 above. The listing of the Cape Winelands Biosphere Reserve in the World Network of Biosphere Reserves therefore has special significance for Stellenbosch in that it further contributed to placing the town and the surrounding Cape Winelands firmly on the international arena.


9 The primary objectives of the Stellenbosch Municipal Land Management Plan were to:
   a) Provide a spatial plan, based on the municipal land audit, of the identified municipal land and other properties of the Stellenbosch Municipality.
   b) Categorise municipal property into broad Land Use Categories.
   c) Provide development strategies and policy regarding the management of the identified Land Use Categories that will address land reform, status of agricultural land and future lease agreements, promote environmental conservation, urban agriculture and maximize community advantages from municipal property.
   d) Provide generic guidelines regarding the general legislative status of lease agreements of municipal properties with specific reference to lease terms and termination procedures.
   e) Provide guidance to developers with regard to the planning and design of projects and the establishment of contractual agreements and appropriate partnerships with the municipality and the affected communities, the purpose of which will be to ensure that each development brings sustainable benefit for all parties as well as the receiving environment.


12 South African law defines a CPPP as ‘a contract between a public sector institution/municipality and a private party, in which the private party assumes substantial financial, technical and operational risk in the design, financing, building and operation of a project’. www.cppp.org.za


14 The term climate-neutrality is used to mean living in a way which produces no net greenhouse gas (GHG) emissions. ‘Climate-neutrality’ is used instead of ‘Carbon neutrality’ for the reason that it is not just carbon dioxide (CO₂), that is driving climate change, given that the Kyoto Protocol limits the emissions of six main GHGs produced by human activities. The gases are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFC), perfluorocarbons (PFC), and sulphur hexafluoride (SF₆).
