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ABOUT THIS REPORT

This is the first Western Cape Government (WCG) Green Economy Report, published in March 2015. This report aims to provide our stakeholders with a solid basis for assessing our work in this space, and a context for our green economy policy and strategy response. The report:

- Identifies the green economy issues that are most material to the Western Cape, focusing on the role for provincial government, specifically
- Prioritises report topics in line with the Green is Smart Strategy Framework
- Includes indicators developed in consultation with a range of internal and external stakeholders

The scope of this report covers work undertaken and progress achieved under the WCG Green is Smart Green Economy Strategy Framework for the financial year beginning on 1 April 2013 and ending on 31 March 2014. This was the first full year of Green Economy projects in the Western Cape.

This is also the first report in which the Western Cape Green Economy Indicators are published. The process of establishing benchmark data was undertaken. Due to the nature of the data, there is a reporting lag of at least one year for most of the indicators. Most of the data is for the 2012 calendar year, but where this is not the case, the relevant year is provided.

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The Directorate Sustainability would like to acknowledge all colleagues and stakeholders who have contributed to this report. A full list of consulted parties can be found in Appendix 1. A full list of acronyms can be found in Appendix 2. Further WCG reporting on specific areas such as biodiversity or environmental protection are referenced where relevant. Where this report refers to other documents, references are provided in footnotes.
Introducing the Green Economy and Green Growth

The green economy has reconfigured the relationship between the economy and the natural systems and resources on which it depends, to open opportunities to simultaneously drive economic growth, social development and the protection of our environmental resources and systems. Globally, nationally, regionally, and at a local municipal level, the green economy is a new area of focus within the sustainable development agenda. Western Cape Government (WCG) is working to make the Western Cape the lowest carbon province and leading green economic hub of the African continent.

The first part of this first WCG Green Economy Report focuses on the context and development of a green economy indicator dashboard for the Western Cape. The second part focuses on the Western Cape Green Economy Strategy Framework, Green is Smart, and reports on the WCG activities, data and progress for the 2013/14 financial year, against the framework.

1 Where data or information diverges from this reporting period, which spans from 1 April 2013 to 31 March 2014, this is stated. Not all data is measured in line with the timelines for the South African government budgeting cycle.
1.1 CLARIFYING THE GREEN ECONOMY

Building on sustainable development policy and practice, the green economy is reconfiguring the relationship between the economy and the environment. The green economy has two components. On the one hand, it is about mitigating environmental risks and increasing the efficiency of the economy, as we know it, in existing economic sectors. On the other hand, the green economy focuses on new economic activities, new businesses, jobs, skills and industries that protect and enhance natural systems and resources, and capitalise on the value generated by natural systems.

The United Nations Environmental Programme (UNEP), with which the South African Department of Environmental Affairs (DEA) works closely, defines the green economy as “an economy that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities”\(^2\). The green economy has interconnected environmental, economic and social dimensions.

Green growth is a component of the green economy which places more emphasis on economic efficiency and environmental protection. While projects that drive green growth can have significant social co-benefits, it should be seen as only a sub-component of the broader green economy. Given the significant social challenges and inequity in the Western Cape, it is important to include these issues and opportunities within the strategic framework, and to track issues of equity in access to natural resources at a provincial level\(^3\).

In the public and private sectors, the green economy drives an approach that challenges business as usual. Using the green economy as a lens to view societal challenges allows for the links between intersecting systems and issues to be seen. It enables the identification of co-causal factors, shared risks, multiple benefits and divergent stakeholder interests to be taken into account. There are two equally important strategic elements of the green economy and green growth:

1. Mitigation of environmental risk while pursuing economic and developmental goals, ‘greening’ our growth and society more broadly.
2. Identification and enablement of opportunities for new economic activities and novel developmental interventions through responding to environmental challenges and resource constraints.

Identifying new sustainable economic opportunities derived from natural ecosystems has been a key thrust in planning for 2013/14 and 2014/15 within WCG.

1.2 ECONOMIC GROWTH IN CONTEXT

A comprehensive overview of economic progress to date for the Western Cape, as well as an outlook for the coming year, is published annually in the Provincial Economic Review and Outlook (PERO). Increasingly, the environmental context for economic development and growth has been an important frame for this analysis.

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Introducing the Green Economy and Green Growth

In the Western Cape, South Africa, and globally, efforts to drive development and stimulate economic activity and growth stem from three significant trends:

1. Declining natural systems and natural resources
2. Increasing and unsustainable consumption patterns
3. Disparity in and competition for access to natural resources

Four of the top ten global risks to the economy identified by the World Economic Forum in 2014 are environmental. These high profile risks, ranked in terms of perceived likelihood and magnitude of impact, include water crises, failure of climate change mitigation and adaptation, greater incidence of extreme weather events (e.g. floods, storms and fires) and food crises.

TABLE 1:
TOP TEN RISKS OF GLOBAL CONCERN
(SOURCE: WEF GLOBAL RISKS REPORT 2014)

1. Fiscal crises in key economies
2. Structurally high unemployment/underemployment
3. Water crises
4. Severe income disparity
5. Failure of climate change mitigation and adaptation
6. Greater incidence of extreme weather events (e.g. floods, storms, fires)
7. Global governance failure
8. Food crises
9. Failure of a major financial mechanism/institution
10. Profound political and social instability

At the same time, the 2014 Intergovernmental Panel on Climate Change (IPCC) Working Group II *Summary for Policy Makers* reported significant evidence of observed detrimental impacts of climate change on natural and social systems. This report systematically documents events over the past two decades. Further, it confirms the widely purported view that environmental risks are visited disproportionally on the poor.

The latest Western Cape *State of the Environment Outlook Report* (2014) indicated our natural systems, land, inland water, biodiversity, and oceans and coasts are under significant pressure. Climate change was also reported to have significant biophysical and economic risks to the province. Efforts to improve well-being and social equity, through economic development, growth and job creation are threatened by inadequate responses to environmental risks and ecological scarcities. WCG and municipal governments in the Western Cape are already recording increasing disaster risk management costs resulting from increased incidences of extreme weather events over the past decade.

In terms of the structure of Western Cape economy, the tertiary sector remains the most dominant in the province. In 2013, output by the tertiary sector made up 72% of total output in the province. This was followed by the secondary sector (mainly manufacturing and construction) which contributed 24% to economic activity and the primary sector (mining and quarrying and agriculture) with a contribution of 4%. Noting the above, agriculture, forestry and fisheries contributes significantly to the Western Cape economy. In addition to the direct contribution to GDP for the region, the sector contributes to food security, generates exports and provides significant employment. Economic dependence on agriculture, forestry, and natural systems for food security is evident.

![Figure 1: Gross Domestic Product per Region Sectoral Share, 2013. SOURCE: PERO 2014](image)

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*IPCC, 2014, Climate Change 2014: Impacts, Adaptation, and Vulnerability: Summary for Policymakers*
and fisheries is especially true of districts outside of the City of Cape Town metropolitan area, namely, Cape Winelands, Eden, West Coast, Overberg and Central Karoo.

Further, PERO 2014 identifies agriculture and tourism as sectors in which the Western Cape has comparative advantage. Both sectors have been highlighted in the Green is Smart strategy as priorities for support and intervention. The vibrant agricultural and tourism sectors of the province make it particularly sensitive to environmental risks. Over and above biophysical risk, agriculture is also exposed to indirect regulatory and market-related risk through carbon taxes, increasing energy prices and related changing preferences in our main export markets.

There are ongoing discussions between public and private sector stakeholders about the potential impacts on economic growth and employment of the carbon tax proposed in the Carbon Tax Policy Paper and the Climate Change Response White Paper. While the tax is to be imposed on fuels entering the economy, burned to generate energy, it is likely that there will also be significant indirect impacts on businesses due to increasing electricity costs resulting from pass-through of the tax.

Depending on the pass-through of the tax, there is also a potentially large impact on household disposable income. Without mitigating actions, the carbon tax will disproportionately impact on low-income households, which spend a greater proportion of total income on energy and transport than middle and high-income households. An equitable transition to a green economy will require the strategic negotiation of these trade-offs by all spheres of government and industry, as well as appropriate interventions to ensure that already low-income vulnerable communities are not further disadvantaged.

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4 South African National Treasury, 2013, Carbon Tax Policy Paper: Reducing greenhouse gas emissions and facilitating the transition to a green economy
The latest PERO (2014) points to a tailing off of economic growth in 2014 to 1.4%, this decreasing from 2.4% in 2013 and 2.7% in 2012. The Western Cape, after accelerating to 3.9% in 2011, slowed down to 2.9% in 2012. The province contributed an estimated 15% to national GDP in 2012. The PERO 2014 notes the need to drive growth that is inclusive, as well as sensitive to environmental constraints. Inclusivity, however, remains a persistent challenge. The current policy environment and trends underpinning growth, suggest that mismatched supply and demand of skills, and increasing mechanisation could drive growth that brings with it deepening inequality. Appropriate and adequate skills development to boost green job creation and readiness among the labour force is a central pillar of the WCG green economy strategy, and is drawing focused attention at a national level.

The population of the Western Cape is estimated at 6,113,324 people, which is an increase of 10.8% from 2002. Part of this population growth can be ascribed to in-migration. The Census 2011 projects that the provincial population will grow by 10.5% between 2014 and 2024. The population of the province does not have equal access to basic services. For example, 27% of the population can be classified as ‘energy poor’. As basic services are extended to an ever-greater proportion of the citizens of the Western Cape, inclusive growth in a resource constrained province and country demands intelligent and decisive responses.

Presently, the economy of the Western Cape is resource intensive and significant transformation is required to ensure the climate resilience and environmental integrity of the province. As WCG and other businesses and organisations endeavour to drive growth and address social inclusivity through economic development, climate change, resource constraints, and other environmental risks present significant challenges. The outlook for
growth in 2015 in PERO 2014 is modest, at 1.9%. This said, any achieved growth, along with population growth, and the demand for inclusivity, will demand either more resources, or much more efficient use of resources.

Building on the province’s conservation and environmental risk management strategies, the WCG’s green economy strategy is set to ensure economic value protection and catalyse the creation of new economic value. Through new investments, driving agricultural productivity through conservation and climate smart agriculture, stimulating industries such as aquaculture, renewable energy, sustainable tourism and the waste economy, and making our living and working environment more resilient, WCG aims to stimulate green economic activity and growth for the continent.

Investing in our natural resources and natural system conservation supports growth that is more sustainable into the future, and supports livelihoods that can lift people out of poverty.

1.3 THE RELATIONSHIP BETWEEN THE PUBLIC AND PRIVATE SECTORS

Most of the global high-level green economy and green growth policy and strategy initiatives are concentrated in the public sector. However, thinking around the subject has also gained traction in the private sector, significantly in terms of new investment opportunities. Fundamentally, the business opportunities and financing for broad-based economic transition to greener corporate and industrial practices must happen within the private sector.

The World Business Council for Sustainable Development (WBCSD), comprising of representation from chief executives of the world’s leading corporations, promotes sustainability that is aligned to the OECD green growth strategy11. The WBCSD also fed into a report titled Building an Inclusive Green Economy for All, which was launched by the Poverty-Environment Partnership at Rio+20 conference held in 2012. South African companies operate in an environment with strong social and environmental governance requirements. The largest 100 Johannesburg Stock Exchange listed companies, by market capitalisation, also show strong commitment to sustainability leadership through participation in the CDP South Africa Climate Change Report12.

The role of companies in the green economy is to drive more efficient practices and support the development of more innovative products and services that respond to socio-ecological challenges as well as company-specific risks and opportunities. Where the private sector is not, or cannot do this, government has an opportunity to play a facilitating role in order to catalyse action. There are several key sectors (i.e. finance, energy and information and telecommunications) that can influence the structure of the economy. Private investment and debt finance for green initiatives, including but not limited to climate finance, play a crucial role. National Treasury is synthesising research in this area, which is currently in draft format and not being distributed publicly.

12 Incite, NBI and CDP, 2014, South Africa Climate Change Report 2014
Global Policy Trends

There is a high degree of policy alignment in national, global and Western Cape provincial approaches to the green economy. Elements of the green economy, or the green economy as a whole, are picked up in the global Sustainable Development Goals (replacing the Millennium Development Goals).

Currently, the two most widely accepted and used green economy frameworks are the United Nations Environmental Programme’s (UNEP) Green Economy Initiative and the Organisation for Economic Cooperation and Development’s (OECD) Green Growth Indicators. Both have been integral to shaping the green economy agenda globally, from slightly different orientations. The former applies a more social development emphasis; and the latter applies a narrower economic focus with an emphasis on growth. UNEP and OECD have cooperated to produce joint guidance on Green Economy Indicators.

2.1 UNEP

UNEP launched its Green Economy Initiative in 2008 to mobilise national finance ministers to support increased investments both in green sectors and in greening brown sectors. In parallel, UNEP released its framework for environmental indicators in order to track correlated progress in environmental sustainability. The indicator set released in 2012 narrowed this sustainability focus to specifically green economy policy interventions. Indicators identified tracking issues to be addressed through the green economy, policy interventions to be employed, and ex ante and ex post monitoring and evaluation of policy interventions.

Work has been focused on economic transformation, resource efficiency and wellbeing. Since its establishment, the UNEP Green Economy Initiative framework has been adopted in more than 20 countries across the globe. UNEP has worked closely with the South African National Department of Environmental Affairs on modelling and strategy development.

UNEP has identified the coastal economy as a spatially defined socio-ecological system and a locus of significant opportunity. Although coastal eco-systems are picked up in the green economy, looking at ecological infrastructure and eco-systems goods and services, UNEP has elected to focus in on coastal regions looking at the interplay between their eco-systems, social systems, economic systems and other dynamics specific to coastal regions.
2.2 OECD

In building on the general framework developed in the Green Growth Strategy, the OECD has also determined to mainstream green growth in its national and multilateral policy surveillance exercises. The policy advice is tailored to individual countries. Examples of this initiative include the Economic Surveys, Environmental Performance Reviews, Innovation Reviews, Investment Policy Reviews, as well as the Going for Growth annual report and the Green Cities Programme. In 2013, the OECD published an Environmental Performance Review for South Africa, which comments specifically on green growth performance. Some of the key recommendations relevant to the country’s green growth performance are listed below:

• Implement the proposed carbon tax at the earliest opportunity.
• Continue to reduce implicit and explicit subsidies for electricity and coal consumption.
• Streamline financing and incentive mechanisms to support investment in environment- and climate-related infrastructure, goods and services.
• Continue to expand public transport systems in the context of integrated transport and urban planning policies.
• Develop and implement a comprehensive framework for promoting eco-innovation that includes a balanced mix of supply- and demand-side measures.

The OECD has been instrumental in driving the uptake of indicator development by developed, and more recently, developing countries, to support and complement green economy policy, strategy and programme work. This work has significantly informed green economy indicator development within WCG. Further detail is provided in Section 5, Western Cape Green Economy indicators.

2.3 GREEN GROWTH KNOWLEDGE PLATFORM

The Green Growth Knowledge Platform (GGKP) was formally launched in 2012 by the Global Green Growth Institute (GGGI), the World Bank, OECD and UNEP. The platform brings together a global network of researchers and development experts to build and share knowledge on green growth theory and practice. The aim of the GGKP is to provide practitioners and policymakers with better tools to bring about economic growth and support sustainable development implementation. In 2013, as part of their collaboration on the GGKP, the OECD, UNEP, the World Bank and the GGGI published a report entitled Moving Towards a Common Approach on Green Growth Indicators, integrating global approaches to green growth and the green economy.

The SAGEM study was undertaken in 2013 at the request of the Department of Environmental Affairs (DEA) to assess potential opportunities to promote a green economy as set out by the National Development Plan – Vision 2030. Commissioned by UNEP, the assessment was led by Stellenbosch University and the Sustainability Institute of South Africa. It utilised the Threshold 21 framework developed by the Millennium Institute, customised for the South African context.

The SAGEM study comprised of a modelling exercise comparing a ‘business-as-usual’ investment scenario with other scenarios in which investments were allocated in various configurations to four critical green economy sectors, namely, natural resource management, agriculture, transport and energy.

Considering economic growth, poverty, employment, resource efficiency and climate change, the research showed that the strengthening of natural resource management and environmental protection is fundamental for sustained economic growth and wellbeing. Reducing emissions and conserving natural capital stocks in the short-term to profit from their healthier state in the future, benefitted both sustainable growth and wellbeing.

Overall, the model suggested that driving green economy investment was better for the economy than not. Concentrating investment in the energy sector was shown to maximise employment creation potential overall. This is due to additional infrastructure requirements in the sector. However, given an equal allocation of investment across the four sectors, agriculture showed the highest employment creation potential. This work fed into the development of Green Accord, which forms part of the New Growth Path (see Table 2).
In line with international shifts, the approval of the South African National Framework for Sustainable Development in 2008, promoted the effective stewardship of the country’s natural, social and economic resources, now and over the medium and long term. Several additional South African national policies and initiatives have been generated in support of sustainable development. It is in this context that a focus on the green economy, encompassing green growth, has emerged, as a component of sustainable development.

South Africa’s short, medium and long-term national vision includes planning for environmentally sustainable, climate-change resilience, and a transition to a low-carbon economy and just society. The vision is outlined in Cabinet endorsed plans, including those in the table below. The National Strategy for Sustainable Development 2011-2014 (NSSD1) identifies “Towards a green economy” as being one of the five key priorities. As part of the monitoring and evaluation for this strategy, green economy indicators were identified. Finding data for the indicators has however proved to be a challenge.

**TABLE 2: NATIONAL POLICY AND STRATEGY SUPPORTING THE GREEN ECONOMY**

| National Strategy for Sustainable Development 2011-2014 (NSSD1) | The NSSD1 identifies “Towards a green economy” as being one of the five key priorities. The transition towards a green economy encompasses green growth contributions to economic growth and employment, while preventing environmental degradation and pollution, loss of biodiversity and unsustainable natural resource use. |
| National Development Plan (NDP), 2011 | Green economy discussion is largely orientated around the promotion of renewable energy, and energy efficiencies. The Plan states that by 2030 South Africa is envisaged to have a low-carbon economy where all sectors of society are resource efficient. To achieve this, the NDP states that South Africa will need clear long-term strategies for both adapting and reducing its carbon emissions to a sustainable level. The green economy agenda is identified as a mechanism for promoting deeper industrialisation, energy efficiency and employment. |
| 2020 New Growth Plan (Accord 4: Green Economy Accord), 2011 | The 2020 New Growth Plan identifies the Green Economy as being one of the key sectors for growth. The Green Economy Accord prioritises green industries and manufacturing through a localised strategy that uses the enormous spending on climate change-induced technologies to create local industrial capacity, local jobs and local technological innovation. The opportunities in the green economy are described as varied and include energy efficiency, recycling, green buildings and biofuels. |
| National Climate Change Response Policy (NCCRP), 2011 | The NCCRP aims to promote investment in human and productive resources that will facilitate the growth of the green economy. The NCCRP states that government will have to increase the mobility of labour and capital out of carbon intensive sectors and industries and move towards greener productive sectors and industries. |

Reference for darling image: photo credit: <a href="http://www.flickr.com/photos/5081886@N00/2529212700">Darling Wind Farm</a> via <a href="http://photopin.com">photopin</a> <a href="https://creativecommons.org/licenses/by-sa/2.0/">(license)</a>
In 2014 the National Cabinet approved the new Medium Term Strategic Framework for 2014 to 2019, as the national implementation framework for the NDP. The framework defines the strategic objectives and targets of government during the five-year term. These objectives pick up many key green economy issues: job creation; skills development and infrastructure; sustainable human settlements; and rural development.

In response to national constraints on energy supply capacity, South Africa has introduced a programme to facilitate private generation, including energy from renewable sources, largely solar and wind, into our energy mix (see Box 2 below). At the same time, many companies and some households are generating energy for their own consumption, using a range of technologies.18

Currently, there are significant regulatory and practical challenges for small-scale embedded energy generation. Progress in enabling embedded generation is being made at a municipal level, acknowledging the potentially significant future impact of this energy source. As an example of this progress, the City of Cape Town has entered into its first small-scale embedded energy agreement with Black River Parkway, connecting its solar PV plant to the city’s grid.

**BOX 2: THE RENEWABLE ENERGY INDEPENDENT POWER PRODUCER PROCUREMENT (REIPPP) PROGRAMME**

The REIPPP programme enables private investment in renewable energy generation to feed into the national electricity grid. It is part of the Department of Energy’s supply-side response to the national energy shortage that also supports South Africa’s greenhouse gas emission reduction targets. South Africa has a high level of renewable energy potential and the REIPPP programme was launched with a target of 3 725 Mega Watts, as allocated in the *Integrated Resource Plan 2010-2030*.19

The industry is currently worth ZAR 120 billion. The Western Cape has attracted significant investment to the province through this programme. As of end 2014, 421.82MW of electricity is produced annually from renewables, of which 142.22MW is fed into the grid. GreenCape continues to provide support to the industry on behalf of WCG.

The REIPPP programme also aims to contribute to socio-economic and environmentally sustainable growth and to stimulate green jobs and local manufacturing activity in South Africa. Successful bids are subject to meeting Broad-Based Black Economic Empowerment targets and promoting localisation. The programme has been internationally recognised for its successes to date; however, there have been some challenges. Among these is a call from industry to provide greater certainty to stimulate further investment. The Department of Energy is currently in the process of finalising Bid Window 4 with an announcement due in 2015.

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18 Incite, NBI and CDP. 2014. *South Africa Climate Change Report 2014*
Western Cape Policy and Strategy to support the Green Economy

WCG policy has created an environment conducive to transition to a green economy in the province. Similar to the NDP, the Western Cape has its own long-term strategic vision outlined in the *OneCape 2040* agenda for joint action on economic development\(^8\). The document was developed by the Western Cape Economic Development Partnership (EDP) for the WCG and the City of Cape Town (CoCT), in consultation with a range of stakeholders. This document highlights resource efficiency as a key feature of the Western Cape’s future economy in order to mitigate environmental and regulatory risk and seize the opportunities of a low-carbon future.

While *OneCape 2040* provided the strategic direction for the green economy, beginning in 2012, with the first full year of projects in 2013/14, the management of the green economy was embedded in the WCG transversal management system and Provincial Strategic Goals. With the elections and planning undertaken in 2014, this system has been updated. The green economy remains a priority within the WCG. Further detail is provided below.

### 4.1 PROVINCIAL DEVELOPMENT GOALS

The new WCG Provincial Strategic Plan 2014-2019 is fully aligned and supportive of the national Medium Term Strategic Framework for 2014 to 2019. The implementation of this plan is through the Provincial Transversal Management System. This involves cross-sectoral and interdepartmental cooperation from a policy-making to strategic and implementation levels, in order to respond to complex societal challenges. The WCG has set five strategic goals to guide its work over the five-year term (see Figure 2).

Growing employment opportunities, especially of work that is sustainable, and also matches the skills profile of the available labour (or with focused interventions), is a provincial priority, which must be supported by all departments. Infrastructure and education investments have been highlighted for the next five years.

\(^8\)Western Cape Government (2012) *OneCape 2040: From vision to action*
The management of the green economy falls under Provincial Strategic Goal 1. This goal responds to several key interrelated challenges:

- An unemployment rate of 23.4% (Stats SA, Q2 2014)
- Mismatch of skills and available employment opportunities in the tertiary sector
- Youth unemployment
- Poverty
- Aging infrastructure: in particular, water and energy infrastructure that is ageing and unable to accommodate the growing needs of the population and business
- Energy insecurity
- Inefficient, unsafe and unaffordable transport
- Barriers to competitiveness for business

The green economy falls under Priority b, cutting across all three focus areas. This is illustrated in Figure 3.

There are also strong links to Provincial Strategic Goal 4: Enable a resilient, sustainable, quality and inclusive living environment. This goal aims to improve the resilience, sustainability, quality and inclusivity of urban and rural settlements, with a special focus on low-income households. Climate change responses and management of ecological and agricultural resources are focused here.

Beyond 2014, to catalyse transformative change under Provincial Strategic Goal 1, resources will target job creation in tourism, agri-processing and oil and gas, with supportive investment in water, energy, and skills. Broadband development has also been identified as a game-changing intervention in this area.
4.2 GREEN IS SMART STRATEGY FRAMEWORK

The decision was taken to gather information by working in the green economy, before developing a formal policy in this space. The WCG work in the green economy is guided by the Green is Smart green economy strategy framework, which seeks to drive green economic opportunities, including:

- Diversifying the economy, and developing a strong services base
- Ensuring a globally competitive agricultural sector
- Incorporating innovative design into greening the built environment and leveraging green benefits of ICT infrastructure
- Using the green economy to support and drive knowledge development and capabilities in the province

The Western Cape Green Economy Strategy Framework (2013) outlines the steps to be taken for the Western Cape to fulfil the goal of becoming the lowest carbon province and leading green economic hub of the African continent. The strategy focuses on specific strategic drivers of green economic development, as well as identifying the levers for this green economy.
The framework identifies key drivers, which focus green economy interventions: smart living and working, smart mobility, smart eco-systems, smart agri-production and smart enterprise. The enablers are levers that can be used by the public and private sector to create change in each of these driver areas. The crosscutting drivers include infrastructure, rules and regulations (governance), knowledge and innovation, capabilities, and finance.

**FIGURE 4: GREEN IS SMART DRIVERS AND ENABLERS**

This framework is used to present project work in section 6 of this report: Western Cape Green Economy Strategic Review.
The Western Cape Green Economy Indicators are designed to support and compliment strategy and policy. They function as a management tool, feeding information into strategic discussions, and as a communications tool, giving an indication to a chosen audience of whether we are seeing desired shifts. Following from WCG’s commitment to foster sustainable economic growth, increase energy and carbon efficiency, and drive innovation, these indicators are intended to raise awareness, plot trends, and in time, identify emerging risks and opportunities.

Based on the WCG strategy framework, the indicators respond to key questions:
- What is the state of key natural resources on which the economy depends?
- Is resource use becoming more efficient?
- Is enjoyment of environmental goods and services and improvements to the environment creating inclusive benefit?
- Is the green economy and green growth creating new opportunities?
- What measurable interventions can be tracked in this space?

5.1 DEVELOPING THE INDICATORS
In line with the transversal approach to the green economy, the indicators were developed through consultation with a wide audience of subject matter experts and stakeholders. Care was taken to develop a set of indicators that reflect the policy priorities and socio-economic reality of the Western Cape and South Africa, broadly.

<table>
<thead>
<tr>
<th>TABLE 3: PROCESS TO DEVELOP THE WESTERN CAPE GREEN ECONOMY INDICATORS</th>
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<tbody>
<tr>
<td>Development of Ideal Indicator set (February 2014)</td>
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<tr>
<td>• Literature review</td>
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<tr>
<td>• Benchmarking of existing public national and subnational indicator sets</td>
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<tr>
<td>• Alignment exercise with OECD, UNEP, NSSD1</td>
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<tr>
<td>• Ongoing consultation with stakeholders</td>
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<tr>
<td>Review with relevant stakeholders (see Appendix A)</td>
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<tr>
<td>Review with OECD green economy specialists</td>
</tr>
<tr>
<td>Further review with WCG stakeholders</td>
</tr>
<tr>
<td>Finalisation of the operationalised indicator set</td>
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<tr>
<td>Green Economy Report released, with stakeholder feedback incorporated into planning for second iteration.</td>
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There is a level of uncertainty associated with the data sources and measurement methods for the indicators. Because this is the first year of data, it is expected that some refinement may be required in future reports.

### 5.2 INTERNATIONAL BENCHMARKING AND ALIGNMENT

By bringing environmental and socio-economic data into the same frame, green economy indicators typically aim to adequately reflect the value of environmental goods and services and ecological infrastructure in relation to the economy\(^{21}\). Currently, the two most widely accepted green economy frameworks are the United Nations Environmental Programme’s (UNEP) Green Economy Initiative and the Organisation for Economic Cooperation and Development’s (OECD) Green Growth Indicators\(^{22}\). The report, *Moving Towards a Common Approach on Green Growth Indicators*, lists four key sets of indicators used by international organisations, namely:

- Global Green Growth Institute diagnostic indicators assessing sustainability in green growth planning
- World Bank framework measuring benefits from green growth policies
- OECD green growth indicators
- UNEP indicators for green economy policy making

This integrated approach has been key to shaping the green economy agenda globally, and in the Western Cape. After careful consideration, it was decided to use the OECD’s indicators as these are the most extensive set of quantitative green growth indicators. Furthermore, over 40 countries are signatories to the OECD *Declaration on Green Growth*, including all five of the BRICS (Brazil, Russia, India, China and South Africa) countries. Building on the first set of green growth indicators released by the OECD in 2011, an updated set of green growth indicators was published in 2014\(^{23}\). An increasing number of countries, both developed and emerging economies, have adopted or are adopting this frame, selecting a relevant subset, adjusting or adding new indicators, in order to craft a set that better reflects their unique contexts. The process of developing the Western Cape Green Economy Indicators involved benchmarking the Western Cape against other countries that have applied this frame. These include: South Korea, the Czech Republic, Germany, the Netherlands and Denmark.

While the OECD’s indicators are the main referential framework applied here, its lack of focus on issues of the social dynamics of the green economy are redressed with reference to UNEP’s more socially focused approach. For this reason several indicators have been included for the Western Cape indicator set that focus on issues of access and inclusivity.

The indicators fall into five categories, which are presented in the following order:

---

\(^{21}\)Czech Statistical Office (2011) *Green Growth in the Czech Republic – Selected Indicators*.

\(^{22}\)Global Green Growth Institute (2014) *Green Growth Best Practice Synthesis of key findings*.

\(^{23}\)OECD (2014)*Green Growth indicators 2014*
1. Natural asset base
2. Resource productivity
3. Socio-economic context for green growth
4. Environmental health and inclusivity
5. Policy and investment

5.3 ALIGNMENT TO SOUTH AFRICAN FRAMEWORKS

NSSD1 includes *Working Towards the Green Economy* as one of its five priority areas. This area had specific indicators developed to track progress. Rather than focus on monitoring and evaluation of only government actions, these indicators looked broadly at important strategic issues within the green economy. Data gaps posed significant challenges, but the indicators, taken together with green economy policy and evolving strategy, provide a clear indication of national conceptual focus.

Looking at other available provincial initiatives in KwaZulu-Natal, Gauteng, and Limpopo, it was found that the indicators are primarily designed to track progress against specific plans of action for government. The approach followed by WCG is closer to the NSSD1, which looks at the extent to which the desired green economy is realised, by tracking certain specific components thereof through quantitative measurement.
A mapping exercise was carried out to ensure that the WCG’s Western Cape Green Economy Indicators are aligned to national priorities and support the conceptual framework described in *Green is Smart*. The mapping also considered the degree to which the indicators are aligned with both the National Government’s Draft Green Economy Strategy and Framework focus areas, and the City of Cape Town’s green economy initiatives. Despite the different categorisation of focus areas and priorities across national, provincial and municipal levels of government, the chosen WCG indicators are consistent with the national focus areas.

5.4 THE WESTERN CAPE GREEN ECONOMY INDICATORS

The Western Cape Green Economy Indicators are published here for the first time. The first year of available data is 2012 for most of the indicators. Where information is for 2013, this is indicated in the key below the table. Although the indicators were designed to accommodate current data collection capabilities, where information is unavailable but could be sourced in future, these indicators are retained, and the unavailability of data is noted.
<table>
<thead>
<tr>
<th>INDICATOR CATEGORY</th>
<th>INDICATOR FOCUS</th>
<th>INDICATOR</th>
<th>2012 VALUE</th>
<th>UNIT</th>
<th>ADDITIONAL NOTES ON DEFINITION AND SCOPE OF INDICATOR</th>
<th>SOURCE PUBLICATION/ DATABASE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Biodiversity</strong></td>
<td>Loss of economic value from estuaries to fisheries</td>
<td>675.00</td>
<td>ZAR million</td>
<td>Estimated annual financial losses resulting from lost nursery function for the Berg River, Overstrand, Cape Agulhas, Kyrsna and Cederberg municipalities.</td>
<td>Cape Nature Annual Report</td>
<td></td>
</tr>
<tr>
<td><strong>Carbon</strong></td>
<td>% Change in carbon emissions against 2009 baseline</td>
<td>17.8</td>
<td>%</td>
<td>Emissions data is available for 2009, 2012, and yearly after that. Data is for energy sector and limited waste emissions only (i.e. it excludes AFOLU emissions). In 2009, emissions in the Western Cape totalled 44,261,200 tCO2e. In 2012, emissions totalled 36,345,753.00. Percentage change is calculated as absolute change in emissions /2009 emissions</td>
<td>WCG (2014) Energy Consumption and CO2 Emissions Database for the WC</td>
<td></td>
</tr>
<tr>
<td><strong>Land</strong></td>
<td>Agricultural land improved through conservation</td>
<td>27,359.00</td>
<td>ha</td>
<td></td>
<td>LandCare quarterly reports</td>
<td></td>
</tr>
<tr>
<td><strong>Water</strong></td>
<td>Total water supply versus total water demand</td>
<td>Supply: 596,000,000.00</td>
<td>Demand: 503,000,000.00</td>
<td>m3</td>
<td>The adjusted total water usage is approximately 503 million m3/ per annum, compared to the existing available yield of 596 million m3/ per annum.</td>
<td>DWA (2013) WC WSS Reconciliation Strategy</td>
</tr>
<tr>
<td><strong>Carbon</strong></td>
<td>Carbon emissions for energy sector</td>
<td>36,345,753.00</td>
<td>t CO2e</td>
<td>This includes limited waste emissions but excludes emissions from Agriculture, Forestry and Other Land Use (AFOLU).</td>
<td>WCG (2014) Energy Consumption and CO2 Emissions Database for the WC</td>
<td></td>
</tr>
<tr>
<td><strong>Carbon</strong></td>
<td>Carbon emissions per unit GDP</td>
<td>0.000</td>
<td>t CO2e/ unit GDP</td>
<td>This includes limited waste emissions but excludes emissions from Agriculture, Forestry and Other Land Use (AFOLU).</td>
<td>WCG (2014) Energy Consumption and CO2 Emissions Database for the WC</td>
<td></td>
</tr>
<tr>
<td><strong>Energy</strong></td>
<td>Total energy consumption</td>
<td>276,333,250.00</td>
<td>GJ</td>
<td></td>
<td>WCG (2014) Energy Consumption and CO2 Emissions Database for the WC</td>
<td></td>
</tr>
<tr>
<td><strong>Energy</strong></td>
<td>Energy consumption per unit GDP</td>
<td>0.98</td>
<td>MJ/ unit GDP</td>
<td></td>
<td>WCG (2014) Energy Consumption and CO2 Emissions Database for the WC</td>
<td></td>
</tr>
<tr>
<td><strong>Energy</strong></td>
<td>Total energy produced from renewable sources by independent power producers</td>
<td>133.40</td>
<td>MW</td>
<td>Renewable energy generated but not necessarily feeding into the national grid yet.</td>
<td>GreenCape database of REIPPPP preferred bidders</td>
<td></td>
</tr>
<tr>
<td><strong>Waste</strong></td>
<td>Municipal solid waste generated</td>
<td>3,807,765.00</td>
<td>t</td>
<td>DEA defines Municipal Solid Waste (MSW) as waste generated from residential and non-industrial commercial sources. It includes predominantly household waste (domestic waste) with sometimes the addition of commercial wastes collected by a municipality within a given area. It includes both solid or semisolid wastes and generally excludes industrial hazardous wastes.</td>
<td>DEA &amp; CSIR (2012) National Waste Information Baseline Report</td>
<td></td>
</tr>
<tr>
<td><strong>Water</strong></td>
<td>Green Drop score</td>
<td>84.5</td>
<td>%</td>
<td>The Green Drop score is a weighted score for every municipal system/ water service institution. The audit assesses the entire value chain involved in municipal wastewater services including collection, treatment, discharge of sewage.</td>
<td>DWA (2013) Green Drop Report</td>
<td></td>
</tr>
<tr>
<td><strong>Water</strong></td>
<td>Total water use per unit GDP per sector</td>
<td>Manufacturing: —</td>
<td>Agriculture: —</td>
<td>Agri-processing: —</td>
<td></td>
<td>These sectors are highly dependent on water supply. Both the Provincial Economic Review Outlook (PERO) and the South African Green Economy Modelling Report (SAGEM) highlight the importance of agriculture and agro-processing in the Western Cape economy.</td>
</tr>
<tr>
<td>INDICATOR CATEGORY</td>
<td>INDICATOR</td>
<td>2012 VALUE</td>
<td>UNIT</td>
<td>ADDITIONAL NOTES ON DEFINITION AND SCOPE OF INDICATOR</td>
<td>SOURCE PUBLICATION/ DATABASE</td>
<td></td>
</tr>
<tr>
<td>--------------------</td>
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<td>------</td>
<td>------------------------------------------------------</td>
<td>----------------------------</td>
<td></td>
</tr>
<tr>
<td>Socio-economic</td>
<td>Broadband Connectivity</td>
<td>% Households with access to broadband connection</td>
<td>54.3</td>
<td>%</td>
<td>These are households with access to broadband connection via mobile or landline.</td>
<td>StatsSA: General Household Survey</td>
</tr>
<tr>
<td></td>
<td>Skills</td>
<td>% Students from science, engineering and technology faculties</td>
<td>40.4</td>
<td>%</td>
<td></td>
<td>Cape Higher Education Consortium</td>
</tr>
<tr>
<td></td>
<td>Sustainable Agriculture</td>
<td>% Share of agricultural and agri-processing exports to total exports</td>
<td>49.0</td>
<td>%</td>
<td>The value of agricultural and agri-processing exports in the Western Cape for 2012 is ZAR 31,604,657,893.00.</td>
<td>WCG Provincial Economic Review and Outlook</td>
</tr>
<tr>
<td>Environmental Quality of Life</td>
<td>Infrastructure</td>
<td>Costs to society of natural capital degration</td>
<td>4,500.00 *</td>
<td>ZAR million</td>
<td>Natural capital value to society includes the contribution to gross geographic product, employment or livelihood value or insurance value (through reducing risk) and likely investor interest. Degradation of the Western Cape's natural capital (including floods, fire, over-exploitation) costs society and the economy at least ZAR 4,500 million per annum.</td>
<td>WCG: DEADP (2014) Western Cape Eco-Invest Project Phase I: A preliminary assessment of priorities and opportunities for mobilising private sector investment in the Western Cape's natural capital</td>
</tr>
<tr>
<td></td>
<td>Aquaculture</td>
<td>Total value of aquaculture</td>
<td>405.00</td>
<td>ZAR million</td>
<td>This includes marine and freshwater aquaculture.</td>
<td>WCADI (2014) An Overview of the Aquaculture Sector in the WC</td>
</tr>
<tr>
<td></td>
<td>Aquaculture</td>
<td>Tonnage produced aquaculture</td>
<td>2,574.00</td>
<td>t</td>
<td>This includes marine and freshwater aquaculture but excludes sea weed, carp, ornamentals and koi carp for 2012.</td>
<td>WCADI (2014) An Overview of the Aquaculture Sector in the WC</td>
</tr>
<tr>
<td>Policy and Finance</td>
<td>Carbon</td>
<td>Modal split for passenger transport</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Carbon</td>
<td>% Volume of land freight haulage by rail</td>
<td>N1: 3.2</td>
<td>%</td>
<td>This is the percentage volume of land freight haulage by rail (measured in tonne kilometres). Findings are displayed per transport corridor. The focus for this area is currently under review, due to limited influence that Provincial Government has in this sector.</td>
<td>Transnet: Freight Rail Surveys (CSIR / SUN); PS03 Work Group Report</td>
</tr>
<tr>
<td></td>
<td>Energy</td>
<td>% Households with access to energy</td>
<td>90.5</td>
<td>%</td>
<td>These are households with access to electricity mains supply.</td>
<td>StatsSA: General Household Survey</td>
</tr>
<tr>
<td></td>
<td>Health</td>
<td>% Households with measure of food insecurity</td>
<td>21.3</td>
<td>%</td>
<td>These are households where access to food is inadequate or severely inadequate.</td>
<td>StatsSA: General Household Survey</td>
</tr>
<tr>
<td></td>
<td>Health</td>
<td>% Households with access to sanitation</td>
<td>95.6</td>
<td>%</td>
<td>These are households with access to RDP standard toilet facilities such as flush toilets or a septic tank or a pit toilet with a ventilation pipe.</td>
<td>StatsSA: General Household Survey</td>
</tr>
<tr>
<td></td>
<td>Biodiversity</td>
<td>% Land under conservation</td>
<td>6.4</td>
<td>%</td>
<td>Conservation at the landscape level is facilitated by the Biodiversity Stewardship, Biosphere and World Heritage Site Programmes within CapeNature. CapeNature contributed 9,709 hectares to Protected Area Expansion during 2012 thus bringing the percentage of land under conservation in the Western Cape to 6.4%.</td>
<td>CapeNature Annual Report 2012/2013</td>
</tr>
<tr>
<td></td>
<td>Energy</td>
<td>Total value of renewable energy projects financed by national and international green/climate funds</td>
<td>3,220.00</td>
<td>ZAR million</td>
<td>This includes both manufacturing and generation. It includes financing by private investors. The general debt: equity split has been 70: 30.</td>
<td>GreenCape</td>
</tr>
<tr>
<td></td>
<td>Aquaculture</td>
<td>Total value of capital investment in aquaculture</td>
<td>241.00</td>
<td>ZAR million</td>
<td>Capital investment (mostly private investment and a small percentage of investment from government and development funding institutions) of approximately ZAR 241 million, representing an increase of 34.6 percentage, was realised in the sector during 2012.</td>
<td>WCADI (2014) An Overview of the Aquaculture Sector in the WC</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>Infrastructure</td>
<td>Total value of public investment in green infrastructure</td>
<td></td>
<td></td>
<td>This indicator is under development.</td>
<td></td>
</tr>
</tbody>
</table>

Notes:
- 2013 data
- Abbreviations:
  - ZAR million
  - Millions of South African Rand
  - t
  - CO2e
  - Tonnes of carbon dioxide equivalent
  - t
  - M3
  - Cubic metres
  - ha
  - Hectares
  - GJ
  - Gigajoules
  - MW
  - Megawatts
  - GDP
  - Gross domestic product
  - Tonnes
6.1 WESTERN CAPE GREEN ECONOMY STRATEGIC PRIORITIES

The first WCG internal green economy projects were initiated during 2012/13. The 2013/14 financial year was thus a year to deepen this exploration, with an eye to bedding down areas of priority and consolidating a programmatic focus by the end of 2014/15.

Table 5 maps the 2013/14 projects against the Green is Smart strategic drivers. Under each of the drivers, the priority areas of intervention, identified in the strategy framework, are reiterated. Using these priorities, areas of future work are identified. This refers to gaps that need to be filled by WCG or that may fall within the mandate of national or local government, or belong within the private sector. Where the latter is the case, and work is not being picked up by the private sector, government action may be needed to unblock or incentivise action.

Section 6.5 examines current work and plans for 2014/15, as they relate to the enabling levers, infrastructure, rules and regulations, knowledge and innovation, capabilities and finance.

6.2 TRANSVERSAL MANAGEMENT OF THE GREEN ECONOMY

The green economy is an example of WCG’s ‘transversal’ approach to management. This means that rather than falling within a single department or line function, the green economy cuts across departments and mandates. During 2013/14, the Department of Economic Development and Tourism (DEDAT) and Department of Environmental Affairs and Development Planning (DEADP) were the two lead departments coordinating the green economy within WCG, but the green economy is managed through co-ordination committees that have representation from various key stakeholders across government. The green economy also makes use of WCG special purpose vehicles, which are non-profit organisations established by and predominantly funded by government to focus on priority industrial sectors important for regional economic development.

A working group with public sector, non-profit and private sector participation provided the opportunity for exchange and debate with a broader audience. This platform was used to present innovative ideas and act as a sounding board for new projects.
BOX 3: GREENCAPE ACCELERATING THE GREEN ECONOMY IN THE WESTERN CAPE

GreenCape is a Sector Development Agency established by the WCG and the City of Cape Town. Its purpose is to unlock the manufacturing and employment opportunities in the green economy in the province. GreenCape supports business development through partnerships with WESGRO, government and academia. Key objectives include:

- Unblocking regulatory hurdles
- Creating an attractive green investment destination
- Information sharing for industry and government
- Providing a lobbying platform for industry
- Facilitating renewable energy projects (linking to REIPPP)

GreenCape has four sector desks covering built environment, renewable energy, waste and water. The role of the sector managers is to understand the regulations and listen to the industry and academia. The desks aim to facilitate improved resource efficiency and competitive advantages in the Western Cape.

GreenCape also runs projects which are typically informed by constraints or problems identified through the sector desks, in line with the strategic direction set by WCG. Projects are broadly geared to increase efficiency, stimulate job creation and enable poverty alleviation.

There is also an emphasis on skills development, funded by the Bavarian Government. GreenCape was a key facilitator of the establishment of the South African Renewable Energy Technology Centre (SARETEC). In support of the REIPPPP’s local manufacture requirements, the first class of wind turbine service technicians successfully completed their training programme in August 2013 through SARETEC.

6.3 GREEN ECONOMY COMMUNICATIONS

110% Green is the public-facing brand for the WCG green economy. WCG launched 110% Green on World Environment Day 2012 as a catalyst for building a critical mass of action in the green economy. The 110% Green website features initiatives by those organisations implementing green innovations. Businesses, non-profit organisations and government entities are invited to commit to contributing to the green economy through setting environmental targets and supporting green innovations. 110% Green has generated awareness and enthusiasm, and changed perceptions about government’s role in the economy, to one that is catalytic and exciting.

In July 2013, Premier Helen Zille hosted the Smart Innovation on Tour. Leaders from government, business and academia were taken on a tour of green related innovations being designed in the province. The outcome of the tour was the announcement of the Better Living Challenge, a collaboration between 110% Green and World Design Capital 2014, to address low-cost, sustainable housing solutions.
### 6.4 WESTERN CAPE GOVERNMENT GREEN ECONOMY 2013/14 PROJECT SUMMARY TABLE

This table includes information on projects that were implemented during the 2013/14 financial year ending 31 March 2014.

**TABLE 5:**

**WCG GREEN ECONOMY PROJECTS, MAPPED AGAINST THE GREEN IS SMART STRATEGY DRIVERS AND PRIORITIES**

<table>
<thead>
<tr>
<th>2013/14 PROJECTS AND PROGRAMMES</th>
<th>PROJECT OUTCOMES</th>
<th>OPPORTUNITIES FOR FUTURE WORK</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Green Economy Indicators</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Research and develop a framework of indicators to assist the Western Cape Government monitor progress towards Sustainability and the Green Economy | • The Framework is responsive to in international, national, provincial and local green economy policies, strategies and indicator sets.  
• The Framework provides a comprehensive picture of the green economy, not just tracking government actions.  
• The Indicator framework is aligned and responsive to National and parallel Provincial data collection. | Fill data gaps for the Green Economy Indicators.  
Take forward recommendations and continue private sector engagement for the Green Finance Facility.  
Extension of investment mapping, and linking to the Green Finance Facility.  
Further engagement of private sector to unpack role of different levels of government to stimulate greening of investment and green impact investment in the Western Cape.  
Investigate and drive key intergovernmental, local and international partnerships to address barriers and unlock value in the green economy in the Western Cape.  
Support other projects, e.g. Eco Invest |
| **Green Finance**                |                  |                              |
| Leverage the region’s financial capabilities to position WC as a centre for green finance | • The project is geared to develop a structure for a green finance support facility and a green fund. | |
| **Investment Mapping**           |                  |                              |
| Compile a database and complete an investment mapping/survey of the green economic activities in the private sector enterprises based in the Western Cape | • The project focuses on the assessment of private sector investment, jobs and regulatory requirements in green economy priority areas including water, waste, goods and services, and eco tourism. | |
| **Smart Living and Working**     |                  |                              |
| Uncover market opportunities and economic opportunities associated with smart settlements solutions focused low income, high density settlements | • The project aims to identify economic opportunities associated with Sustainable Settlements. | Consolidate sustainable interventions to improve living conditions in low-income communities, both for government-led and self-improvement solutions  
Support efforts for greening in Human Settlements  
Enable uptake of green technologies by all incomes groups  
Drive energy efficiency in home and work environments  
Improve waste data collection  
Improve waste diversion from landfill  
Support efforts to drive sustainability along the Berg River |
| **Smart Meters**                 |                  |                              |
| Examine the case for the roll-out of smart meters & smart-enabled pre-paid meters and accelerate the process of setting national standards for smart meters | • The project aims to produce a guideline for municipalities, as well as collating information for local manufacturers.  
• As a member of the South African Smart Grids Initiative, GreenCape is involved in the smart meter standards process.  
• This process showed that smart meters are not financially viable for small electricity consumers. | |
| **RIA Waste Project**            |                  |                              |
| Conduct a regulatory impact assessment of the Waste Economy in Western Cape with the view of streamlining all compliance regulations related to the Waste sector | • The project undertook stakeholder engagement on 11th of March 2014 to discuss way forward. Some priorities were identified which will need to be discussed amongst GE team, GreenCape and DEADP. | |
### 2013/14 Projects and Programmes

<table>
<thead>
<tr>
<th>Project</th>
<th>Project Outcomes</th>
<th>Opportunities for Future Work</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Smart Living and Working</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| **110% Green Genius of Place Phase 2** | Five priorities were identified at the close off workshop:  
- Educating community members on biomimicry.  
- Having an awareness drive around the water challenges.  
- Creating a vision and plan for Langrug.  
- Focusing on solid waste and storm water drainage.  
- Identifying business opportunities for community members. | |
| **Better Living Challenge** | This competition aims to incentivise innovation in the sustainable livings space, particularly focusing on affordable solutions for low-income households by offering support for a winning innovative solution, to enable it to be taken to market. | Identify opportunities for government interventions or private sector engagement and partnerships in:  
- public transport  
- private motorised transport  
- enabling and supporting non-motorised transport  
- supporting switching from road to rail freight haulage |
| **No projects for 2013/14** | | |
| **Smart Mobility** | | |
| **Berg River Alien Clearing Investment Project** | The project is focused on rehabilitation of the Berg River by clearing alien plants and exploring economic opportunities associated with the biomass generated in the clearing process.  
- Opportunities for financial sustainability were identified, including wood sales and compost production.  
- A third of the cost of the river clearing could be retrieved from wood sales, which has ensured the longevity of the project. | Identify key research needs to support:  
Assess value of ecological infrastructure with regard to disaster risk management, and related work  
Explore opportunities for income generation in protected areas, including sustainable tourism and enterprise opportunities related to sustainable use and conservation of biodiversity  
Green jobs stimulation, links to Extended Public Works Programme  
Support for aquaculture development, including regulatory support, assisting with energy efficiency and uptake of renewable energy, and unpacking of jobs potential and skills requirements for the Western Cape |
| **Ecosystem Goods & Services** | The report generated extensive project examples of private sector investment in ecosystem goods & services (EGS). | |

**Western Cape Government Environmental Affairs and Development Planning**
### Smart Agri-production

**Priorities:** Sustainable farming practices, Farming in harmony with nature, Waste as a commercial resource

**Smart Agri-production**

<table>
<thead>
<tr>
<th>2013/14 PROJECTS AND PROGRAMMES</th>
<th>PROJECT OUTCOMES</th>
<th>OPPORTUNITIES FOR FUTURE WORK</th>
</tr>
</thead>
</table>
| **Biofuels: From Viability to Pilot Projects** | • Preliminary investigations show that there is significant potential for biofuel production in the Western Cape from various waste streams and non-food crops.  
• Biofuels research has strong links to conservation agriculture.  
• It was also found that there is a demand for ethanol in the Western Cape. | Support existing work in Conservation Agriculture with links to Biofuels  
Mapping of key resource flows through the agricultural and agro-production value chains  
Incentivise innovation related to resource efficiency  
Interventions to enable more sustainable resource utilisation on farms, including use of technology  
Explore potential of value generation from on-farm waste through green chemistry and other options  
Explore new opportunities for commercial and smallholder agriculture |

**Western Cape Industrial Symbiosis Programme (WISP)**

Deliver a free facilitation service that connects companies so that they can identify and realise the business opportunities enabled by using unused or residual resources (materials, energy, water, assets, logistics, expertise)

- A total of 82 companies engaged through workshops and a further 26 were added to the network through one-to-one engagements (network of 108 companies in total).
- A total of 15 companies have already benefited (9 synergies implemented) and 16 companies are likely to benefit still in this pilot year (8 synergies in final stages of negotiation).

**LNG Importation**

Commission key elements of a full techno-economic feasibility study that will clarify the optimal technical solutions for the importation of natural gas, will determine the costings and minimum demand required to enable the project, and drive towards a bankable case for potential investors

- This project aims at developing an implementation plan for rollout of Liquified Natural Gas infrastructure, importation and markets.

**Green Procurement**

Implement Green Public Procurement in the Western Cape Government

- A pilot was initiated in the Department of Environmental Affairs and Development Planning with the following outcomes:  
  - Converted Green Procurement draft policy into GP Guideline  
  - Established Green Procurement Steering Committee  
  - Conducted 6 x implementation training workshops (supply chain & admin staff)  
  - Director Finance issued a circular to initiate implementation

Support green industry development in the Western Cape  
Support resource efficiency within industry  
Continue to stimulate value generation from ‘waste’ streams through the extension of WISP  
Drive key strategic measures to enable investment in LNG  
Stimulate business opportunities in the green economy through pilot projects, links to the Green Finance Facility and engaging universities to stimulate key research agenda  
Drive Sustainable Public Procurement across the province and stimulate knowledge sharing and good practice with our provinces
6.5 REVIEWING THE GREEN ECONOMY ENABLERS

This section of the report provides an overview of programme work, relating back to the Green is Smart strategic enablers.

INFRASTRUCTURE

This enabler includes development of infrastructure that is resource efficient and resilient to climate change. A significant focus is on energy infrastructure.

Key Constraints

- Historic under-investment in maintenance and rehabilitation means much of the existing infrastructure has reached, or is close to reaching, capacity.
- The Western Cape’s natural assets are currently under great strain and need to be addressed as part of its infrastructure network.
- Large numbers of the population still live in areas with very low levels of infrastructure.

Key Opportunities and Solutions

- The South African Government committed to investing R827 billion in infrastructure over three years from 2013/2014.
- Opportunities to develop resilient, sustainable infrastructure are available in the renewable energy, natural gas, water and ICT sectors.

Key programme interventions for 2013/14

- Liquified Natural Gas (LNG) Importation
- Smart Meters

The need for appropriate and resilient infrastructure that supports inclusive economic growth and job creation is emphasised in the Provincial Strategic Plan 2014-2019. Infrastructure has been identified by the WCG as an opportunity to drive growth and employment in the province. In order to support infrastructure-led growth, the 2013 Western Cape Infrastructure Framework (WCIF) was developed as a means to align the planning, delivery and management of all levels of government (national, provincial and local) as well as parastatals and the private sector, for the period up until 2040. Key elements include the greening of infrastructure, developing resilience to climate change and creating resource efficiency.

In terms of the green economy, the 2014/15 projects, all three projects above continue into the following financial year. Furthermore, GreenCape’s work for 2014/15 addresses infrastructural requirements in the energy sector. Linked to this, further work is being carried out on municipal electrical master plans. The Department of Transport and Public Works (DTPW) also has a dedicated Green Economy Steering Committee to further integrate green economy thinking into infrastructure such as school buildings. Given both natural and fiscal resource constraints, there is a need to find innovative and resource-efficient mechanisms for service delivery that deliver greater value over the longer term. This challenge is connected to challenges around sustainable public procurement, which must navigate trade-offs between short-term cost savings and longer-term benefits. With increasing evidence of the real costs associated with environmental risk and escalating energy prices, the appetite to navigate these difficult trade-offs is increasing at all levels of government.
BOX 4: CAPTURING THE BENEFITS OF ENERGY EFFICIENCY

Eskom’s demand-side response to South Africa’s energy shortage includes an Energy Efficiency Programme that uses regulatory and market-based mechanisms to incentivise energy efficiency. As of 2014, however, the energy efficiency rebates for businesses and homes were placed on hold, due to financial constraints.

On a provincial level, energy efficiency and demand-side management are key components of the WC Climate Change Response Strategy (2014) mitigation programme. GreenCape’s Energy Efficiency sector desk seeks to unblock energy challenges faced by industry in order to maximize manufacturing and employment potential in the Western Cape, with particular focus on the solar water heating and LED manufacturers. The Energy Efficiency sector desk acts as an interface with (but not limited to) national, provincial and local government, Eskom, Department of Energy, Department of Trade and Industry and South African Bureau of Standards.

In Cape Town, commercial buildings use approximately 44% of the city’s electricity and are responsible for 29% of carbon emissions. The Energy Efficiency Forum was launched in 2009 to support the Commercial Sector’s energy efficiency initiatives. The City of Cape Town has also launched a Residential Solar Water Heater Accreditation Programme to encourage mid-to-high income residents to reduce electricity consumption.

Energy efficiency can bring multiple benefits, including: cost savings; enhancing energy security; supporting economic and social development; reducing environmental pollution; improving health and well-being; reducing greenhouse gas emissions; improving productivity and increasing prosperity. Energy efficiency is a fundamental enabler of economic and social development, the multiple benefits of which have been quantified through international research. Comprehensive consideration of these various benefits will assist policy makers in deciding how to allocate resources across different policy areas.

RULES AND REGULATIONS

Rules and regulations includes addressing cumbersome regulation, incentives and disincentives for businesses and carbon pricing.

Key Constraints
- Existing rules and regulations could hinder the transition to a green growth path. Effective processes to review the current regulatory system are needed.
- The green economy and the management of climate change and resource constraints will require a new set of rules and regulations. The challenge here is to unlock constraints on the investment environment associated with red tape.

Key Opportunities and Solutions
- The opportunity exists for Western Cape Government to improve the ease of doing business, while promoting behaviour change, through measures such as incentives and disincentives, carbon pricing, and green procurement (sustainable public procurement).

Key programme interventions for 2013/14
- Regulatory Impact Assessment (RIA) Waste Project

For the green economy to thrive in the Western Cape, an enabling policy and regulatory environment, that makes doing business in the province easier, needs to be established. This is reiterated in the Green is Smart strategy framework, and in the Provincial Strategic Plan 2014-2015. Building on the RIA Waste Project, GreenCape and DEADP: Waste Management are working together to understand and unlock barriers to development in the waste economy.

Regulatory barriers related to small-scale embedded generation energy from renewable sources, and well as issues of sustainable public procurement are also being unpacked.

25 IEA (2014) Capturing the Multiple Benefits of Energy Efficiency
BOX 5: WESTERN CAPE GOVERNMENT INTERNAL RESOURCE EFFICIENCY

2Wise2Waste is the transversal programme for mainstreaming resource efficiency within the WCG’s own operations. 2Wise2Waste supports the green economy through its sustainability efforts and is therefore included under the umbrella of 110% Green.

2Wise2Waste has the following focus areas:
- Greening of WCG Buildings
- Reducing waste
- Facilitating sustainable public procurement
- Sustainable transport for government employees (TravelSmart)

2Wise2Waste takes a 3-pronged approach to mainstreaming sustainability into government operations:
- System change
  - Support efforts to collect data on resource consumption
  - Collate and report on resource use in all WCG departments
  - Promote standards, policies and procedures that embed resource efficiency
  - Mainstream resource efficiency into transversal contracts (e.g. recycling)
  - Facilitate a joint public-private sustainable procurement initiative
- Behaviour change
  - Implement 2W2W Communications Plan
  - Introduce behavioural change interventions
  - Provide operational support
  - Facilitate training/ workshops
- Technology change
  - Report on the introduction of technological innovations
  - Advocate for energy and water retrofits
  - Support the introduction of smart metering

KNOWLEDGE AND INNOVATION

Knowledge and innovation refers to activities that invest in intellectual capital and facilitating networks for innovation.

Key Constraints
- There is a need for a consolidated information hub, that allows for knowledge sharing, to enable a “green transition” and inform decision making by government officials, the private sector and consumers.
- The Western Cape lacks the financial resources that more industrialised societies have to make the transition to a greener growth path, through significant investments in new technologies and systems.

Key Opportunities and Solutions
- The design strategy for the Western Cape was finalised in 2013. This, coupled with innovation districts being established in Cape Town and Stellenbosch, has put the province on the road to becoming a leading knowledge, design and innovation hub for businesses and markets transitioning to the green economy.
- A knowledge hub that coordinates existing data from government, universities and the private sector, providing information on market and environmental trends, baseline data and stakeholder databases creates the opportunity for a centralised shared knowledge management system.

Key programme interventions for 2013/14
- Green Indicator Framework
- Alien Clearing Project
- Western Cape Industrial Symbiosis Programme (WISP)
- Smart Living and Working
- Better Living Challenge
- Biofuels
A green economy cannot be achieved without innovation. Innovation is central to the transition to a low carbon, climate resilient future. In turn, this requires systems and institutions that support and stimulate innovation and knowledge. All the 2013/14 projects continue into the 2014/15 financial year. There are links between this area and infrastructure. For example, in the development of more sustainable infrastructure, support for pilot programmes and applied research are crucial.

**BOX 6: WISP**

The Western Cape Industrial Symbiosis Programme (WISP) is a free service that connects companies, allowing them to identify mutually beneficial relationships resulting in business opportunities. The industrial symbiosis approach enables unused or residual resources that may be seen as waste (materials, energy, water, assets, logistics, and expertise) to be exploited by other businesses, enhancing profitability and sustainability.

Based on the United Kingdom’s National Industrial Symbiosis Programme (NISP), and supported by International Synergies Limited (ISL), a world leader in industrial symbiosis, the programme is funded by WCG through the green economy and is managed by GreenCape. WISP is especially beneficial to small and medium-sized enterprises that are typically unable to allocate sufficient time and expertise to resource efficiency.

WISP works with a broad range of industries and companies of different sizes to create mutually beneficial links between member companies. No company is too big or too small to benefit from WISP and membership is free regardless of sector, size or turnover.

Since the April 2013 launch until March 2014, WISP had already achieved the following results:
- More than 120 businesses assisted
- Over 600 under-utilised resources identified
- More than 1200 potential new business opportunities identified

**CAPABILITIES**

Capabilities covers activities to develop all levels of skills required for the green economy, especially through schools, colleges and universities, and linking to the full spectrum of green jobs.

**Key Constraints**
- High unemployment amongst the province’s youth, coupled with the mismatch between available jobs and skills, is a barrier to the development of a green economic hub. The lack of skills to support and enable a green economy needs to be addressed.

**Key Opportunities and Solutions**
- To become a capable region, collaboration between government, line departments, stakeholder groupings, private sector associations and educational institutions is needed. With its strong institutional base, the Western Cape is well placed to enable such collaborations.
- A coordinated green skills development strategy is required that will enable the upskilling and retraining of the future workforce, especially of the economically vulnerable. Given, that the Western Cape has strength in the quality of its learning institutions, these need to be leveraged to ensure we have sufficient and appropriate skills.

**Key programme interventions for 2013/14**
- No project for 2013/14 financial year within WCG.
- GreenCape facilitated the establishment of SARETEC, based at Cape Town University of Technology.
The green economy requires an appropriately skilled workforce and collaborative and innovative institutions. In terms of understanding the skills requirements for green jobs, ranging from employment opportunities in the Expanded Public Works Programme that deliver environmental benefits, across the spectrum of skills requirement, consolidation of existing work would be beneficial. The Investment Mapping Project began to look at skills requirement in specific sectors, notably, the renewables sector.

While there were no formal projects to develop capabilities within WCG, GreenCape was a key role player in establishing the South African Renewable Energy Technical Centre (SARETEC) at the Cape Town University of Technology, which provides specialised training for the renewable energy sector.

**FINANCE**

The transition to a greener growth path requires financial resources and instruments that enable green investment and enable the development of green businesses.

<table>
<thead>
<tr>
<th>Key Constraints</th>
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<tbody>
<tr>
<td>• While infrastructure investment is becoming increasingly dependent of private investment, public finance is needed to fill the gaps and manage risks associated with alternative technologies.</td>
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<tr>
<td>• While South Africa has several funding institutions for green investment, Western Cape is financially constrained in terms of offering incentives for green investment. If the province wants to position itself as the leading green economic hub in Africa, then the Western Cape needs to find new ways to leverage financial resources for investment.</td>
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<tr>
<td>• Investment Mapping Project</td>
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<tr>
<td>• Green Finance</td>
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<td>• Ecosystems Goods and Services</td>
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</table>

The financial sector plays an important role in incentivising the transition to a greener economy by costing environmental risk and allocating resources towards low-carbon and environmentally sound investments.

All 2013/14 finance-related projects continue into 2014/15. The Ecosystems Goods and Services project has been repackaged as 'Eco-Invest'. Viable opportunities for investment in environmental goods and services with attractive returns are to be distilled over three years, identifying and piloting the strongest of these opportunities in consultation with private sector stakeholders.
Situation Western Cape Regional Green Economy Initiatives

The Green is Smart Strategic Framework 2013 for the Western Cape speaks to national policy and strategy and municipal agendas. Within the green economy, issues cut across mandates and ownership of assets across levels of government. A good illustration is smart mobility or sustainable transport. An integrated solution that addresses all aspects of this issue must address: public transport (access, safety and reliability), private motorised transport, private non-motorised transport (access and safety), freight haulage, and the road and rail networks that connect these. Addressing these issues, which are variously managed by municipalities, provincial government or national government, involves a clear delineation of mandates, as well as strategic coherence and all parties pulling in the same direction.

7.1 SUPPORTING NATIONAL STRATEGIES

Management of the green economy, nationally, rests with DEA. It is important that all strategies of the WCG support this strategic direction and also capitalise on work and relationships that are held and implemented at this level of government. Strategic priorities at a national level are similarly geared towards economic opportunity and job creation:

- Growing economic activity with investment, jobs and competitiveness in the green industry sector
- A shift in the economy as a whole towards cleaner industries and sectors

This has led to extensive work with UNEP to unpack the potential of ‘green jobs’. Although the green economy strategy has not been finalised at a national level, alignment has been ensured between WCG work and NSSDI, as well as DEA’s existing work focus on sustainable production and consumption.

DEA’s work in the green economy connects with government’s national outcomes, including Outcome 4 (of Decent employment through inclusive economic growth), Outcome 5 (A skilled and capable workforce to support inclusive growth), Outcome 6 (An efficient, competitive and responsive economic infrastructure network), Outcome 7 (Vibrant, equitable and sustainable rural communities and food security for all), Outcome 10 (of Environmental assets and natural resources that are valued, protected and continually enhanced).
Nine strategic focus areas have been identified by DEA, each providing an opportunity for engagement by WCG, to connect existing work, or explore options for collaboration across levels of government. Nationally, significant financial commitments have been made to allocate funds to green economic development. This includes five-year commitments from: DEA ZAR 800 million; Development Bank of Southern Africa (DBSA) ZAR 10 billion; and Industrial Development Corporation (IDC) ZAR 25 billion. There is a strong national focus on local manufacturing capacity to meet the needs of the green economy. This presents opportunities for the Western Cape, which are already being seized by businesses in the Saldanha Bay IDZ, the Atlantis Special Economic Zone and the Cape Town industrial area. Successful coordination of efforts clearly requires effective cooperative governance between different levels of government.

7.2 LINKING TO OTHER PROVINCES
On a subnational or provincial level in South Africa, a number of green economy initiatives are underway. Additional to the Western Cape, three other provinces leading the way are KwaZulu-Natal, Gauteng and Limpopo.
TABLE 6: GREEN ECONOMY INITIATIVES IN OTHER PROVINCES

<table>
<thead>
<tr>
<th>Province</th>
<th>Description</th>
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<tbody>
<tr>
<td>Gauteng</td>
<td>In 2010 Gauteng Province’s Department of Economic Development finalised its provincial strategy for a developmental green economy. The strategy responded to international trends, as many cities, city-regions and other similar areas had begun investing heavily in green technologies and creating green jobs in a post-economic crisis environment where sustainable growth becomes the norm. A further incentive is the need to avoid environmental taxes and penalties. The overall goal of the strategy is sustainable growth and job creation for Gauteng.</td>
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| KwaZulu Natal    | In 2012 KwaZulu-Natal’s Department of Economic Development and Tourism published its green economy strategy with the principal aim of supporting and directing the re-orientation and growth of the province’s economy to become increasingly competitive and resilient, and to reduce poverty, create sustainable jobs for local citizens, and address social equity throughout the province. There are three specific goals listed in the strategy:  
  Goal 1: Leverage the green economy through greening provincial government investments, activities and operations  
  Goal 2: Create “enabling conditions” for the development of the green economy  
  Goal 3: Unlock the green economy through turnkey/ pilot projects in the green economy |
| Limpopo          | In June 2013 the Limpopo Province’s Department of Economic Development, Environment and Tourism published the province's Green Economy Plan - Including Provincial Climate Response. The plan identifies short, medium and long-term green economy goals for the province:  
  Short-term: Generate jobs; Improve environmental quality  
  Medium term: Create enabling conditions for green growth; Change behavioural and production patterns  
  Long-term: Build a new economic/ environmental paradigm for Limpopo. |

WCG is committed to exploring opportunities to connect to and exchange learning with other provinces through platforms like the national working groups and knowledge sharing networks such as the Economies of Regions Learning Network.
7.3 **MUNICIPAL INTERVENTIONS**

Green growth and green economy discussions at a metro level are not yet clearly developed, but there are initiatives within the cities of Cape Town and Johannesburg.

**A BRIEF LOOK AT THE GREEN ECONOMY IN THE CITY OF CAPE TOWN**

The City of Cape Town has adopted a UNEP-based definition of the green economy, emphasising low-carbon, resource efficient, socially inclusive solutions. The desired outcomes include identification of new economic opportunities, environmental risk-reduction and job creation. Within the broader green economy, the City has identified key roles for itself:

- Ensure that the city remains attractive to investment by using appropriate regulations, incentives, and planning tools
- Develop and market economic opportunities with competitive advantage, e.g. eco-tourism and renewable energy
- Stimulate private sector growth through green procurement, green building, water and energy efficient technologies
- Ensure greened and climate-resilient infrastructure
- Build on Expanded Public Works Programme job creation to unlock longer-term job opportunities that reduce environmental risk and offer the opportunity for alternative methods of service delivery

Projects are selected that are within the City’s mandate and concentrate on significant market failures. To date, many of the initiatives have focused on energy, (for example, the Solar Water Heater Accreditation Programme, which aims to increase the uptake of solar water heaters in private households and includes accredited service providers and financing solutions). Alignment and cooperation with the WCG green economy strategy is ongoing and regular meetings continue to take place.
There are several existing touch points for strategic environmental protection and sustainable economic development, such as the Climate Change Municipal Support Programme, and input into local Integrated Development Plans. These reach beyond the City of Cape Town, to all the district municipalities. Some of the rural areas are still having difficulty in accessing government services, which is reflected in service delivery protests. However, there is improved access to basic services which is shown by 99.1% having access to pipe or tap water, 96.9% having access to a toilet facility, and 93.4% with access to electricity\(^{26}\). The green economy presents opportunities to address service delivery challenges with new and more sustainable solutions that are more resource and cost efficient and more resilient over the longer term.

Many municipalities have recognised the need to invest in greener infrastructure and related climate change projects. The Municipal Finance Management Act 56 of 2003 allows for this investment, but there are some hurdles, such as budgetary constraints, particularly concerning significant capital investments with longer-term payback periods. Lack of capacity and skills is a further aspect, which can be mitigated through intergovernmental partnerships as well as partnerships with non-profit organisations and private companies. WCG has a key role to play in helping to facilitate knowledge sharing and unlock shared barriers for municipalities.

Municipal reliance on energy sales for up to more than half of revenues, in conjunction with the burden of increasing energy costs to consumers, means that one key area demanding attention is the interface between municipal revenues, energy security, energy efficiency and renewable energy for companies and residences. Work to address this challenge is already underway. Another pertinent issue that demands work in future is the mainstreaming of sustainable public procurement for all levels of government. These shared challenges are much more effectively addressed through collaboration than individual efforts.

\(^{26}\) Census (2011)
The projects that are managed under the auspices of the green economy are not the only projects and programmes that support the aims of greening the economy, or exploiting new economic opportunities in the green economy. While WCG drives internal resource efficiency through the WCG 2Wise2Waste programme, there are several current and planned industry and community facing initiatives that support the green economy, especially in infrastructure, human settlements and agriculture.

**GREENING INFRASTRUCTURE**

The *Western Cape Infrastructure Framework*\(^*\) (WCIF) aims to align all infrastructure development in the Western Cape to the province’s strategic agenda, described in the *One Cape 2040 Vision*. It also has links to the *Green is Smart Strategy Framework*. The WCIF outlines a fundamental shift towards greening infrastructure in the Western Cape with key transitions in energy, water, transport, settlements and ICT, including plans to:

- Introduce natural gas processing and transport infrastructure to make gas available as a transition fuel
- Promote the development of renewable energy plants in the province and associated manufacturing capability
- Have more stringent water conservation and demand-management initiatives
- Adopt more widely the reuse of wastewater effluent as standard practice
- Adopt large-scale desalination once it becomes the “next best” option
- Invest in public transport and non-motorised transport infrastructure, particularly in larger urban centres
- Prioritise general rail freight over bulk rail freight
- Shift freight traffic from road to rail along major routes
- Diversify the housing programme, with greater emphasis on incremental options
- Integrate settlement development, prioritising public service facilities in previously neglected areas
- Increase the speed and functionality of existing ICT networks and supply new technology as it becomes available

Implementation guidelines for the WCIF, as well as monitoring and evaluation indicators have been prepared.

\(^*\) Ian Palmer (2013) *Western Cape Infrastructure Framework*
Many of South Africa’s settlement problems can be attributed to apartheid planning policies which led not only to the spatial separation of rich White suburbs and poorer Black, Coloured and Indian areas, but also to the layout of settlements as discrete functional zones, with a lack of integration between residential, commercial and industrial areas. Transport networks were designed to accommodate private vehicles with little concession to people who rely on public transport. As a result, Black, Coloured and Indian settlements are often located on the periphery or even completely outside developed areas. These areas are characterised by poor infrastructure, as well as being far removed from work opportunities and services, with few transport options. The results are stifled economic growth and social exclusion.

Sustainable or greened settlements have the dual aims of limiting damaging environmental impacts while also achieving socio-economic inclusivity. There are several initiatives in and beyond the green economy that are focused on improving living environments. In 2013, Department of Environmental Affairs and Development Planning (DEADP) developed a guideline document on how to build more sustainable settlements. DEADP also convenes an annual Sustainable Settlement Innovation Summit. Other WCG projects include Violence Prevention through Urban Upgrade, the Built Environment Support Programme, the Berg River Improvement Plan, the Genius of Place project and the Better Living Challenge.

The Department of Human Settlements has committed to optimise sustainable use of resources while still working to meet targets for delivery of houses within fiscal constraints. This includes:

- Integrated planning for bulk services, including solutions for waste effluent recycling (Beaufort West) and desalination (Mosselbay)
- Densification (e.g. Joe Slovo 2 and 3)
- Improvements in social housing unit design, including, inter alia, insulation, orientation, water-saving technologies
- Alternative building technologies, within the limitations of minimum standards (e.g. the ABSA Project in Paarl and the Legacy Project Blue Downs)
- Promotion of alternative sanitation solutions (e.g. waste water directed to digester tanks that recycle back to cisterns using solar power)
- Support for in situ self-improvements such as solar energy and water tanks

More sustainable human settlements will remain on the agenda for the 2014/15 financial year. DEADP has planned a pre-feasibility study on sustainable settlements, to make the financial and practical engineering case for greening a concrete reality to motivate for mainstreaming of green solutions that improve lives. Opportunities for innovation include creative finance models and addressing regulatory barriers to change.
The WCG Department of Agriculture is mandated to promote the conservation of agricultural natural resources, especially land and water, and to prevent the fragmentation of agricultural lands. These aims are supported by the extension of conservation agriculture practices and climate smart technologies and production practices. This includes judicial water management and usage, minimum mechanical soil disturbance, alternative crops and crop production strategies and livestock management systems. Good practices that also contribute to reducing vulnerability to climate change are shared with farmers through extension services that ensure an informed, sustainable and profit-bearing client-base. Conservation and climate smart agriculture thereby assists in reducing input costs without compromising food security.

With the completion of the first full year of work by WCG, the green economy committees and project managers have the benefit of learning and experience on which to base 2014/15 allocation of resources and project planning. The report on 2014/15 projects will be finalised during 2015/16 and will also include an update on the Western Cape Green Economy Indicators.

While the first year of projects showed some success as a result of hard work in this new field, it also held lessons in terms of institutional, fiscal and practical constraints. The green economy challenges silo thinking, and while the WCG transversal management system embraces this new way of working to address complex societal challenges, it goes against ingrained patterns of organisation for both the public and private sector. This said, there are encouraging shifts that embrace complexity in both sectors, recognising that the issues we address do not fall neatly into a particular discipline or line function. Within WCG, the approach to the green economy has shown itself to be a flagship for transversal management.

The 2014/15 green economy project plans build on the learning of 2013/14 to continue to refine the role of provincial government in this space. The green economy’s place as a strategic priority was solidified through the Provincial Strategic Plan 2014-2019. With this guaranteed, work is expected to be consolidated and extended into mainstream areas of work across departments.
Appendix 1:
List of Consulted Parties

Representatives from the following government departments and external organisations that have been consulted and have provided inputs and data in developing the Western Cape Green Economy Indicators:

1. Association for Savings and Investment South Africa
2. Council for Scientific and Industrial Research
3. GreenCape
4. Organisation for Economic Cooperation and Development: Local Economic and Employment Development Programme
5. Western Cape Aquaculture Development Initiative
6. National Cleaner Production Centre
7. Western Cape Department of Agriculture
8. Western Cape Department of Environmental Affairs and Development Planning
9. Western Cape Department of the Premier
10. Western Cape Provincial Treasury
11. Western Cape Economic Development Partnership
# Appendix 2: List of Abbreviations

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>BRICS</td>
<td>Brazil, Russia, India, China and South Africa</td>
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<tr>
<td>CoCT</td>
<td>City of Cape Town</td>
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<tr>
<td>DEA</td>
<td>Department of Environmental Affairs</td>
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<tr>
<td>DEADP</td>
<td>Department of Environmental Affairs and Development Planning</td>
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<tr>
<td>DEDAT</td>
<td>Department of Economic Development and Tourism</td>
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<tr>
<td>DTPW</td>
<td>Department of Transport and Public Works</td>
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<tr>
<td>EDP</td>
<td>Western Cape Economic Development Partnership</td>
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<tr>
<td>GGGI</td>
<td>Global Green Growth Institute</td>
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<td>GGKN</td>
<td>Green Growth Knowledge Network</td>
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<td>IDC</td>
<td>Industrial Development Corporation</td>
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<td>IDZ</td>
<td>Industrial Development Zone</td>
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<td>IPCC</td>
<td>Intergovernmental Panel on Climate Change</td>
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<tr>
<td>NCCRP</td>
<td>National Climate Change Response Policy</td>
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<td>NDP</td>
<td>National Development Plan</td>
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<tr>
<td>NSDD 1</td>
<td>National Strategy for Sustainable Development</td>
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<tr>
<td>OECD</td>
<td>Organisation for Economic Cooperation and Development</td>
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<tr>
<td>PERO</td>
<td>Provincial Economic Review and Outlook</td>
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<tr>
<td>REIPPP Programme</td>
<td>Renewable Energy Independent Power Producer Procurement Programme</td>
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<tr>
<td>RIA Waste Project</td>
<td>Regulatory Impact Assessment Waste Project</td>
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<tr>
<td>SAGEM</td>
<td>South African Green Economy Modelling Report</td>
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<tr>
<td>SMEs</td>
<td>Small and Medium Enterprises</td>
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<tr>
<td>UNEP</td>
<td>United Nations Environmental Programme</td>
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<tr>
<td>WBCSD</td>
<td>World Business Council for Sustainable Development</td>
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<td>WCG</td>
<td>Western Cape Government</td>
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<td>WCIF</td>
<td>Western Cape Infrastructure Framework</td>
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<td>WISP</td>
<td>Western Cape Industrial Symbiosis Project</td>
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</table>
CONTACT: Directorate Sustainability, Sub-directorate: Environmental Economy Western Cape Department of Environmental Affairs and Development Planning Leeusig Building, 01 Dorp Street, Cape Town, 8001 Private Bag X9086, Cape Town, 8000 Tel: +27 21 483 2970 Fax: +27 21 483 3093 Email: karen.shippey@westerncape.gov.za www.westerncape.gov.za/eadp