The Greening of Tshwane’s Economy

Launch of the Tshwane Green Economy Research Network

24 November 2015
The global economic landscape
Poor first quarter activity resulted in a downward revision of global growth relative to April 2015 forecasts, however all the drivers for gradual acceleration in economic activity remains intact.

In emerging market economies, the continued growth slowdown reflects several factors, including lower commodity prices and tighter external financial conditions, structural bottlenecks, rebalancing in China, and economic distress related to geopolitical factors. A rebound in activity in a number of distressed economies is expected to result in a pickup in growth in 2016.

The distribution of risks to global economic activity is still tilted to the downside. Near-term risks include increased financial market volatility and disruptive asset price shifts, while lower potential output growth remains an important medium-term risk in both advanced and emerging market economies.

Lower commodity prices also pose risks to the outlook in low-income developing economies after many years of strong growth.

- Global growth is projected at 3.3 percent in 2015, marginally lower than in 2014, with a gradual pickup in advanced economies and a slowdown in emerging market and developing economies.

- In 2016, growth is expected to strengthen to 3.8 percent.
Global Inflation outlook

- Inflation in advanced economies has declined reflecting a decline in oil prices, decreased demand in emerging markets and softer prices for other commodities.

- With the rebound in oil prices, fuel end-user prices have started rising. Monthly headline inflation has thus started to bottom out in many advanced economies.

- Core inflation has remained broadly stable well below inflation objectives.

- The economic recovery in the euro area seems broadly on track, with a generally robust recovery in domestic demand and inflation beginning to increase.

- In many emerging market economies, notably those with weak domestic demand, headline inflation has declined.

Source: World Economic Outlook, April 2015

Source: World Economic Outlook Update, July 2015
The magnitude of future pressures on cities... the global population in 2050

Source: www.worldmapper.org
The local economic landscape
South African economic outlook

- The South African economy is forecast to grow by 2 per cent in 2015, with a gradual improvement to 3 per cent in 2017.
- The low growth projections are a result of falling of commodity prices, the country’s energy crisis and the continued threat of industrial action.
- High wage demands by public sector unions in 2015 could pose a serious fiscal risk.
- Inflation outlook has deteriorated with the partial reversal of the recent petrol price declines, emerging upside pressures on food and possible further electricity tariff increases.
- Real exchange rate depreciation and low inflation should support the competitiveness of South African firms, but the electricity supply constraint will curtail mining and manufacturing output, and exports.
- The medium-term strategic framework supports a range of programmes that, in combination with infrastructure investment and structural changes in the real economy, will ultimately raise growth potential.
Population in our cities and projected to increase into the future... Tshwane alone expected to grow to almost 5 million people by 2030.

- Johannesburg: 9%
- Cape Town: 7%
- eThekwini: 7%
- Ekurhuleni: 6%
- Tshwane: 6%
- Nelson Mandela Bay: 2%
- Buffalo City: 1%
- Mangaung: 1%
Localising the picture and building internal capacity through economic intelligence...

City of Tshwane Population Projections

<table>
<thead>
<tr>
<th>Year</th>
<th>Population Low</th>
<th>Population Medium</th>
<th>Population High</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>3,084,538</td>
<td>3,463,528</td>
<td>3,555,252</td>
</tr>
<tr>
<td>2015</td>
<td>3,154,853</td>
<td>3,555,180</td>
<td>3,668,131</td>
</tr>
<tr>
<td>2020</td>
<td>3,506,428</td>
<td>4,013,439</td>
<td>4,232,526</td>
</tr>
<tr>
<td>2030</td>
<td>4,209,579</td>
<td>4,929,957</td>
<td>5,361,316</td>
</tr>
<tr>
<td>2055</td>
<td>5,967,455</td>
<td>7,221,252</td>
<td>8,183,290</td>
</tr>
</tbody>
</table>

Source: CoT Economic Intelligence Team (Internal Calculations)
Tshwane outperforms others on many important economic and social metrics

<table>
<thead>
<tr>
<th>Population Million, 2013</th>
<th>GDP Growth rate %</th>
<th>Unemployment %</th>
<th>Higher education aged 20+ %</th>
</tr>
</thead>
<tbody>
<tr>
<td>City of Johannesburg</td>
<td>4.62</td>
<td>3.2</td>
<td>23.90</td>
</tr>
<tr>
<td>City of Cape Town</td>
<td>3.80</td>
<td>3.1</td>
<td>19</td>
</tr>
<tr>
<td>Ekurhuleni</td>
<td>3.27</td>
<td>2.6</td>
<td>17</td>
</tr>
<tr>
<td>City of Tshwane</td>
<td>3.05</td>
<td>2.5</td>
<td>15</td>
</tr>
<tr>
<td>Manguang</td>
<td>0.78</td>
<td>1.5</td>
<td>14</td>
</tr>
<tr>
<td>City of Johannesburg</td>
<td>3.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>City of Tshwane</td>
<td>2.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manguang</td>
<td>1.5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SOURCE: StatsSA (Census 2011), Regional Explorer
Tshwane outlook

- Fastest growing economy on average in the last 15 years
- Accounts for 28 percent of Gauteng GDP and 10 percent of national GDP
- Employment situation has improved significantly over the last decade
- The Tshwane economy whilst reliant on government and community services as a sector holds tremendous potential in the R&D, green economy and agro-processing spheres
  - Implementing the NDP Vision 2030 and Tshwane Vision 2055: Development of the City’s inclusive growth strategy and implementation plan
  - Fiscal sustainability is a core component of our programme
  - Effectiveness and efficiency of government expenditure
Economic Overview – GVA and GVA Growth

Economic output

GVA

• In 2014, City of Tshwane contributed 28% to provincial output.

• A 1% increase from 2013

• Accounted for 10% of total S.A. output, as compared to 17% for the CoJ.

GVA Average Annual Growth

• Tshwane recorded the highest level of average GVA annual growth in 2011 5.4% and has decreased since then.

• The City of Tshwane has the highest growth rate in 2014 at 2.4%
Economic Overview - GVA averages

Tshwane’s position within the Province and S.A

- On average, between 2010 and 2014, Tshwane had the second best performance amongst the three Metros in Gauteng.
- Over the same period, Tshwane had the highest average annual GVA growth rate in the country (4.0%).
- Tshwane also showed a slower rate of decline in GVA growth than any of the other Metros.

Source: Global Insight
Economic Overview – GVA Per Capita

Tshwane’s GVA per Capita, almost 70% higher than National GVA

- City of Tshwane has the second highest GVA per Capita out of both the provincial and national Metro Cities.
- City of Tshwane’s GVA per Capita almost 52% higher than the national GVA per Capita

Source: Global Insight
### Economic Overview – GVA per Sector

Most Metros are service driven economies with Community Services and Finance dominating most economic activity.

#### GVA Sectoral Share Amongst Major Municipalities (2014)

<table>
<thead>
<tr>
<th>Sector</th>
<th>City of Cape Town</th>
<th>Ethekwini</th>
<th>Ekurhuleni</th>
<th>City of Johannesburg</th>
<th>Nelson Mandela Bay</th>
<th>City of Tshwane</th>
<th>Mangaung</th>
<th>Buffalo City</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Services</td>
<td>17%</td>
<td>21%</td>
<td>20%</td>
<td>24%</td>
<td>24%</td>
<td>34%</td>
<td>33%</td>
<td>28%</td>
</tr>
<tr>
<td>Finance</td>
<td>35%</td>
<td>22%</td>
<td>21%</td>
<td>32%</td>
<td>25%</td>
<td>25%</td>
<td>22%</td>
<td>21%</td>
</tr>
<tr>
<td>Transport</td>
<td>11%</td>
<td>14%</td>
<td>15%</td>
<td>9%</td>
<td>11%</td>
<td>12%</td>
<td>12%</td>
<td>9%</td>
</tr>
<tr>
<td>Trade</td>
<td>17%</td>
<td>18%</td>
<td>25%</td>
<td>15%</td>
<td>15%</td>
<td>12%</td>
<td>22%</td>
<td>20%</td>
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<tr>
<td>Construction</td>
<td>4%</td>
<td>5%</td>
<td>4%</td>
<td>4%</td>
<td>3%</td>
<td>3%</td>
<td>3%</td>
<td>4%</td>
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<tr>
<td>Electricity</td>
<td>1%</td>
<td>1%</td>
<td>2%</td>
<td>2%</td>
<td>0%</td>
<td>2%</td>
<td>2%</td>
<td>1%</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>14%</td>
<td>18%</td>
<td>25%</td>
<td>13%</td>
<td>21%</td>
<td>10%</td>
<td>4%</td>
<td>16%</td>
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<tr>
<td>Mining</td>
<td>0%</td>
<td>0%</td>
<td>2%</td>
<td>2%</td>
<td>0%</td>
<td>2%</td>
<td>1%</td>
<td>0%</td>
</tr>
<tr>
<td>Agriculture</td>
<td>1%</td>
<td>1%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
</tr>
</tbody>
</table>

*Source: Global Insight*
Tshwane unemployment rate  
(Official definition)

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>City of Tshwane</td>
<td>23.1%</td>
<td>24.2%</td>
<td>24.1%</td>
<td>23.4%</td>
<td>22.5%</td>
<td>21.6%</td>
<td>20.9%</td>
<td>20.5%</td>
<td>20.8%</td>
<td>21.4%</td>
<td>21.3%</td>
<td>21.6%</td>
<td>21.4%</td>
<td>21.2%</td>
</tr>
</tbody>
</table>

- Since 2001 the city has seen a decrease in unemployment until the global financial crisis.
- This is followed by an increase from 2009 – 2011 and since then is steadily declining.
Since 2001 Tshwane had the second lowest rate of unemployment (22%) next to Ethekwini.
## Unemployment rate by population group

<table>
<thead>
<tr>
<th>Year</th>
<th>African</th>
<th>White</th>
<th>Coloured</th>
<th>Asian/Indian</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>29.7%</td>
<td>6.5%</td>
<td>23.5%</td>
<td>17.0%</td>
</tr>
<tr>
<td>2002</td>
<td>30.9%</td>
<td>6.4%</td>
<td>23.9%</td>
<td>17.5%</td>
</tr>
<tr>
<td>2003</td>
<td>30.9%</td>
<td>6.0%</td>
<td>22.8%</td>
<td>17.1%</td>
</tr>
<tr>
<td>2004</td>
<td>29.9%</td>
<td>5.5%</td>
<td>21.7%</td>
<td>15.7%</td>
</tr>
<tr>
<td>2005</td>
<td>28.6%</td>
<td>5.2%</td>
<td>21.0%</td>
<td>14.0%</td>
</tr>
<tr>
<td>2006</td>
<td>27.2%</td>
<td>4.8%</td>
<td>20.6%</td>
<td>12.4%</td>
</tr>
<tr>
<td>2007</td>
<td>26.0%</td>
<td>4.7%</td>
<td>20.1%</td>
<td>11.2%</td>
</tr>
<tr>
<td>2008</td>
<td>25.4%</td>
<td>4.9%</td>
<td>19.4%</td>
<td>9.3%</td>
</tr>
<tr>
<td>2009</td>
<td>25.6%</td>
<td>5.4%</td>
<td>19.3%</td>
<td>7.6%</td>
</tr>
<tr>
<td>2010</td>
<td>26.0%</td>
<td>6.0%</td>
<td>19.5%</td>
<td>5.7%</td>
</tr>
<tr>
<td>2011</td>
<td>26.1%</td>
<td>6.4%</td>
<td>20.3%</td>
<td>4.3%</td>
</tr>
<tr>
<td>2012</td>
<td>26.0%</td>
<td>6.3%</td>
<td>20.9%</td>
<td>3.6%</td>
</tr>
<tr>
<td>2013</td>
<td>25.6%</td>
<td>6.2%</td>
<td>21.0%</td>
<td>3.5%</td>
</tr>
<tr>
<td>2014</td>
<td>25.3%</td>
<td>6.0%</td>
<td>21.1%</td>
<td>3.4%</td>
</tr>
</tbody>
</table>
Unemployment rate by population group – some alarming observations...

• Since 2001 there has been a slight decline in unemployment for the African population group.
  • However, it remains alarmingly high with approximately a quarter of the population group being unemployed.

• Since 2001 white population group unemployment rate overall has stayed more or less the same only declining by 0,5%.
  • However it has to be noted that since 2007 there has been an increasing trend in unemployment in the white population group till 2011, since then it has slowly decreased.

• Since 2001 the coloured population group unemployment rate has decreased marginally from 23.5% to 21.1%.
  • The unemployment rate bottomed out in 2009 at 19,3 percent and has been steadily increasing since then.

• Since 2001 the Asian/Indian population group unemployment rate has decreased significantly from 17% to 3,4%.
  • The unemployment rate decreased significantly between 2003 and 2011, but since 2012 the decline has slowed down significantly.
Welfare and development

Overall improvement in the level of welfare over the past couple years, however **worsening inequality poses a major social risk**
Greening Tshwane’s economy – policy perspective
Defining a green economy – promoting a better quality of life for all

• A green economy can be defined as economic systems that take into account holistic remedial measures incorporating economic, environmental (including ecological) and social challenges
  • It is a system of economic activities related to the production, distribution and consumption of goods and services that result in improved human well-being over long term, while not exposing future generations to significant environmental risks or ecological scarcity
• According to the UNEP, a green economy is defined as one that leads to improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities.
• The green economy can be understood in its simplest terms as a low-carbon, resource efficient and socially inclusive economy, in our case as a City.

At the nucleus of the green economy concept is the need to improve public and community living standards and conditions while combating energy insecurity, climate change and ecological instability.
The green economy in an African context

- African countries are highly dependent on natural resources such as fertile soils, forests and fisheries (UNEP, 2012).
  - Economic growth in the African continent has largely been fostered by exploitation of these resources, however, the continent is still faced with persistent poverty and unemployment.
  - The resource basis of major productive sectors is facing threats of environmental degradation, climate change and resource scarcity which is hindering the potential for future economic growth.
- According to The Economist (2011), seven African countries are expected to be in the top ten fastest growing world economies over the next five years; six out of ten in 2010 were in Africa.
  - However, the continent also hosts a fast growing young population which is most likely to be affected by unemployment.
- Mounting pressure on the natural capital of the continent as it is faced with the growing demand for basic human needs such as water and food, whilst stimulating economic activity to create employment and improve income levels.
  - These challenges facing the continent offers opportunity for change for more sustainable ways of development.
Elements of a green economy

- Coherent understanding of economic growth, economic development and environmental degradation
- Supporting economic transformation to green economies
- Growing green industries
- Creation of sustainable green jobs
- Economic development initiatives linked to environmental preservation and restoration, curbing resource exploitation
- Reducing the amount of natural resources used in the production of economic growth, e.g. water and fossil fuels
Laying a foundation for a policy-friendly environment built on science

Vision 2055

Strategic Framework for a Transition to the Green Economy

Sustainability Financing Strategy

Baseline studies: Greenhouse Gas Emissions Inventory & Vulnerability Study

Sustainable Inclusive Growth Strategy
Tshwane Vision 2055 has set broad aspirations for each outcome.

Over the next 40 years, all the City’s interventions and programmes will focus on these 6 outcomes:

<table>
<thead>
<tr>
<th>#</th>
<th>Outcome</th>
<th>Timeline</th>
<th>Deadline</th>
</tr>
</thead>
</table>
| 1  | A resilient and resource-efficient city                                  | - Completed our planning for the transition  
- Transitioned to a low carbon economy  
- Environmentally just City  
- Resilient and resource efficient City                                                                                                                  | 2020  
2030  
2040  
2055 |
| 2  | A growing economy that is inclusive, diversified and competitive        | - Completed our planning for the transition  
- Transitioned to a low carbon economy  
- Diversified and shared economic development  
- Growing, inclusive, diversified, resilient and competitive economy                                                                                   | 2020  
2030  
2040  
2055 |
| 3  | Quality infrastructure development that supports liveable communities   | - Completed our planning for the transition  
- Transitioning to low carbon infrastructure development  
- Achieved spatial transformation  
- Quality infrastructure development that supports liveable communities                                                                                  | 2020  
2030  
2040  
2055 |
| 4  | An equitable city that supports happiness, social cohesion, safety and healthy citizens | - Completed our planning for the transition  
- Transitioning to low carbon infrastructure development  
- Achieved spatial development  
- Equal City that supports happiness, social cohesion and community safety                                                                                | 2020  
2030  
2040  
2055 |
| 5  | An African capital city that promotes excellence                        | - Completed our planning for the transition  
- Transitioning to low carbon infrastructure development  
- African capital city that promotes excellence and innovative governance solutions  
- Consolidate the gains towards a better life for all                                                                                                    | 2020  
2030  
2040  
2055 |
| 6  | South African’s capital city with an active citizenry                   | ...                                                                                                                                                                                                   | ...      |

SOURCE: City of Tshwane website
An institutional investment in City Sustainability – establishment of the City Sustainability Unit

- Stimulating the Green Economy
- Resource Mobilisation & Partnerships
- Awareness-raising and behavioural change
- Mainstreaming sustainability into city-wide operations
Vision 2055 – Remaking our future city begins now

Elements of a green City

- Embedded and local generation of energy, feed n tariff, zero energy poverty
- Lower emissions related to mobility due to significant spatial restructuring
- Extensive rainwater harvesting and grey water systems
- Plethora of new green buildings & retrofitting old buildings consuming minimal resources
- Waste beneficiation and renewable energy generation as sources of revenue for the city
- Zero emissions related to waste management
- Reducing unemployment, inequality and poverty
- Reducing unemployment, inequality and poverty

Reducing unemployment, inequality and poverty
Enablers of the Green Economy driven by City of Tshwane

Building Green Knowledge
- International & National Partnerships and Memberships: C40, ICLEI, SALGA, SACN
- MOUs with tertiary and research institutes
- Free Wi-Fi

Innovative Funding & Partnerships
- Off the balance sheet solutions, benefiting Tshwane undervalued resources such as waste
- Sustainable Funding Mechanism & Financial Instruments
- Local Partnerships: AIDC Greening Forum

Sustainable Procurement
- Greening of procurement: Electric vehicles, CNG buses within the A Re Yeng fleet
- Inclusion of greening criteria in City procurement: Tshwane House

Sustainable Service Delivery
- Request for proposals for green economy interventions
- Demonstration projects – Tshwane Food and Agropolitan Centre
- Incentive-based approach – Green Building Bylaw Incentives Scheme
Greening of service delivery – stimulus for the green economy

**Transport & Urban Mobility**
- C40 Clean Bus Declaration – 83 buses will run on clean energy by 2020
- A Re Yeng – Tshwane BRT System
- Greening of messenger fleet: 10 Nissan vehicles

**Waste**
- Regulatory requirement to divert waste from landfill
- Free separation at source programme for Regions 3 & 4: 30,000 households
- Partnership to build a Material Recovery Facility to support separation at source programme

**Energy**
- Minimising energy demands through green building design
- Refurbishment of street lights, retrofitting of municipal buildings
- Solar water heaters for low income households
- Diversify energy mix through facilitation of wheeling agreements

**Waste-energy nexus**
- Beneficiating Tshwane waste to address energy poverty & insecurity
- Tshwane Food and Agropolitan Centre

*The socioeconomic and environmental benefits of the green economy only materialise by breaking through traditional (service delivery) silos*
For example, 4.5MW Biogas Plant in Bronkhorstspruit

Off take agreement between Bio2Watt and BMW; Wheeling fee paid to CoT to wheel electricity generated by biogas plant
Towards evidence-based planning: Tshwane Greenhouse Gas Emissions Inventory

<table>
<thead>
<tr>
<th>Category</th>
<th>Tshwane Community</th>
<th>Tshwane Corporate</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy</td>
<td>7,642,235</td>
<td>146,459</td>
<td>11,984,730</td>
</tr>
<tr>
<td>Transport</td>
<td>4,061,851</td>
<td>30,392</td>
<td>4,092,243</td>
</tr>
<tr>
<td>Waste</td>
<td>280,644</td>
<td></td>
<td>280,644</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>11,984,730</td>
</tr>
</tbody>
</table>

CITY OF TSHWANE

EXCELLENCE
Towards evidence-based planning: Social Vulnerability Index
Green economy milestones: 2013 and beyond
A rapid evolving, multi-pronged journey to building sustainability in the City of Tshwane

**January 2013** The City Sustainability Unit is established to guide the transition to a green economy and to promote city sustainability

**July 2013** the Green Building Policy and Bylaw is promulgated rendering City of Tshwane the first municipality in South Africa to gazette such a bylaw

**August 2013** The City launches its **Strategic Framework for a Transition to a Green Economy**

**November 2013** First phase of the supply of **free WiFi services** in strategic public places such as tertiary institutions and schools

**December 2013** Request for Information (Expression of interest) on Green Economy interventions issued
Tshwane Free WiFi in numbers

**Tshwane Free WiFi IN NUMBERS**

- **61 205** average unique monthly users
- **575 FIZ Sites**
  - Total live FIZ sites in Tshwane
- **96 Wards across 7 Regions**
  - Have Free WiFi sites
- **14 545 547** sessions logged in total
- **566 801** unique users/devices since launch
- **2013**
  - 1567
  - 40.6% average monthly growth rate
- **2014**
  - 42 657
  - 184.7% growth from June to July
- **2015**
  - 161 577
  - 13.2% average monthly growth rate
  - 278.8% total growth from previous year

**Only 7 DAYS into MAY**

- and already 82% towards highest total of unique users recorded for a month (November 2014)

**TV**

- **5 656 842** Views on WiFi TV since Nov 2014
The sustainability journey continues…. 

March 2014 ✭ A sod turning for the establishment of a multi-purpose Material Recovery Facility to be supported by a separation at source programme in Regions 3 and 4.

June 2014 ✭ City Sustainability Unit unveils its Tshwane Green programme aimed at all raising sustainability awareness among all city stakeholders.

July 2014 ✭ The Carbon Footprint for 2012/13 Financial Year is announced and a social vulnerability assessment undertaken.

July 2014 ✭ City of Tshwane is announced as the most liveable city by the Gauteng City Region Observatory.

October 2014 ✭ first ever Tshwane Green Ride, a 30km family fun ride from Mamelodi to Rietondale and back to demonstrate benefits of cycling and connecting diverse localities.

November 2014 ✭ City of Tshwane announced as 70th member of the C40 joining as an Innovator City, a category reserved for cities that have shown leadership in climate action.
The sustainability journey continues...

**March 2015**  City of Tshwane is announced the National Earth Hour Capital 2015

**March 2015**  The new City of Tshwane headquarters, Tshwane House to be delivered at the end of 2016, is announced as a green building with a 5 star Green grading status

**April 2015**  Development of the Food and Energy Agropolitan Centre commissioned

**May 2015**  the City invests in 10 electric cars for its messenger fleet

**May 2015**  City of Tshwane becomes a select member of the Green Building Council of South Africa’s Green Building Leadership Network

**June 2015**  City of Tshwane’s second year to host Sustainability Week and to launch the inaugural African Capital Cities Sustainability Forum
City of Tshwane announced as 2015 National Earth Hour Capital

Building confidence in CoT’s greening credentials when it packages and promotes green economy projects
Investment in 10 Nissan leaf vehicles for City messenger services; future consideration of use of electric “grid cars” by informal recyclers to enhance levels of collection of recyclables and safer transport option, integrating innovation, clean energy, and service delivery.
Comprehensive Stakeholder Engagements: Tshwane Green Outreach
Towards financing sustainability projects
Financing of sustainability-oriented projects

Off balance sheet solutions

- Currently being tested through the RFI/RFP Process

Project Packaging

- Sustainability Financing Mechanism
- Phase 1: six projects identified aligned to sustainable service delivery themes
Financing of sustainability-oriented projects: the development of the Sustainability Financing Strategy (SFS)

**WHY**  The SFS identifies financing approaches and instruments to support CoT green policies and projects to support the implementation of the green economy objectives of the CoT

**WHAT**  Funds and instruments that are initiated, designed and operated by the CoT to have leveraging or catalysing effect.

**HOW**  By CoT providing part of the total requisite funding as grant, equity, resources or assets in order to attract additional funding from external partners to invest in projects and initiatives with explicit green economy developmental impact objectives
SFS project focus and prioritization

Green development opportunities are prioritised and grouped into short term and medium term projects based on:

- Accessibility of CoT assets and resources
- Technological and practical readiness of the project
- Project size
- Internal alignment and readiness for implementation
- Estimated CoT revenue
- Cross-cutting, inter-departmental projects
- Job creation impact
- Additional external funding availability
The short-term green projects (1-2 years) are relatively low-hanging fruit projects characterized by:

- High level of current preparedness and development
- Availability of tested and appropriate technology reducing project risk profile
- Availability of external funders

Cross-cutting inter-departmental projects are prioritized to unlock opportunities and gain experience with these types of projects.
Solar Farms (>1 MW embedded generation Construction at Jobarne farm to commence in 2015/16)

Solar Farms (40MW farm approved for Rooiwaal)
SFS identified projects in first phase

- MRF roll-out project
- Integrated Green CoT Fleet project
- Waste-to-Energy (WtE) project
- Sustainable water & wastewater electricity supply project
- Energy efficient CoT lighting project
- Renewable energy PV solar power project

Each project includes: project brief, objectives, project location, project feasibility, estimated CAPEX, estimated CoT income, estimated job creation, potential method for external partnering, potential external funding source and potential up-scaling
SFS project summary

The six projects combined entails:

- A total CAPEX of around R1,1 billion green investment funding by external funding sources and implemented with private partners
- Sustainable projects with typical ROIs of 5-20%
- A sustainable permanent job creation impact of +1,000
- Substantial CoT additional income during operations
- CoT project packaging fees of approximately R12 million
Remaking the People’s Capital through radical economic transformation and spatial justice – the 2015 State of the Capital Address
A sustainable City is possible – our investment in a sustainable future for all!

- A number of sustainability interventions introduced to respond to the continuing challenges of climate change and environmental degradation
- To ensure the reliability of future energy supply, we have selected six projects to propel the City of the future: **Diversifying the energy mix and energy efficiency:**
  - A 20MW solar farm
  - The replacement of mercury, sodium vapour lamps and fixtures with energy efficient induction
  - LED and solar powered street lighting – R70 million allocated in the 15/16 financial year
  - Up to 6MW/h biomass powered electricity generation
  - (BMW success story)
  - Natural gas exploration to be investigated
  - Mini-hydro generation of electricity
    - Pilot at Annlin reservoir
    - Roll-out will ensure self-sufficiency with any residual electricity being sent onto the grid
  - Power station refurbishment
    - Rooiwal and Pretoria West, options being explored include:
      1. Long-term lease of Rooiwal
      2. Long-term lease of Pretoria West and/or
      3. The establishment of a new 300MW power plant in Rooiwal
A sustainable City is possible – our investment in a sustainable future for all!

- **Sustainability interventions (continued):** Diversifying the energy mix and ensuring efficiency
  - Short-term milestones to mitigate the current power challenges
    - For this winter, our power stations will become operational
    - The City has also installed UPS systems at 200 specifically selected intersections
  - **Smart meter project**
    - Terminated in its current form
    - We remain convinced by demand side management capabilities and we will commence procedures to take the roll-out forward
  - **Waste beneficiation**
    - Solid waste accounts for 80 percent of the City’s carbon footprint
    - Kwaggasrand multiple waste treatment facility will significantly reduce this once fully operational.
  - **Green Development**
    - East Capital development - developing a “green belt” of industries, agricultural beneficiation and green settlements.
    - The City is not planning to spend vast amounts of money implementing these interventions and will develop innovative revenue sharing arrangements with the private sector

- A sustainable City is possible – our investment in a sustainable future for all!
A sustainable City is possible – our investment in a sustainable future for all!

- Sustainable mobility
  - Non-motorised transport interventions (NMT):
    - As a part of our integrated transport plan, investment in NMT is of the utmost importance
    - Includes Sunnyside Station Precinct and the inner city to begin in the current year
    - Shova Kalula (pedal easy) will also continue to ensure the safety of cyclists and pedestrians
- The A Re Yeng fleet:
  - 20 and 19 compressed natural gas (CNG) buses will be delivered in Nov and Dec 2015 demonstrating our commitment towards sustainable mobility at a cost of R116 million
A sustainable City is possible – our investment in a sustainable future for all!

- **Food and Energy Security ➔ Tshwane Agropolitan Centre**
  - Tshwane Agropolitan City located in the East of Tshwane
    - Reigniting an interest in agriculture and agro-processing
    - EIA process underway
    - Will contribute towards: renewable energy generation through solar and biogas plants; employment creation and social cohesion and to the restoration of dignity to the displaced farmers of the Bronkhorstspruit and Cullinan areas
    - R60 million allocated over the City’s MTREF
    - Turnover estimated at R7 million in year 1, R21 million in year 2 and R84 million in year 3 (2017)

- **War on leaks**
  - R12 million to Tshepo 10,000 co-operatives to curb the major losses

- **Cities of Tshwane**
  - Igniting Excellence
  - Sustainable City possible

- **Cities of Tshwane**
  - Igniting Excellence
  - Sustainable City possible
Taking it further... The Tshwane Region’s Inclusive Growth Strategy and Implementation Plan

Implementing the NDP 2030!
Sustainable and Inclusive growth will be driven by creating jobs and growth in 3 sectors, underpinned by a strong green economy.

**Tradeable Sectors**

- **Education**
  Drive access to education, economic growth and global recognition as an education and R&D hub.

- **Agribusiness**
  Support emerging farmers to turn Tshwane into a hub for agriculture production and processing.

- **Tourism**
  Transform Tshwane into a globally recognised business destination.

**Green economy:** Leverage Tshwane’s commitment to resilience and resource efficiency to support economic growth across the City.

**Non-tradeable Sectors**

SOURCE: Tshwane Vision 2055, SIGS Steering Committee Decisions, Economic Intelligence Unit, City of Tshwane
Overall, there is a potential for Tshwane to generate additional ~300bn in GVA and over 1mn in jobs.
With successful implementation ~R100bn GVA and 770,000 jobs will come from priority sectors.

SIGS has a potential to generate ~107bn additional GVA over the next 17 years

SIGS incremental GVA potential

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<th>Education</th>
<th>Agri-business</th>
<th>Tourism</th>
<th>2030 GVA</th>
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SIGS has a potential to generate ~770k additional jobs over the next 17 years

SIGS incremental job potential

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<th>Education</th>
<th>Agri-business</th>
<th>Tourism</th>
<th>2030 Employment</th>
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<td>163</td>
<td>193</td>
<td>107</td>
<td>1,715</td>
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SOURCE: SIGS strategy
Population growth will be a direct result of successful implementation – placing pressure on infrastructure and resources

Tshwane population

- Millions
- 2013: 3
- 2030: 5
- +2mn

Infrastructure development and upgrades

- Some initiatives require direct infrastructure investments: more hotels, the TICC, more classrooms and upgrades etc.
- However, as the city continues to show more economic value, pressure begins to mount on existing infrastructure such as housing, public transport, roads, hospitals and telecoms
- City needs to figure out plans to expand the capacity of these infrastructure in line with the expected growth

Administrative capacity

- With growth comes greater responsibility to manage its outcomes
- Directly, the city will continually require better administration of its resources
- Indirectly certain human resources will become a necessity in the face of growth
- More public safety workers e.g. police, fire service etc. will be required
- More medical/health workers will be required
- More teachers e.g. will be required amongst other key requirements

Social/people

- Migration to key employment areas: as more jobs are created, people will move to key urban areas to seek new opportunities
- Steps must be taken to ensure that social cohesion and inclusiveness is maintained as people are absorbed into the society
- Migration also puts pressure on existing resources creating the need for gradual expansion
- Apart from migration, Natural population growth means more there will be more people in the city than there currently are
- These individuals will then require food, water, energy and access to other basic needs

Other resources/Utilities

- Increased economic activities will directly lead to increased usage of utilities such as water, electricity and waste management resources
- Proactive efforts need to be taken to encourage smart use of these utilities as well as make capacity expansion to accommodate growth

SOURCE: SIGS document
For example, the City will require additional infrastructure across several areas to ensure that growth is sustainable...

Estimated ‘Hard’ infrastructure needs due to SIGS implementation

- ~500,000 m³ of water/day
- ~1.2 million m³ of sewage to be treated/day
- ~2 million tons of solid waste to be managed/annum
- ~750 MW\(^1\) of electricity to be generated
- ~4,500 km of roads required\(^2\)

1 Actual capacity depends on share of renewables
2 Does not account for impact of urbanization and pedestrianization on infrastructure requirements

The City will also require additional “soft” infrastructure to ensure that growth is sustainable – planning for these anticipated changes begins now.

**Estimated ‘soft’ infrastructure needs due to SIGS implementation**

- ~8,000 hospital beds
- 1 mn m² classrooms
- ~500 firemen
- ~3,500 policemen
- 3mn meter sq of public admin buildings
- 3mn meter sq of public gardens

“The green economy and the realisation of the green economy is about connecting the dots and being able to think laterally; demystifying the myths about the sanctity of the conventional, the tried and tested and the traditional; and being willing to take unprecedented steps in the face of a volley of detractors.

The City of Tshwane has shown both the commitment, enterprise and appetite to do all of the above.”