

The City of Cape Town TAKING ACTION ON ENERGY AND CLIMATE CHANGE



CAPE TOWN'S CHALLENGES

Cape Town is a coastal city highly dependent on power from coal-fired power stations nearly 2 000 km away.

Historically, cheap electricity has meant very low levels of energy efficiency in households and production processes. Now the country has been hit by unanticipated severe and worsening national electricity supply constraints resulting in the threat of blackouts and sharp tariff increases.

Urban sprawl compounds the city's challenges and is entrenching social inequities as the poor generally live far from resources. People remain dependent on private vehicles, and only now are the first steps being taken to transform a weak and under-resourced public transport system.

Today, Cape Town faces a triple challenge: a high carbon footprint, poor energy security and vulnerability to the impacts of climate change.



SERIOUS ABOUT SUSTAINABILITY

To address these challenges, the City of Cape Town adopted its Energy and Climate Change Strategy in 2006, setting objectives, targets and measures. In 2010 the City approved a comprehensive Energy and Climate Action Plan.

Because this implies a long-term and fundamental shift to sustainability, the path to implementation required re-evaluation of related policies, strategies and plans. One of the key changes made was in the City's Integrated Development Plan (IDP), which sets out long-term goals for the City. One of the IDP's eight strategic priorities is 'Energy for a Sustainable City'.

Being serious about implementation also meant making difficult institutional changes to help ensure ownership, accountability, resourcing and integration into institutional and individual performance management.

TAKING ACTION TODAY

The City's Energy and Climate Action Plan includes many projects currently being implemented. Dedicated to leading by example, the City is rolling out projects to improve energy efficiency in its own operations through energy upgrades of its buildings and facilities, energy-efficient water and sewerage pumps, traffic signals and streetlights, greening its fleet and so on.

SOME KEY PROJECTS:

Ceilings and solar water heaters for low income housing

Ceilings for older Reconstruction and Development Programme (RDP) housing: the City's Mamre ceiling pilot project, along with the Kuyasa ceilings installations, are the basis for plans to roll out a large scale programme to retrofit all existing RDP houses which were built without ceilings (the ceilings subsidy was added in 2005), facilitated by the City.

Thermally efficient Low Cost Housing: Kuyasa CDM, Africa's first registered Clean Development Mechanism (CDM) project, is a pilot project installing solar water heaters, insulated ceilings and efficient lighting in 2 300 houses. The Kuysasa project received a Platinum Impumelelo Award in 2010. The City is pursuing thermal efficiency in all its new housing projects.

Solar water heater (SWH) roll-out

The City is developing a mass roll-out plan to put 500 000 SWHs in place by 2015. This will reduce demand by 600 GWhs (5% of current consumption).

Greening the Fleet

Fuel efficiency is now a key requirement of all new vehicles procured for the City's 6 000 vehicle fleet. Greening the Fleet teaches City staff and fleet managers eco-driving skills.

Green Development Guidelines and Spatial Development Framework

These guidelines promote sustainable use of resources in design, construction, renovation, and operation of buildings and developments. The City's Spatial Development Framework promotes a more resource-efficient, compact city.

Integrated Rapid Transit System (IRT)

The IRT is the sustainable transport package of accessible and reliable bus and rail public transport. Together with other infrastructure development, IRT will help private car users switch to public transport. Phase 1 was rolled out for the 2010 FIFA World Cup™.

Waste to Energy projects

A CDM landfill biogas programme is being developed across the City's landfill sites so that methane-rich biogas will generate electricity. There are also pilot projects on bio-energy from the anaerobic digestion of sewerage and solid waste. Together with SANERI, the City is pursuing further uses of biogas for electricity generation, thermal and heating, and transport.

Electricity Saving Campaign

This campaign targets residential consumers in order to reduce electricity consumption. It promotes efficient technologies as well as the behavioural change to support them. The Energy Efficiency Forum supports commercial facility managers with over 200 participating companies. A Large Consumers Group also shares information on national government consumption reduction requirements and how to achieve these.

www.SavingElectricity.org.za

Youth Environmental School (YES)

The YES programme made energy and climate change its major focus in 2009/2010. Selected schools underwent energy, water, waste and biodiversity audits, followed by a retrofitting programme appropriate to the audit findings.

Climate Smart Cape Town

A campaign to enable the voices of ordinary people to be heard at the COP17 conference and to raise Cape Town's profile in Durban as a city addressing the challenges of climate change.



Smart Living Corporate/ Industry Campaign

Training workshops, based on the City's Smart Living Handbook, are being held at various companies across the city. A Smart Events Handbook has also been produced.

Darling Wind Farm Green Energy Certificates

The City of Cape Town is the only city in South Africa purchasing wind power through its Renewable Energy Power Purchase Agreement with Darling Wind Farm (10 MW supply capacity), sold through publicly available Green Energy Certificates. Regulations are also being developed to support small and micro wind turbines on buildings across the city.

Green Goal 2010

Green Goal (GG) was the official programme to ensure that the 2010 FIFA World Cup™ soccer tournament was as environmentally friendly as possible, and to create legacy projects for Host City Cape Town. GG consisted of 41 projects on energy, water, waste, landscaping, biodiversity, transport, tourism, sustainable lifestyles, and communication. GG won the Impumelelo Sustainability Award in 2010 and the International Olympic Committee (IOC) Sport and Environment Award.

Sea-level Rise Assessment

This research project involved a risk assessment to formulate a range of sea-level rise scenarios the city may face. Sea-level rise will have a huge impact as scientists predict an 85% chance of a 4,5 metre storm surge sea-level rise in the next 25 years. In response, the City is implementing coastal management plans as well as development guidelines and restrictions.

Biodiversity Network

Healthy ecosystems are globally recognised as critical in mitigation and defence against climate change impacts. Development therefore has to enhance natural ecosystems, and protect biodiversity. The City's Biodiversity Network (BioNet) has identified the minimum natural vegetation remnants needed to conserve Cape Town's biodiversity.

Climate Change Think Tank

The Think Tank brings together more than 30 top academics and specialists from Cape Town institutions to assess climate change and its effects on the city and its people. The first of its kind, the Think Tank meets quarterly, undertakes specific research projects and publishes its findings.

RESOURCES

For tips on sustainable living, download the City's Smart Living Handbook: www.capetown.gov.za/smartlivinghandbook
Enviroworks Newsletter: www.capetown.gov.za/enviroworks

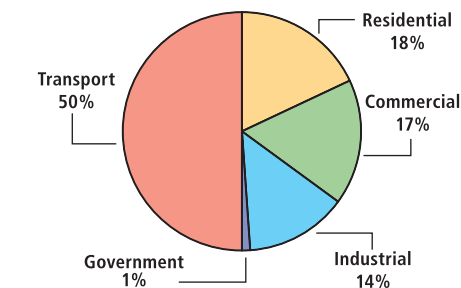


CAPE TOWN FACTS AND FIGURES (2010)

Population:	3.82 million (1 million households)
Growth rate:	about 3% per annum
Unemployment:	21%
GDP:	R 130bn (R38 000/capita)
Carbon footprint:	6.2 tons per person

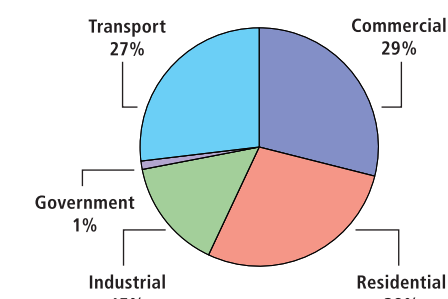
Natural environment: The Cape Floral Kingdom is a true global hotspot of biodiversity, being the smallest and richest on Earth, while having the highest number of threatened plant species in the world of any city. Cape Town lies within the Cape Floristic Region, a UNESCO World Heritage Site.

Energy consumption per sector, Cape Town 2007

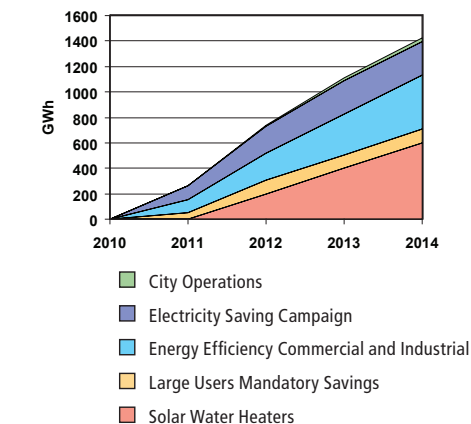


Source: City of Cape Town State of Energy Report 2010

Carbon emissions per sector, Cape Town 2007



Electricity Saving Projects



"Facing an uncertain climate future,

Cape Town aims to be a low-carbon city –

a city that is resilient, adapting well,

and always acting for the common good,

with social justice as our guiding principle."

City of Cape Town
Executive Mayor

The City of Cape Town recognises that its economic, social and environmental well-being is vulnerable to poor energy security, high carbon and climate change impacts.

To address energy security and mitigate and adapt to climate change, the City is implementing a rigorous, pioneering programme

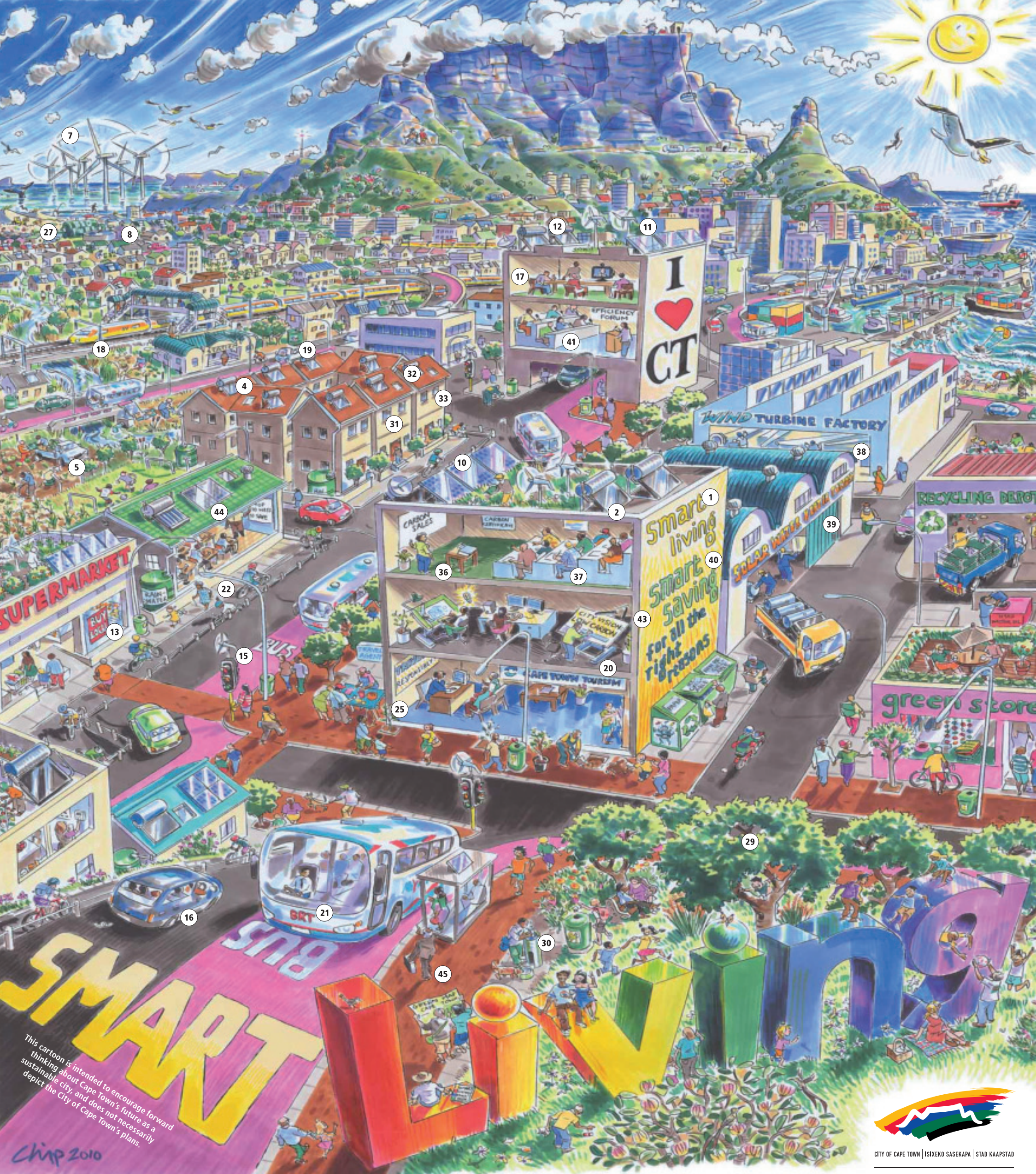
that links these issues to its development strategy.

Fifty programme areas, made up of 120 projects, are co-ordinated through an Energy and Climate Action Plan that will see a lower carbon, more modern, liveable and equitable city which builds on its competitive advantages.

ENERGY AND CLIMATE CHANGE KEY OBJECTIVES:

- City-wide 10% electricity consumption reduction by 2012.
- 10% renewable and cleaner energy supply by 2020.
- Compact, resource-efficient city development.
- More resilient low income/vulnerable communities.
- Implement an effective education and communication campaign





This cartoon is intended to encourage forward thinking about Cape Town's future as a sustainable city, and does not necessarily depict the City of Cape Town's plans.



CITY OF CAPE TOWN | ISIXEKO SASEKAPA | STAD KAAPSTAD

READY TO DO MORE

Cape Town's Energy and Climate Action Plan comprises 50 programme areas and more than 120 projects designed to help realise the vision of a low-carbon city.

June 2011

OBJECTIVE	PROGRAMMES
City-wide: 10% reduction in electricity consumption by 2012 (3,3%/annum 2010-2012)	1. Electricity consumption reduction 2. Solar water heating 3. Smarter metering 4. Limited electricity supply to new developments 5. Green development criteria 6. Reduction in electricity theft
10% renewable and cleaner energy supply by 2020; all growth in electricity demand to be met by cleaner/renewable supply	7. Renewable energy large-scale supply 8. Electricity generation from municipal operations 9. Renewable energy supply at utility rates to City 10. Renewable energy small-scale supply
Council operations: 10% reduction in energy consumption by 2012 (3,3%/annum 2010-2012)	11. Council buildings retrofit 12. Greening upgrade of rental stock 13. Greening the Procurement Policy 14. Energy-efficient pumps 15. Street and traffic lighting retrofit 16. Greening the Fleet 17. Video conferencing facilities

OBJECTIVE	PROGRAMMES
Compact resource efficient city development	18. Spatial Development Framework Plan – activity routes, nodes and urban edge 19. Intensification around transport nodes 20. Planning for a low-carbon city information development and exchange
Sustainable transport system	21. Integrated Rapid Transit System (IRT) 22. Non-motorised Transport 23. Air quality management 24. Metropolitan Transport Forum 25. Travel Demand Management
Adapting to and building resilience to climate change impacts	26. Climate Adaptation Plan of Action 27. Coastal Zone Management 28. Disaster Risk Management 29. Metropolitan Open Space Strategy 30. Fresh Water Programme
More resilient low-income/vulnerable communities	31. Resource efficient low-income housing 32. Well-located housing 33. Greening of housing development 34. Free basic electricity/energy roll-out

OBJECTIVE	PROGRAMMES
Development of carbon sales potential on projects	35. Carbon projects scoping and development 36. Carbon projects capacity development 37. Carbon sales policy
Local economic development in the energy sector	38. Renewable energy business development in Cape Town Western Cape 39. Renewable energy and energy efficiency skills development
Communication and education programmes	40. Electricity Saving Campaign 41. Energy Efficiency Forum for commercial facility managers 42. Youth Environmental School (YES) Programme 43. Smart Living Campaign 44. Staff training 45. Publications 46. Green development criteria
Research and development; monitoring and evaluation	47. Research and Development 48. Energy data management, monitoring and evaluation 49. Policy linkages and alignment 50. Integration into cross-city key performance areas and score cards