Sustainable Energy Africa

Experiences and Best Practice

Seminar on Ensuring Access to Affordable, Reliable, Sustainable and Modern Energy for All (SDG 7)

SUSTAINABLE ENERGY AFRICA

UNDESA
Addis Ababa, Ethiopia
30 June 2016

SUSTAINABLE
ENERGY
AFRICA

Sustainable Energy Africa (SEA) promotes equitable, low carbon, clean energy development in urban South Africa and Africa. We do this through research, capacity building, policy engagement and information dissemination.

SEA has three key programmes of work: Sustainable Energy Development, Energy Poverty, Planning and Mobility.

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Email: info@sustainable.org.za Websites: www.sustainable.org.za and www.cityenergy.org.za (resource portal)

Sustainable Energy Development

- Makes visible the energy picture of our cities
- Supports the institutionalising and implementation of sustainable energy and climate change responses in urban development
- Builds capacity through workshops and technical guidance

SEA works with all three spheres of government, with a focus on local government as this is the seat of delivery, and where capacity shortages are greatest.

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Energy poverty

Despite many pro-poor policies and strategies, and despite an impressive electrification and housing programme since 1994, the country is still faced with many challenges around energy poverty.

- Support cities to better understand the challenges around service delivery and develop solutions
- Policy analysis, research and improved data tracking
- Tackles some of the regulatory challenges that impact on energy poverty

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Planning and mobility

Integrated urban planning is central to a low carbon future. Currently our urban areas are generally very low in density and difficult to service. Integrated planning involves bringing transport and land use planning together and promotes access to amenities and economic opportunities.

- Develop low carbon modelling for cities
- Develop integrated city transport plans that support a low carbon future
- Provides input into city and regional spatial planning development

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Sustainable Energy Africa

SEA history and approach to change

- Involved in the development of National Energy Policy for new govt in 1994
- Work at the level of bringing about systemic change and building a sense of agency of other people's change
- Cities are rapidly growing spaces (rapid urbanisation, accelerating service demands, severe lack of capacity) therefore a strategic decision to work with cities
- Saw LG as NB focus of delivery of sustainable energy
- Role of agent , knowledge, building capacity – municipal support approach most valuable – we think very good model and moving into the rest of Africa as evidenced by our SAMSET project and COM Africa project

Experience

- Technical support — Policy development

Capacity development

- Targets the belly of the beast rather once off delivery
- Example: instead of roll out 1000 PV rooftop installations or SWHs, SEA works at the level of developing a delivery system to enable widespread rollout e.g. SSEG work

1994-1998:Period of transition

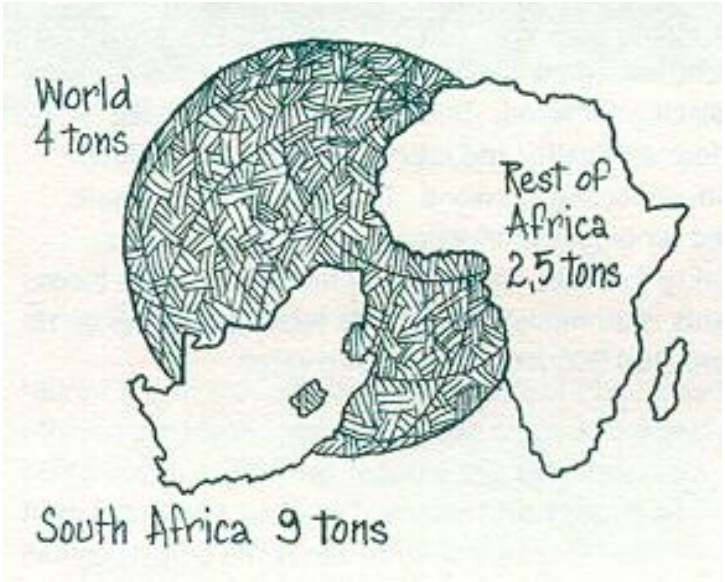
Democracy

Global environment and poverty

Cities lead sustainable energy transition

SA: over 50% now urban and growing

Urban energy work begins



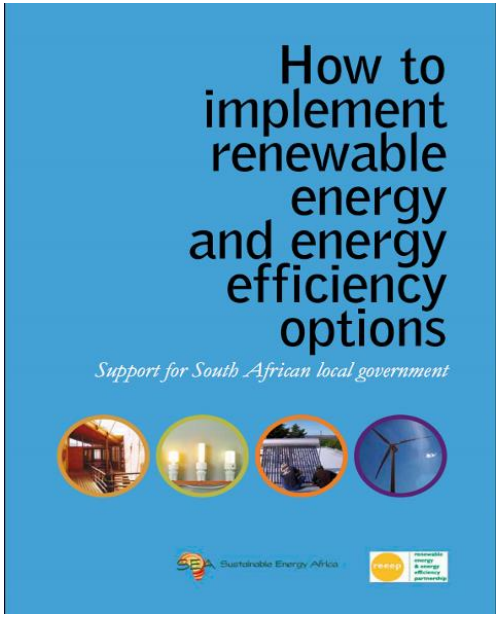
Urban challenges

What is in place 15 years on

Network

Skills and capacity

Partnerships

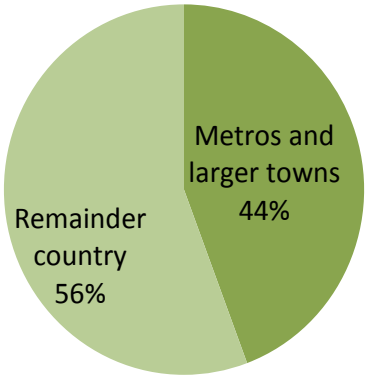


What is in place 15 years on

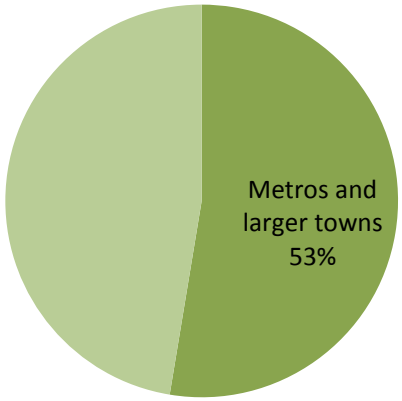
Local level energy data picture

Strategies and policy commitments

National electricity consumption (2007)



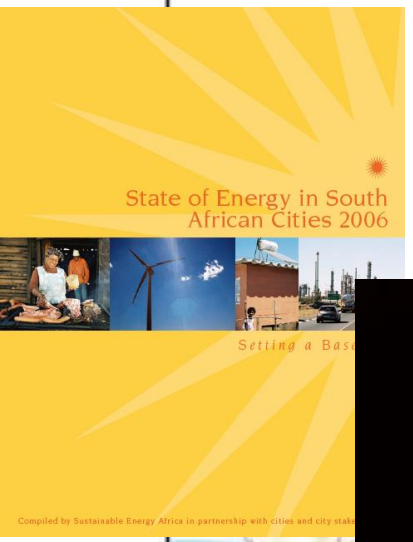
National petrol and diesel consumption (2007)

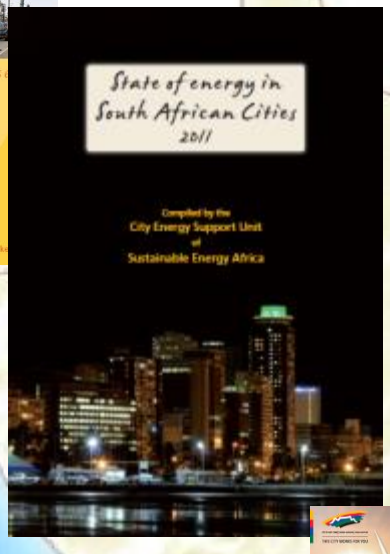


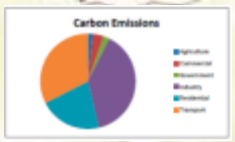
Map of South Africa indicating the location of the 15 review municipalities

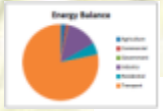
Top 15 cities

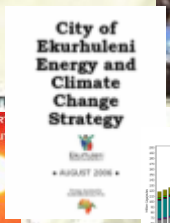
- **~40% of total national consumption**
- **~ 3% of land area (i.e. very energy intensive)**

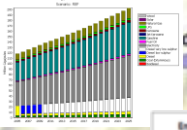


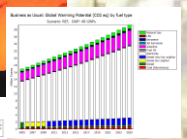


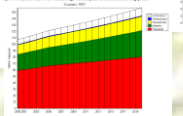


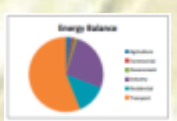


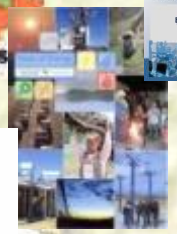










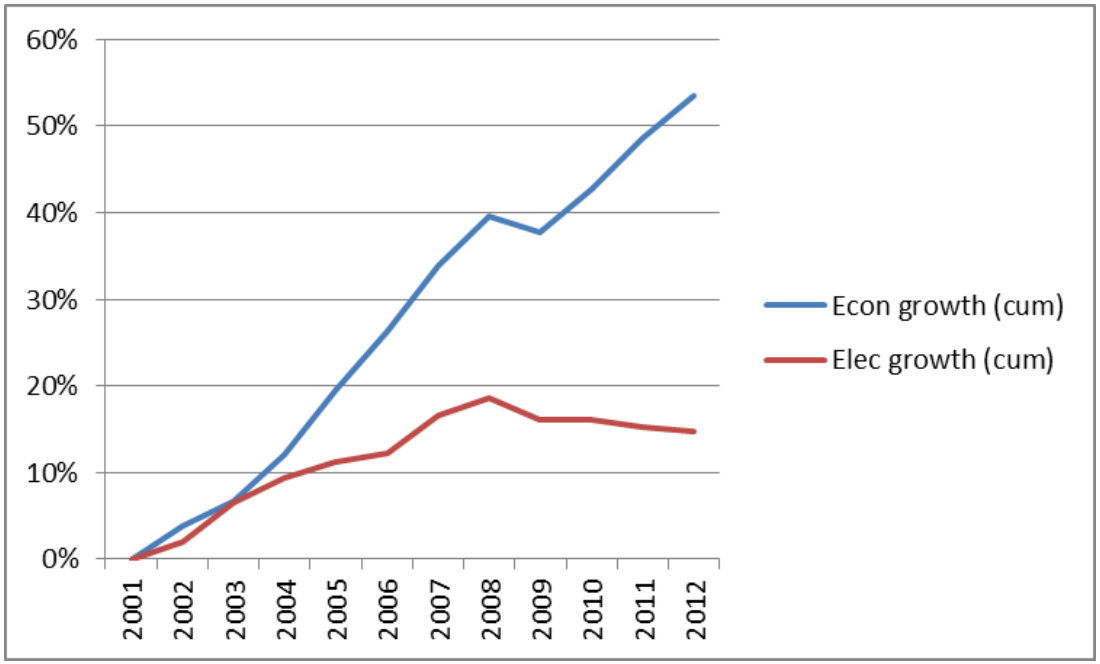


What is in place 15 years on

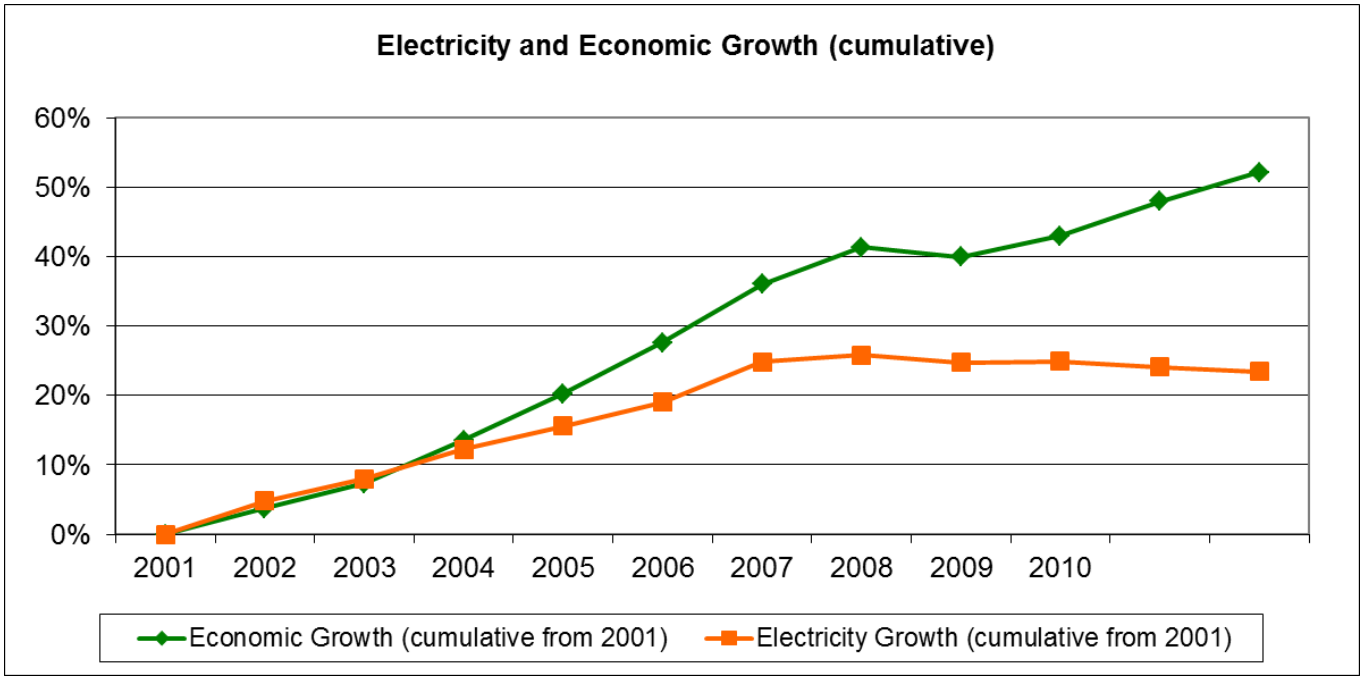
Implementation


8023


LANDFILL - GAS - TO -
ELECTRICITY - CDM - PROJECT
DURBAN - SOUTH AFRICA
11 Kv
SWITCH
GEAR ROOM



Electricity relative to Economic growth: eThekwini and Cape Town



Getting real: the case of SWH

1-2 years	1 year	3 years	4 years
data analysis 'making the case'	Regulate or subsidise?	exploring the regulatory route: bylaw	innovative financing and marketing scheme…

Complexity

- Existing regulation
- Multiple stakeholders
- New investments
- Cultural/ lifestyle changes
- External events
- Capacity constraints

Getting real: the case of small-scale embedded generation

- BHC funding to install rooftop PV in CT, EMM and Durban
- Cities learnt the nuts and bolts of this technology
- Then developed the application procedures, guidelines for the application of grid-tied embedded generation and technical standards
- This on-the-ground work fed into national forum – SEA initiated the forum and handed over to SALGA and the Regulator
- Continue to build capacity in other cities
- Now private sector massively delivering systems - 130MW of PV installed in SA cities to date

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Getting real: the case of energy poverty

- Undertook detailed research on the status quo of urban energy poverty in South Africa
- Explored feasibility of different technologies
- Bringing these into municipal service delivery

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Lessons

Technology alone – too narrow

Strategy and implementation plan – too narrow

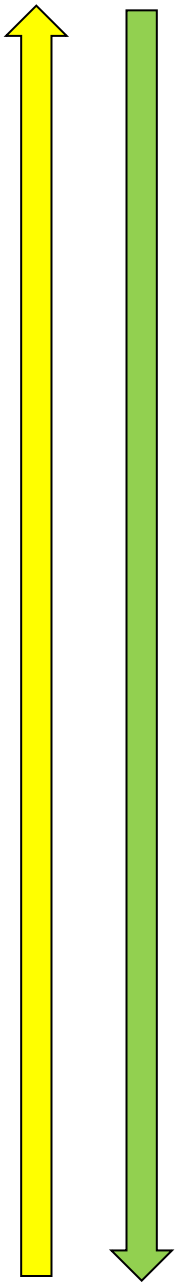
Rather a PROCESS

PROCESS requires:

partnerships, building a common agenda, developing trust

innovation, new capacities, various experiments, sharing ideas, knowledge

TIME and RESOURCES



INTERACTIONS

External factors

The current system: officials, industry, utility..

Exploration and experimentation

To still engage with

- Beyond emissions to heart of city's planning engine: institutional strength, squarely tackling developing an urban form that accelerates integration and access to social and economic resources

- Translation (and continuously communicate) of the sustainable energy goals into what matters for *people*, what *they* care about: liveability, children's safety, jobs…

URBAN ENERGY SUPPORT

SUPPORTING SOUTH AFRICAN LOCAL GOVERNMENT to meet sustainable energy and climate change challenges.

SEA SUSTAINABLE ENERGY AFRICA | SALGA

LINKS CONTACT

Home | Energy Planning | Energy Efficiency | Renewable Energy | Energy Poverty | Electricity Services | Urban Development | Transport

Welcome

Urban Energy Support is an information portal of relevant documents and resources, with an emphasis on practical tools and guides to support the transition towards sustainable local energy development and a low carbon trajectory for the country in the context of global climate change.

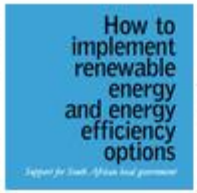
First Steps:
How to Develop a Sustainable Energy Strategy
CLICK HERE

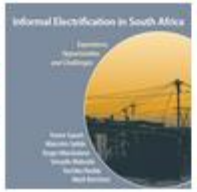
Click on a tab in the map to view documents related to their respective municipalities.

RECENTLY ADDED

- A feasibility study and an implementation plan of alternative energy technology options for unelectrified informal settlements in Gauteng province (1.74Mb) - Case Studies
- Municipal Landfill Gas to Electricity Grid-Tied Project: Johannesburg (2.28Mb) - Case Studies (Johannesburg)
- Municipal Landfill Gas to Electricity: Ekurhuleni (2.41Mb) - Case Studies (Ekurhuleni)
- EThekwini Micro-Hydro Case Study (0.33Mb) - Case Studies (EThekwini)
- Municipal Landfill Gas to Electricity Concept and Summary of Lessons Learnt (2.61Mb) - Case Studies

HIGHLIGHTS



MOST POPULAR RESOURCES

- How to Implement Energy Efficiency and Renewable Energy Options (3.61Mb) - Tools and Guidelines
- Cape Town Low-Carbon Central City Strategy (6.98Mb) - Strategy (Cape Town)
- Potential Impact of Efficiency Measures and Distributed Generation on Municipal Electricity Revenue (0.32Mb) - Tools and Guidelines
- Tackling Urban Energy Poverty in South Africa (booklet) (1.08Mb) - General
- STATE OF ENERGY IN SOUTH AFRICAN CITIES 2011 (5.69Mb) - Data

SUPPORTING ORGANISATIONS

SEA SUSTAINABLE ENERGY AFRICA | SALGA | South African CitiesNetwork | ICLEI Local Governments for Sustainability

SPONSORS

Brot für die Welt

The Urban Energy Support website is managed by Sustainable Energy Africa in partnership with the South African Local Government Association.

Thank You

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web: www.sustainable.org.za
web: www.cityenergy.org.za (urban energy resource portal)
web: www.africancityenergy.org (SAMSET)

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Supporting Sub-Saharan Municipalities with Sustainable Energy Transitions (SAMSET)

The project seeks to clarify how research and other development assistance can more effectively support sustainable energy transitions in urban areas in Sub Saharan Africa.

This multi-year project is being led by SEA, but involves a partnership between institutions in Uganda, Ghana and South Africa, as well as UK organisations. It provides capacity building and support to six pilot municipalities in the three African countries to develop sustainable energy strategies and implement aspects of these strategies. The SAMSET programme arises from the clear need for municipalities to play a much greater role in sustainable energy in the face of rapid urbanisation and associated accelerating service demands, and the severe lack of capacity within municipalities to respond to this situation. The municipal support approach is based on a model developed in South Africa to support municipalities over the past 15 years.

For more information on the project, refer to samsetproject.wordpress.com/

Donor: DFID, EPSRC, DECC (UK)
Project timeframe: Oct 2013 – Oct 2017
Project manager: Mark Borchers

Related Do

- Sustainable E Session - Afric
- Appendix A_M Future of Sub
- Modelling the Saharan Africa
- AFRICITIES S Energy in Urba Trips
- SAMSET Leaf

AFRICAN CITY ENERGY

Supporting Sub-Saharan African Municipalities in Sustainable Energy Transitions.

SAMSET

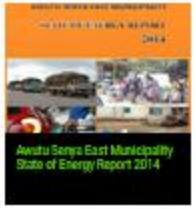
CURRENTLY IN ENGLISH ONLY

WELCOME

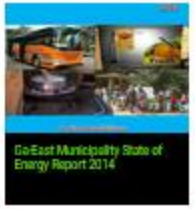
This African City Energy website is a resource to help those involved in sustainable energy challenges in urban areas of Sub-Saharan Africa to find relevant information. Given fast urbanization rates, the future of energy in the sub-region is significantly urban, demanding at least a partial shift in emphasis from rural areas to our cities and towns. The documents and information on this site will hopefully provide a useful collection for development organisations, municipalities, researchers, NGOs and national governments engaging in this important field.

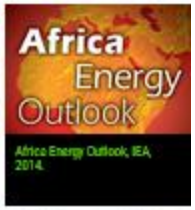
Getting Started Guide

FEATURED


Awutu Senya East Municipality State of Energy Report 2014


Witkop Solar Farm, near Polokwane


GaEast Municipality State of Energy Report 2014



Africa Energy Outlook, IEA, 2014


State of Energy in South African Cities 2015


Ekurhuleni Metropolitan Municipality: Landfill gas to


Towards Sustainable and Energy Efficient Urban Transport


City of Cape Town State of Energy Report 2015

Supporting the participation of Sub-Saharan Cities in the Global Covenant of Mayors

The overall objective of the programme is to increase the capacities of cities to provide access to sufficient, sustainable and safe energy services to urban and peri-urban populations (specially the poor), with a special attention to energy efficiency as a driver for local and climate resilient development.

The Covenant of Mayors, launched in 2008 by the European Commission is the main European initiative involving local and regional authorities in the fight against climate change and developing a more sustainable energy future for our cities. It is a voluntary commitment by signatories to meet and exceed the EU 20% CO_2 reduction objective through increased energy efficiency and the development of renewable energy sources.
After the success of the programme in Europe and other regions around the world, the EU has now launched a four year programme to support sub-Saharan African cities. The programme known as CoM Africa SSA, will begin in 2016 with the support of 11 international and regional organisations including Sustainable Energy Africa. The overall objective of the programme is to increase the capacities of cities to provide access to sufficient, sustainable and safe energy services to urban and peri-urban populations (specially the poor), with a special attention to energy efficiency as a driver for local and climate resilient development.
SEA's main task is to support the development of the Sustainable Energy Access and Climate Action Plans (SEACAPs) which is an adaption from the EU Sustainable Energy Action Plan (SESAP) for the sub-Saharan African context.
To do this SEA will build capacity within the selected African cities by assessing the energy status quo and gaps, providing knowledge transfer and technical support for strategy development in order for them to achieve their objectives, the implementation of energy efficiency and renewable energy pilot projects as well as promoting city to city and north/south and south/south cooperation.

http://www.eumayors.eu/index_en.html

Donor: European Union
Project timeframe: 2016 - 2019
Project manager: Peta Wolpe