Energy Efficiency Challenges & Opportunities in Sub-Saharan Africa

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• Reliance on fossil fuels imports
• >75% of power generation based on thermal sources
• Infrastructure largely old and inefficiencies recorded in all energy value chain
• Many countries rely on emergency diesel engines - at a huge cost

• Access to electricity is very low in SSA - except RSA
• Electricity costs largely not cost reflective - subsidised
• Biomass based energy economy esp. in rural areas
• Lack of adequate energy a major handbrake to development
• Associated social ramifications
Energy is mostly used inefficiently; intensity is twice the global average.

Residential, industrial & transport sectors consume most.

Inefficiencies impact on (a) cost energy, (b) price of goods & services & (c) environment.
A Case for EE to Improve Access & Productivity

- Energy deficits
- High & escalating energy prices
- Fossil fuel depletion
- Unsustainable biomass use
- Climate change concerns
- Inadequate energy infrastructure
*Why Energy Policies Ignore or Downplay EE?*

- Little done on EE
- Few programmes
- Energy wastage recorded
- Energy policies bias
- CC does not resonate as a driver
- Rationale not well articulated
Lighting and refrigeration – also passive solar for new buildings.

Electric motors with adjustable speed controls, efficient boilers or electric heaters, application of incentives for energy efficiency, etc.

Hybrid-flex fuels modes, fuel consciousness, cost reflectivity on fuels (emission tax), introduction of modern vehicles.
Investments on Energy Efficient Lighting

Appliance Labelling

Solar Water Heaters

Solar Home Systems

Passive Solar - EE Buildings

Demand Side Management

Solar Water Heaters
EE strategy with the target to reduce final energy demand by 12% by 2015

- Minister signed EE accord with 40 mining and industrial companies to achieve voluntary set targets,
- Establish Technical Committee with NBI where process, progress and reporting mechanisms are being addressed
- Govt targets public buildings, residential sector and transport
- Renewable energy targets in energy balance

8-Goals of the strategy
- Improve the health of the nation
- Job creation
- Alleviate energy poverty
- Reduce pollution & CO2 emissions
- Improve industrial competitiveness
- Enhance energy security
- Delay building of new power stations
*Some Examples of EE Programmes in S. Africa*

**EE Lighting Initiative**

3-year, $US 10 million programme funded by Eskom & GEF implemented by Joint venture (local & international co)

**Residential Light**
- Newly Electrified & RDP Homes
- Expanding Traditional Retail Channels
- Creating New Retail Channels
- Developing CFL Financing

**Commercial/Institutional/Industrial Lighting**
- Commercial and Industrial Partner Programmes
- Government Partnerships

Driven by the national power utility as part of its DSM programme
Support by government policy (EE Policy & Strategy)
RSA’s growing energy deficit
Support for local manufacturing & distribution companies
South African President Jacob Zuma on Thursday officially launched the National SWH programme in Winterveldt, north-west of Pretoria, where some 270 SWH units have already been installed.

Coordinated by local municipalities & DBSA

- Political commitment & visibility
- Localisation
- Utility support
- Local participation

Eskom's DSM budget

NERSA

World Bank Clean Technology fund

Install 1 million SWHs across SA by 2014

creating the best policy & legislative environment
Areas for Investment in Africa

Awareness raising

Policy development

Research & development

Priority RETs focus

Pvt sector participation

“Our study concludes that this is the percentage of our customers who will buy from us without any effort whatsoever on our part.”

“George, I want a word with.”

“DIRTY ENERGY
CLEAN ENERGY

“We don't have energy-efficient appliances but the food in the fridge has gone green.”

Policy development

Policy implementation supports policy development and delivery

Practice development supports policy implementation

Policy implementation drives practice development

Policy development informs policy implementation

Irrelevant department

Question mark

Weird cartoon