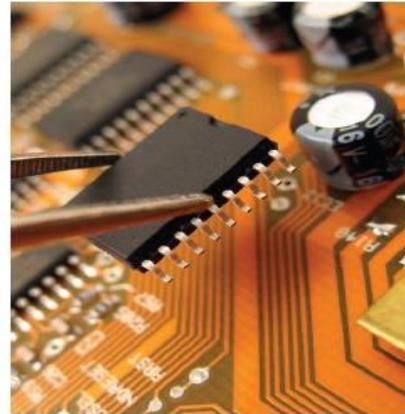




Ministry of Industrialization & Enterprise Development



Keynote Address

UNIDO Green Technology Forum

By: Dr. Wilson Songa, MBS – Principal Secretary

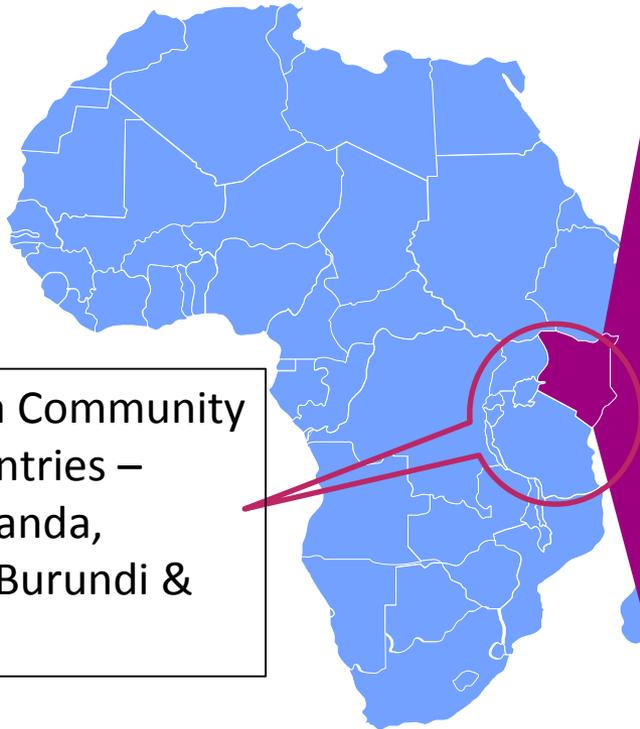
“Theme: Promoting Green Technologies for Inclusive and Sustainable Industrial Development with Public and Private Partnerships” : Tokyo, Japan – 12th November 2014

Presentation Layout



1. Background on Kenya, EAC, & COMESA Region
2. Policies for Green Economy
3. Green Energy Projects
 - Technologies in use
 - Energy generation
 - Ongoing projects
4. Green Energy Project opportunities

1.1 Kenya: East Africa's Growing Economic Giant



East Africa Community (EAC) Countries – Kenya, Uganda, Tanzania, Burundi & Rwanda

Economic indicators

Kenya

- 4th Largest economy in Africa
- Has population of 43 million
- Gateway to EAC
- Largest Economy in the EAC contributing 40% of the region's GDP

East African Community (EAC)

- 5 East African countries
- Population of 135 million
- US\$ 5.5 Billion in intra-EAC trade in 2013

1.2 Preferential access to regional markets

COMESA & EAC Markets



The Common Market for Eastern and Southern Africa (COMESA)

- Kenya is a member of COMESA
- Population of 430 million
- 19 African countries
- US\$ 18 Billion in intra-COMESA trade in 2013
- Duty and quota free trade area

2. Policies for Green Economy

a) Green Economy initiatives on-going in Kenya, including:

- National Climate Change Response Strategy {NCCRS} (2010) and National Climate Change Action Plan {NCCAP} (2013-2013) low-carbon development;
- Kenya Vision 2030 - a clean and secure environment;
- Constitution - e.g. Article 42 – a right to clean and healthy environment;
- Medium Term Plan {MTP2} (2013-2017) – endorsed development of Green Economy Strategy;
- Environmental Coordination and Management Act – EIA & Environmental Audits
- Draft National Energy Policy (2014)
- Sessional Paper No. 9 of 2012 on National Industrialization Policy Framework (2013 – 2030)
- National Green Economy Strategy and Implementation Plan {GESIP} (2014)

b) Green investment and innovation driven by:

- Renewable energy sources;
- Resource-efficient and clean production;
- Pollution control and Waste management,
- Environmental planning and governance, and
- Restoration of forests and other vital ecosystems.

2. Policies for Green Economy (2)

c) Greening Kenya Initiatives: Database developed on,

- Manufacture of eco-friendly materials;
- Tree planting;
- Organic and fish farming;
- Renewable energy;
- Eco-labeling
- Solid waste and environmental management.

d) Expected results:

- Green Energy investments to lead to 2% reduction in energy consumption and expanded supply of electricity from renewable sources;
- Energy savings projected to reach 1.8GWh;
- CO₂ emissions projected to increase annual from 12 million tonnes (2012) to 24.35 million tonnes by 2030 under green economy investments (9% lower);
- Increased usage of standards to enhance green initiatives such as Sanitary and Phytosanitary (SPS) measures; and Hazard Analysis and Critical Control Point (HACCP) Regulations



3.1 Green Energy Technologies

1



Geothermal: Current production - 500 MW against a potential of 10,000MW.

2



Solar: Kenya astride the Equator by 4 degrees hence has daily potential of 4-6KWH/m². Solar PV Systems used for telecommunications, cathodic protection of pipelines, lighting & water pumping.

3



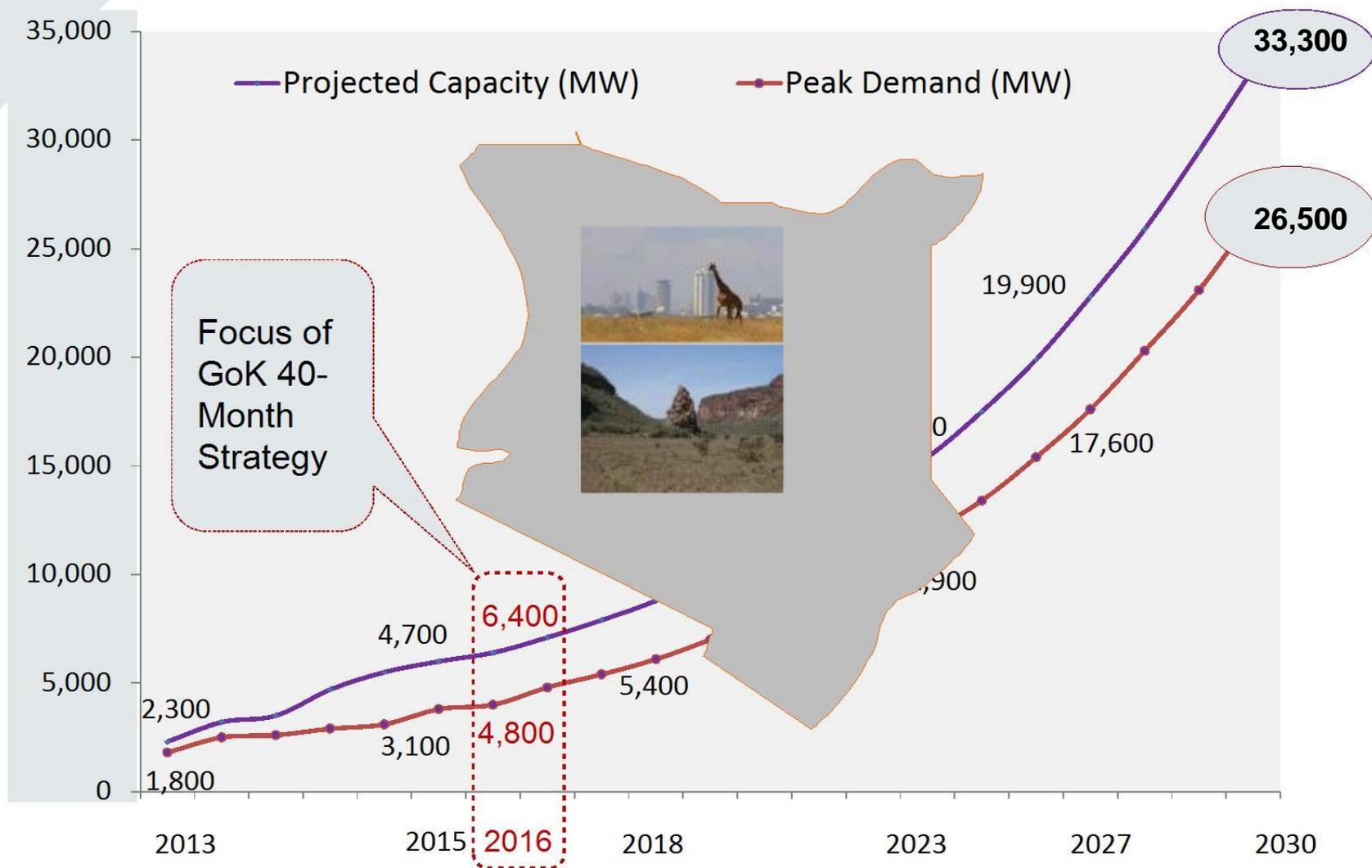
Wind: Average estimated wind speeds of 3-10m/s. An estimated 300-350 wind pumps are installed to date.

4



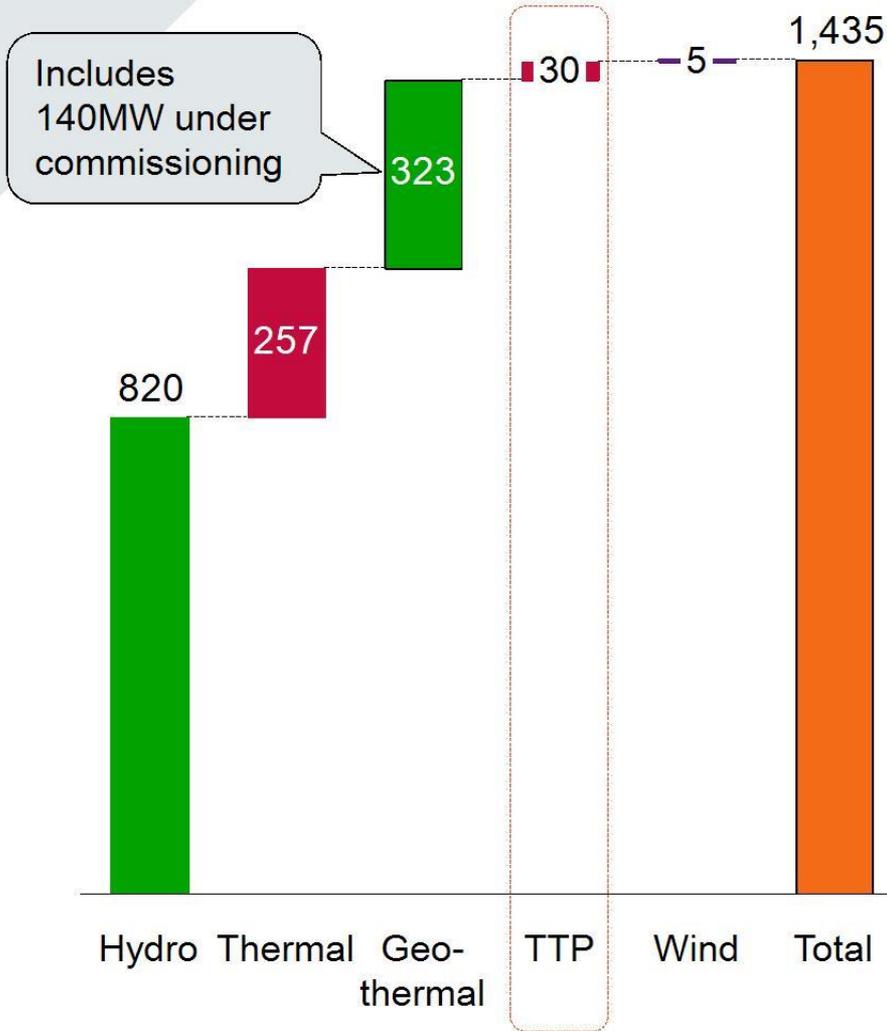
Biomass: Biomass density is moderate. Substantial potential identified for power generation using forestry and agro-industry residues (Bagasse, Flower, tea, coffee, rice husks)

KENYA VISION 2030 POWER DEMAND PROJECTIONS

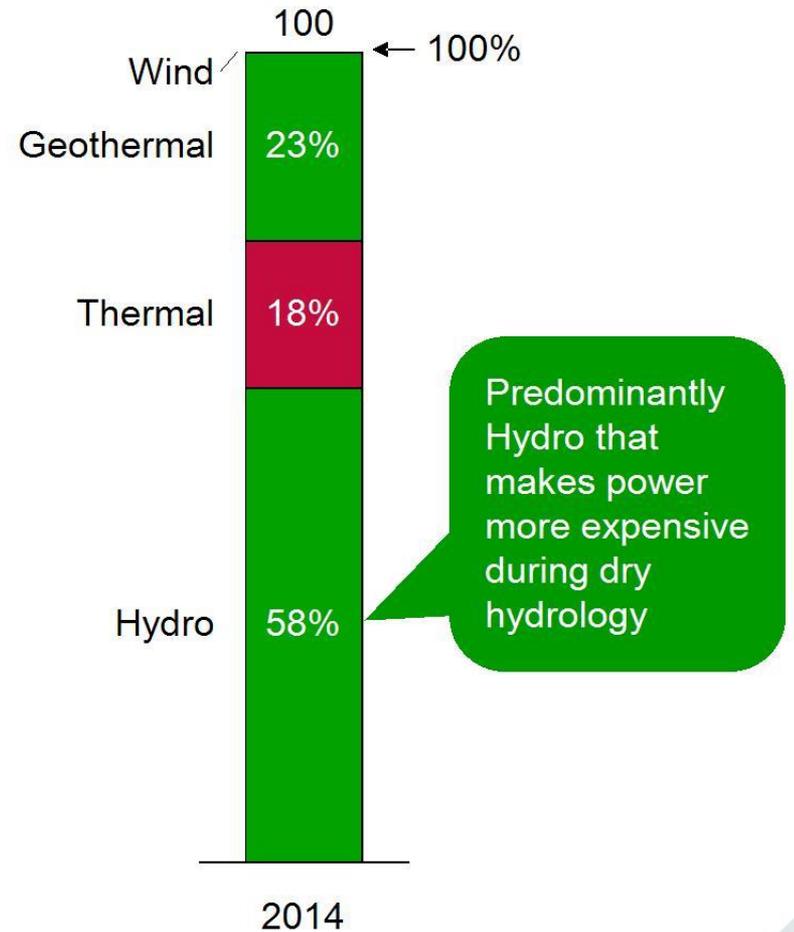


3 OUR GENERATION PORTFOLIO

Generation Portfolio (MW)



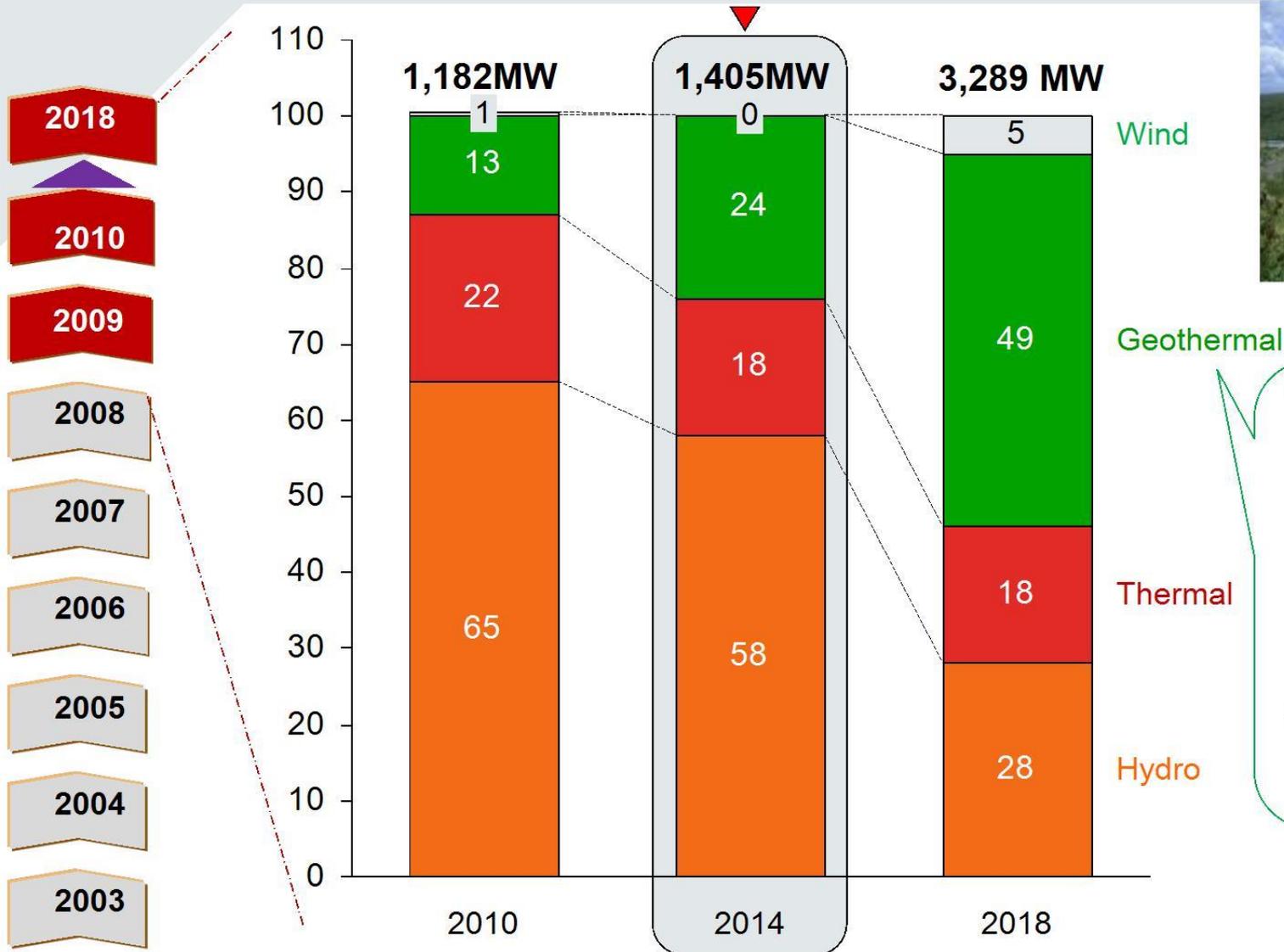
Generation Portfolio (%) – excludes TTP*



TTP* - Temporary Thermal Power

A GREEN KENGEN WITH STABLE REVENUES THROUGH GEOTHERMAL BASE-LOAD CAPACITY

Generation Mix Movement



- A green KenGen by 2018 with ~50% of installed portfolio from geothermal...
- Carbon credits will also boost revenues



3.2 Green Energy Projects in Kenya



The Government of Kenya is implementing various projects on Green/Renewable Energy targeting the Private Sector as follows:

1. Renewable Energy & Energy Efficiency Projects (KAM & Global Environment Fund)

Support to Private Sector for:

- **Capacity building** for energy efficiency
- **Finances:** Energy Efficiency (EE) and Renewable Energy (RE) Projects
- **Regulations:** Reinforcement of regulations and standards to ensure only energy efficient equipment are imported
- **Reliable and affordable** power supply
- Kshs. 9 billion (US\$ 103 million) or 168 MW **savings realized** from energy efficiency initiatives and over 200 energy audits.

3. Climate SMART Agriculture Program

Objectives:

- Increase resilience to climate change
- Reduce Green House Gases (GHG) emissions
- Improve Productivity and provide adaptation

2. Africa Enterprise Challenge Fund

- **Provision of Finance:** Between US\$ 250,000 to US\$ 1.5 million issued in terms of loans or grants for energy technologies
- **Applications:** 120 applicants received(2014)
- **Technical Assistance:** Develop/pilot technologies adaptation.
- 25 companies signed up for **Energy Accords** resulting to 15% reduction in energy usage
- US\$ 39 million **credit line** available

4. Ultra-Low Head (ULH) - Micro Hydro Power (MHP) System Project

Installation of two units of 10kW each on irrigation channels. Project to focus on:

- **System Demonstration:** Non-grid generation
- **Capacity Building:** Site identification, development & assembly; Awareness building ULH-MHP; and Business modelling and Management
- **Business Development and supply chain identification**



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3.3 Other Green Energy Initiatives



1. Kenya Climate Innovation Centre:
2. Kenya Biogas Association established.
3. Energy farm from flower farm waste set up in Naivasha.
4. Adoption of Eco-labeling through NEMA and KEBS.
5. Centre for Energy Efficiency and Conservation.
6. Kenya National Cleaner Production Centre in place.
7. Olkaria Green Energy Industrial park.
8. Ubbink solar panel factory.





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3.3. Other Green Energy Initiatives (2)



9. Energy Regulations Gazetted

- Energy Management Regulations
- Solar Water Heating Regulations
- Solar Photovoltaic Regulations

10. Standards and labelling for energy efficiency requirements setup for:

- Motors
- Lighting
- Fridges & Air-conditioners

11. Promotion of micro-utility approaches {DFID Kenya - £ 65 million (Kes 9 billion)}

- Isolated off-grid systems
- Green Mini-grids





4. Green Energy Project opportunities

- i. Landfill gas waste management
- ii. Wind power generation, which has huge potential in northern parts of the country
- iii. Energy efficiency technologies
- iv. Technologies that remove industrial GHG such as perfluorocarbons, hydrofluorocarbons, etc
- vi. Manufacture of green technology components such as Solar PV, wind turbines

Conclusion: Kenya is therefore committed to mitigating against climate change and striving to become a leading Green Economy.

I encourage you all to partner with Kenya towards this end and assist in the development of green parks.

Acknowledgement: Contribution by, Dr. Virinder Sharma, Climate Change Advisor, DFID Kenya & Somalia

THANKS FOR YOUR ATTENTION

