

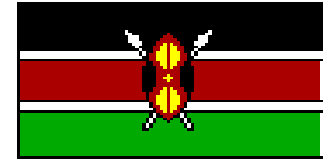


# **Energy Infrastructure as an Economic Development Enabler in a Devolved Government Structure**

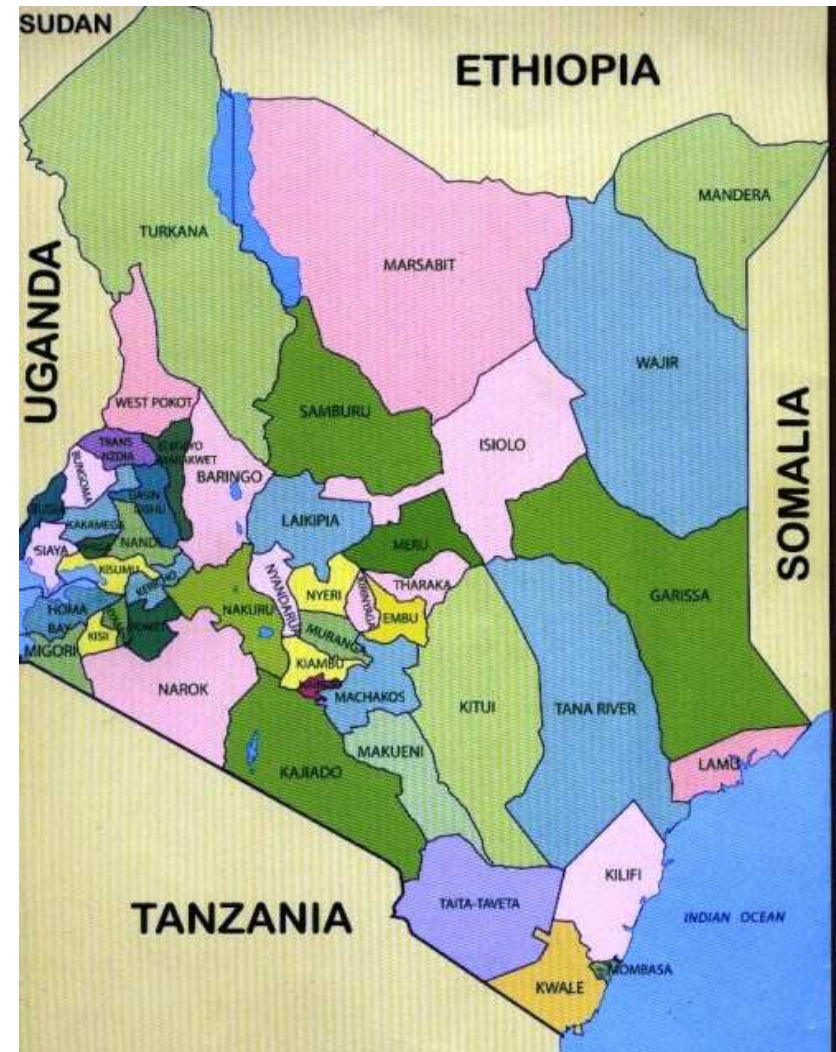
BY

MERCY MASILA-ACHOLA, COO  
**KENYA ASSOCIATION OF MANUFACTURERS**

# Facts Kenya



- 41 mio – population
- 47 counties
- Inflation – 18.3 (Jan 2012)
- Unstable shilling
- High Fuel Prices
- DB rating 2011- 106; to 2012 – 109
- Energy Peak Demand – 1302MW (2011)



## OUR SERVICES

- Rep to Govt regulators
- Research
- Policy Advocacy
- Seminars & Workshops
- Specialised Training
- Firm level interventions
- Energy Audits
- Work Permit
- AGOA Visa Processing
- TREO Processing
- Business Information
- Communication
- CSR Services
- Customer Delight

# BACKGROUND

- Established in 1959, KAM represents 40% of major manufacturing Value Add industries in Kenya
- Current membership of 680 organizations
- **Mission** is to promote competitive local manufacturing within the framework of a liberalised global economy
- **Vision** is to be a world class BMO effectively delivering services to members wherever they operate



# Kenya's Industry



- 18% GDP
- Turnover Ksh 670bn+
- Rep 40% - KAM
- 680 members



Employer 2.3 mio people  
Formal & Informal sector



Domestic & International Markets



Annual Growth - 15% (KAM)  
Location in Nairobi, Athi River-Mavoko,  
Thika, Mombasa, Kisumu, Eldoret  
And Nakuru

# Leading Industrial Sectors

## Food & Beverage



- Fish & Fish products
- Edible Oils
- Coffee, Tea, Cereal Milling
- Food Processing
- Sugar & Confectionary
- Tobacco, Alcohol
- Fruit & Vegetable Processing
- Juice & Water

## Paper & Pulp



- Pulp of Wood
- Printing Paper
- Newspapers
- Pictures & Printing Allied
- Printed books

## Plastics & Rubber



- Polythene bags & sheeting
- Rigid Plastic Items

## Metals & Allied



- Smelting
- Hot Rolling
- Cold Rolling
- Galvanizing
- Foundries
- Pipes, Tubes
- Wire & Wire products



# Kenya Energy Scenario

Electricity  
77% no access



85% using firewood



80% in rural areas  
10% in urban areas



Charcoal  
13.5% of households

Kerosene 44% urban dwellers



# KENYA ENERGY SOURCES





# Who -Energy Sub Sector in Kenya



**MINISTRY OF ENERGY**

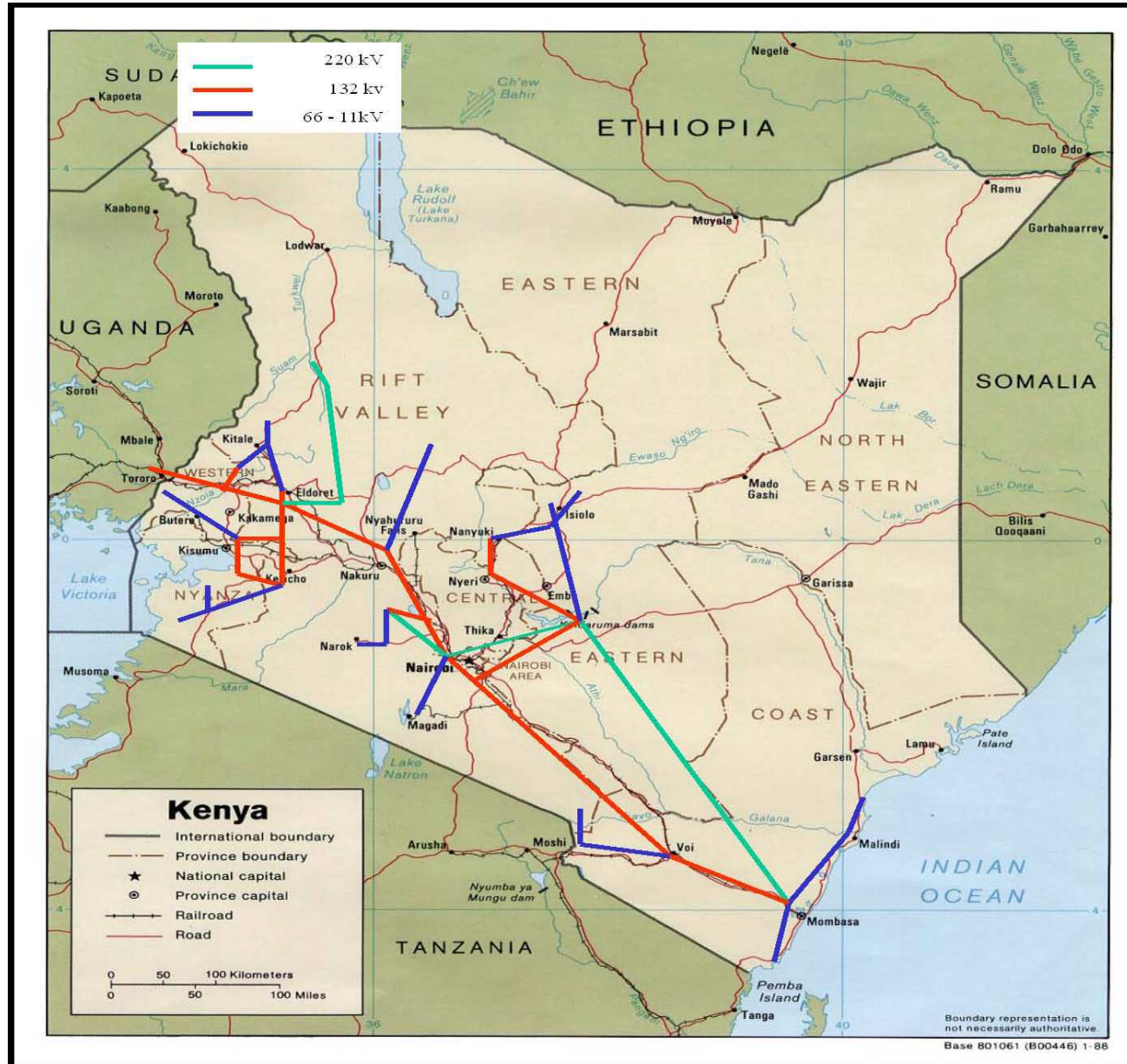


50 + Years of Manufacturing Excellence!

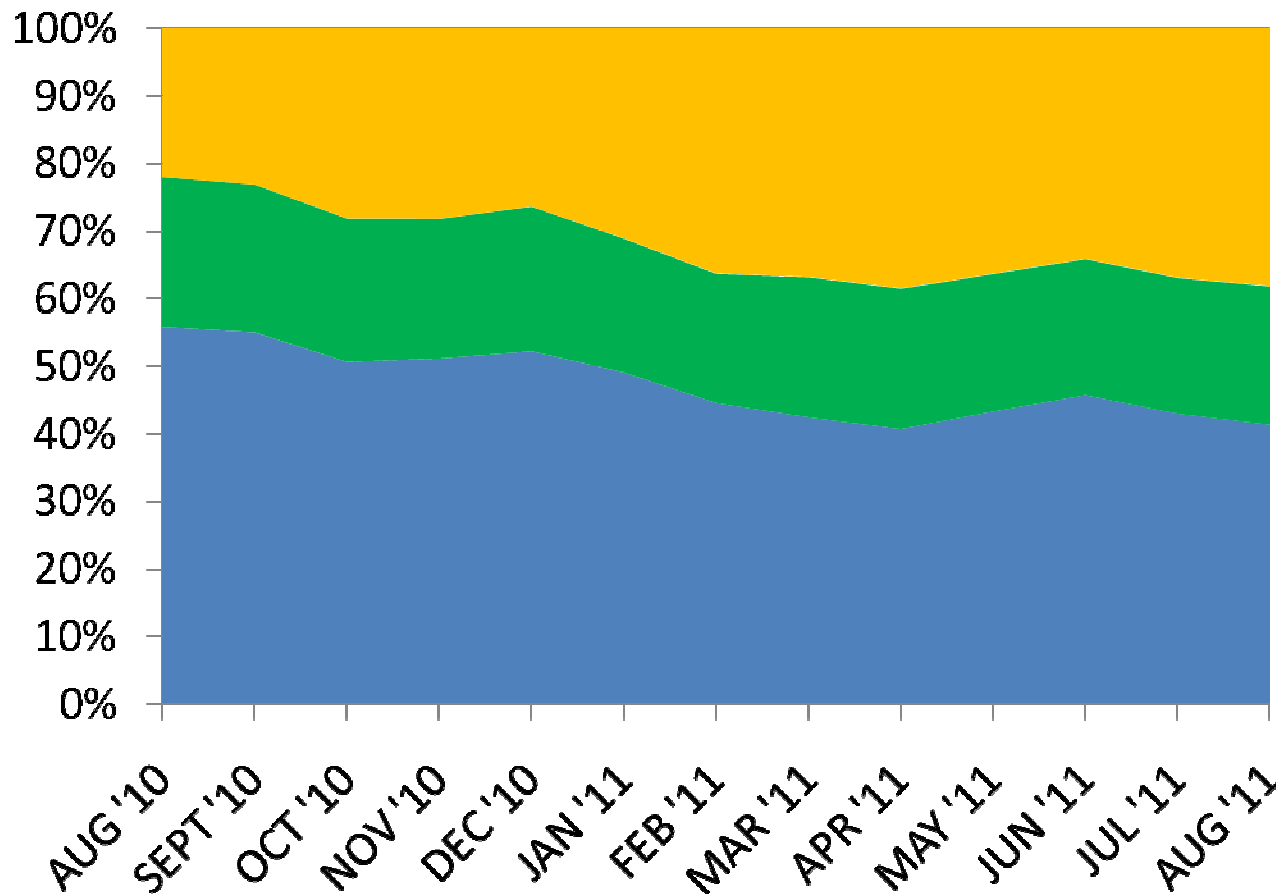
Since 1959



## MAIN POWER INFRASTRUCTURE IN KENYA



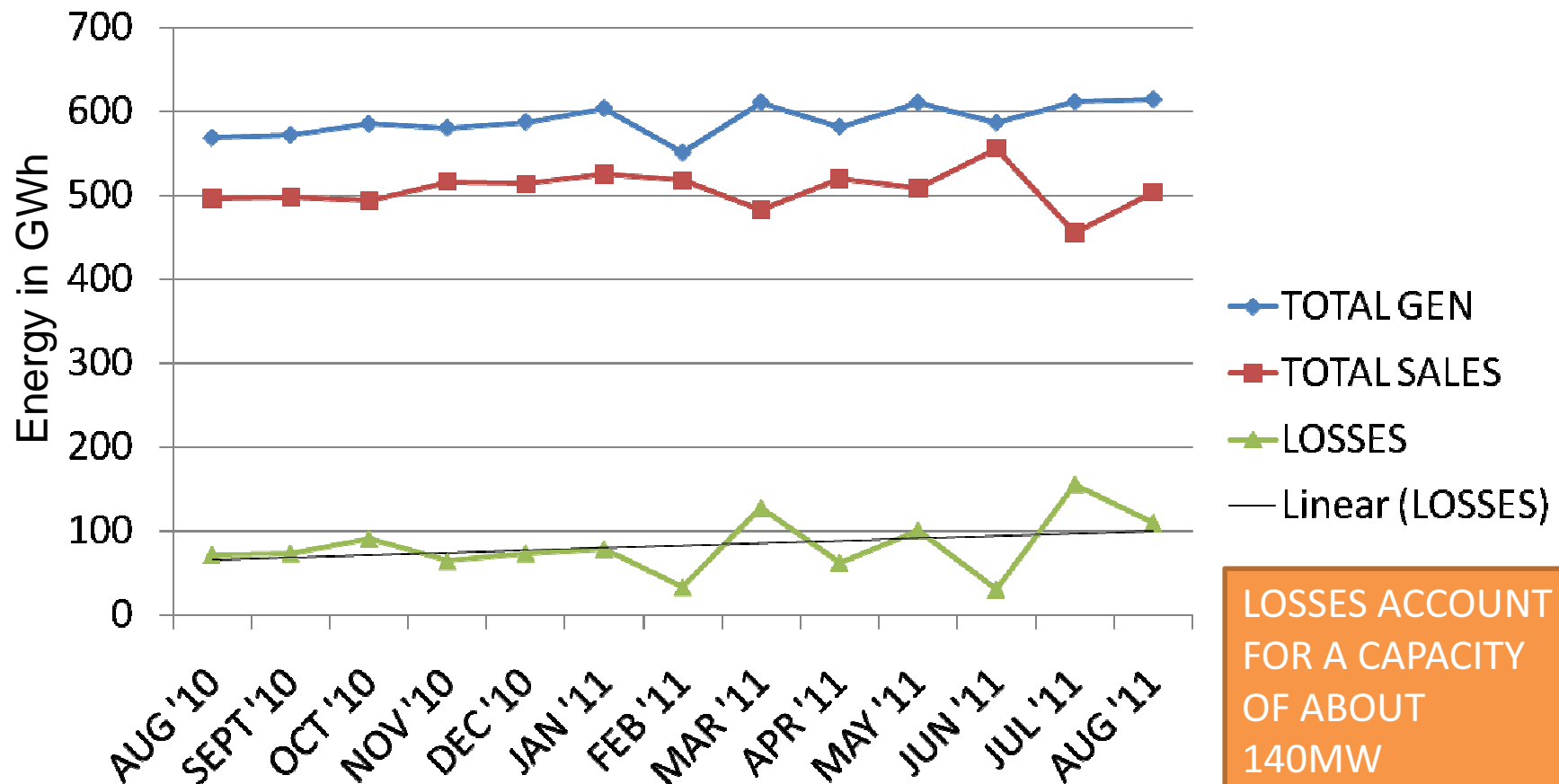
# ELECTRICITY SUB-SECTOR



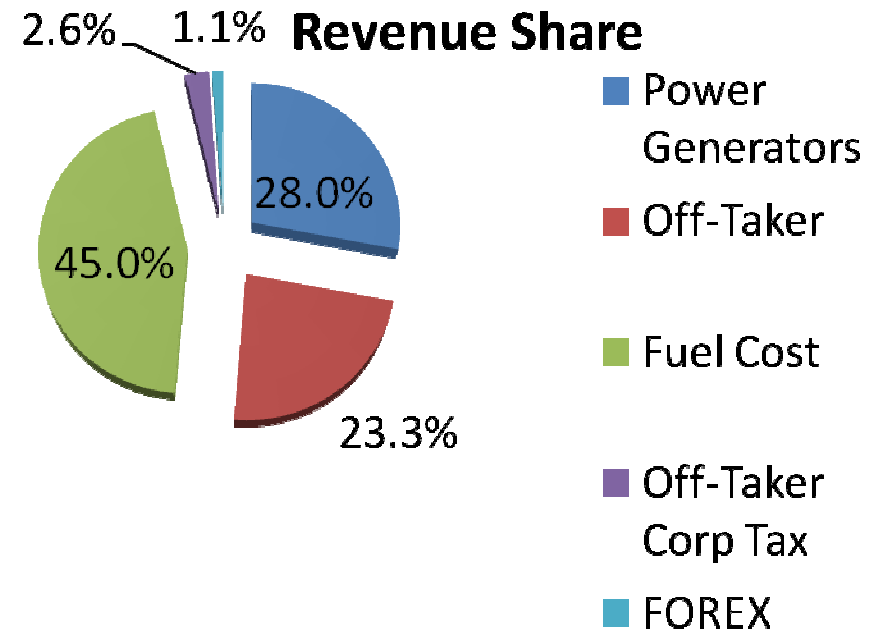
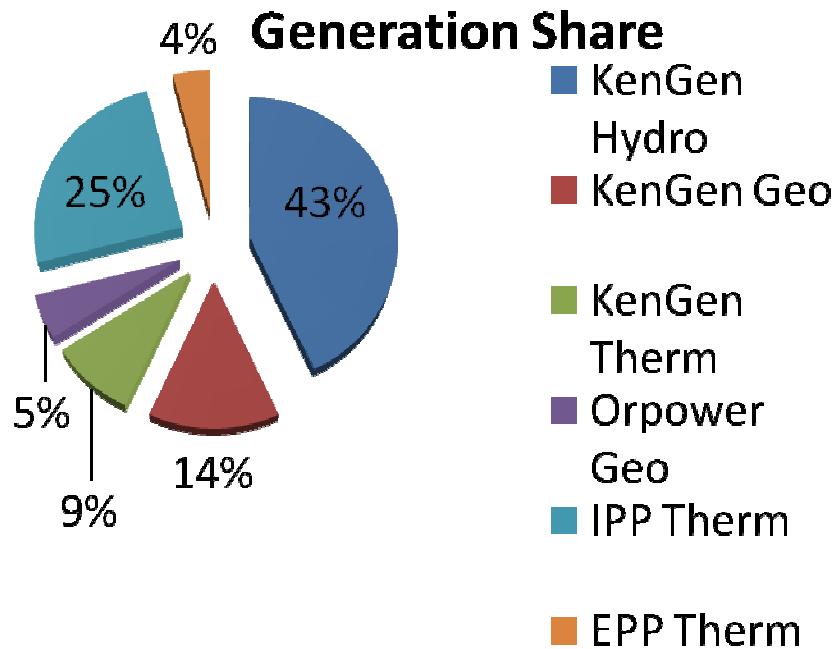
PETRO THERMAL  
CONTRIBUTION IN  
ON THE INCREASE

■ PETROTHERM  
■ GEOTHERM  
■ HYDRO

# GENERATION Vs SALES PERFORMANCE



# GIVE AND TAKE SCENARIO

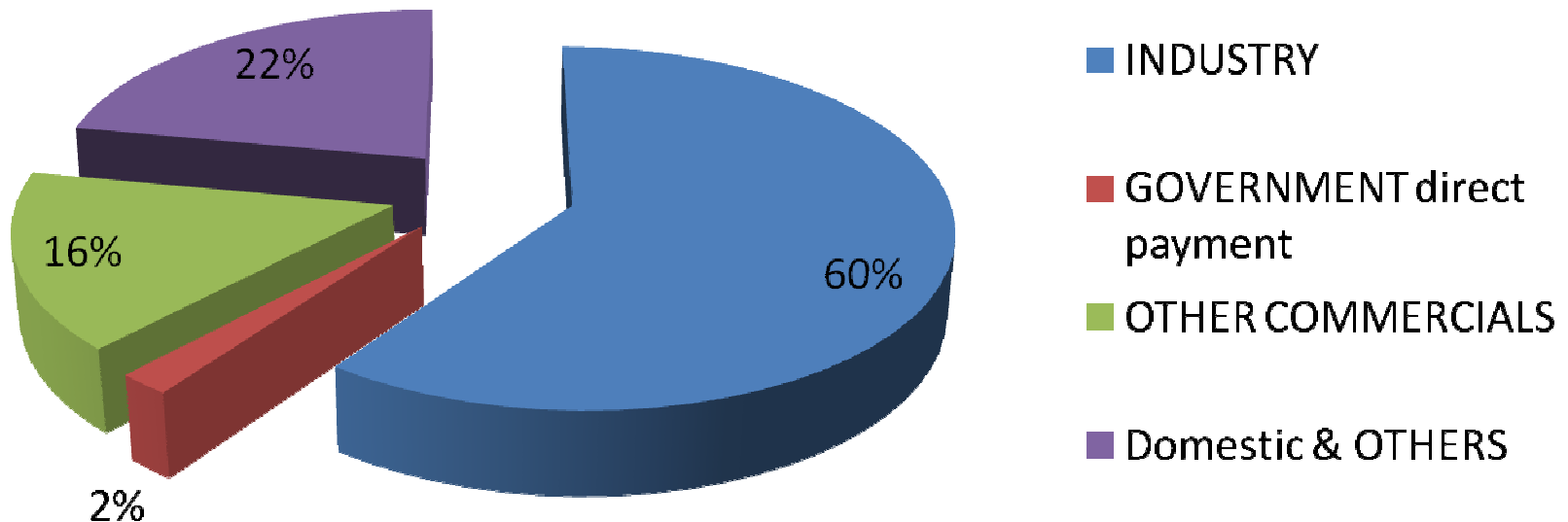


ALTHOUGH PETRO THERMAL ACCOUNTS FOR 38% OF TOTAL ENERGY IT IS EVIDENT THAT A LARGE PERCENTAGE OF WHAT WE PAY FOR ELECTRICITY GOES TO THE FUEL SUPPLY



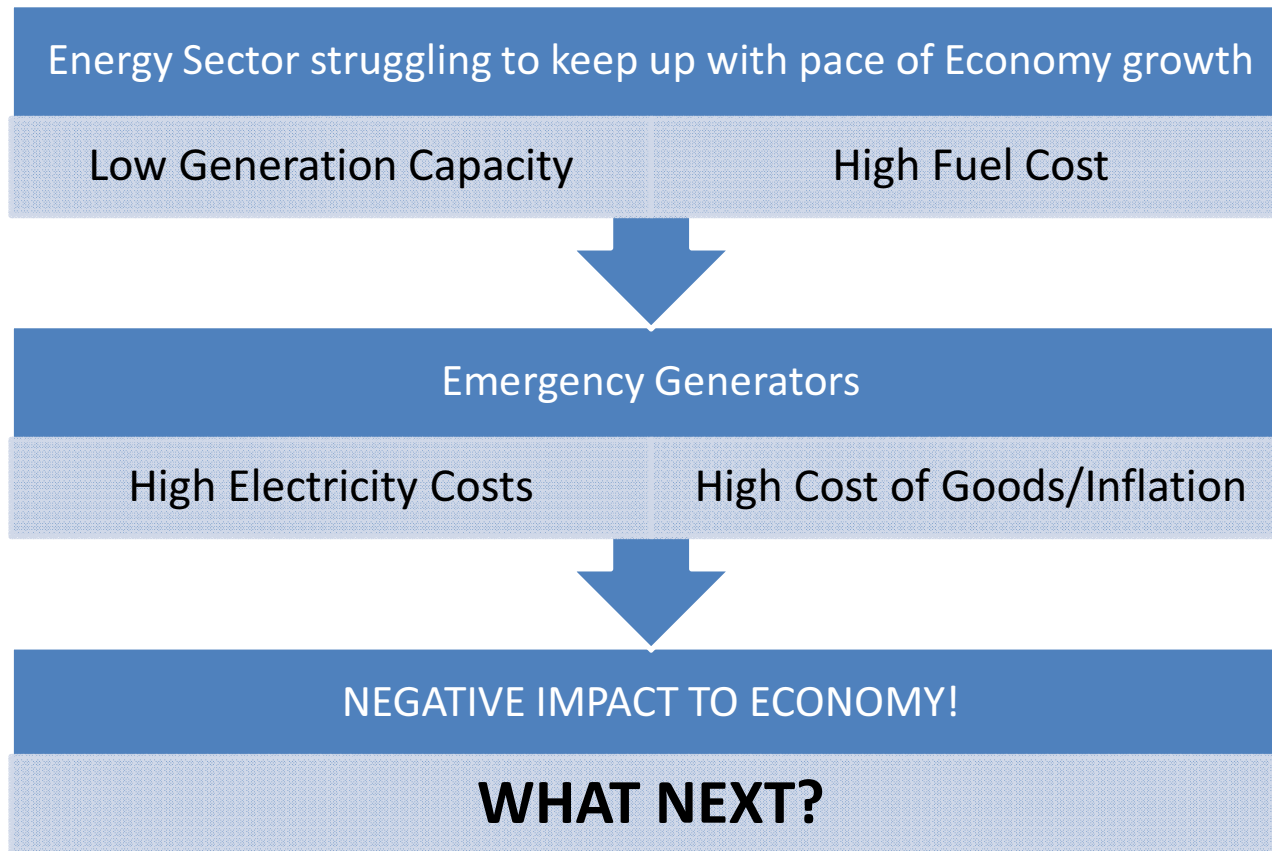
# WHO IS PAYING FOR ELECTRICITY

Share of Payment



**INDUSTRY IS A STRONG PARTNER IN THE ENERGY BUSINESS**

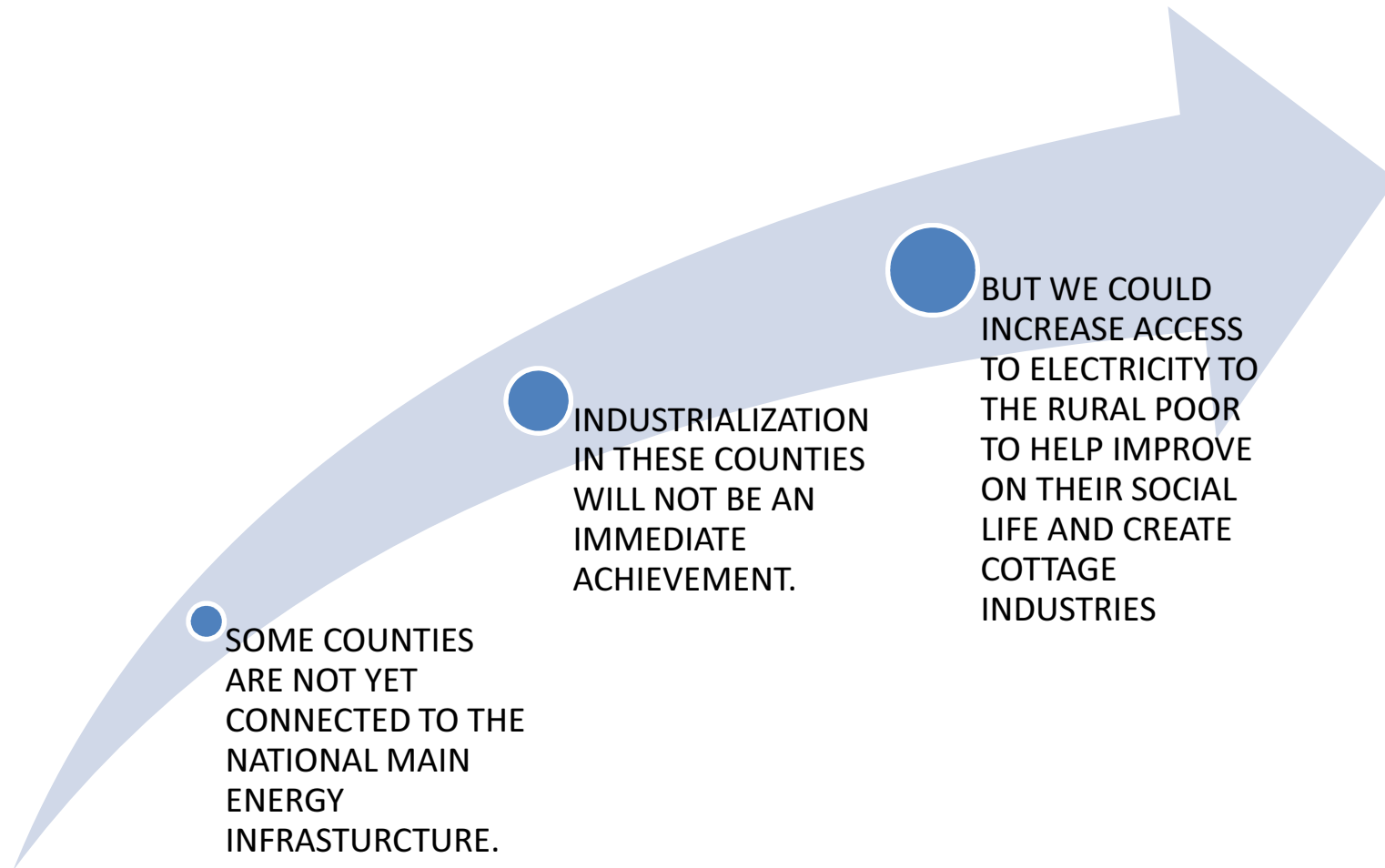
# ENERGY TODAY?





# **“Energy Infrastructure as an Economic Development Enabler in a Devolved Government Structure”**

# ENERGY as Economic Growth Stimulator





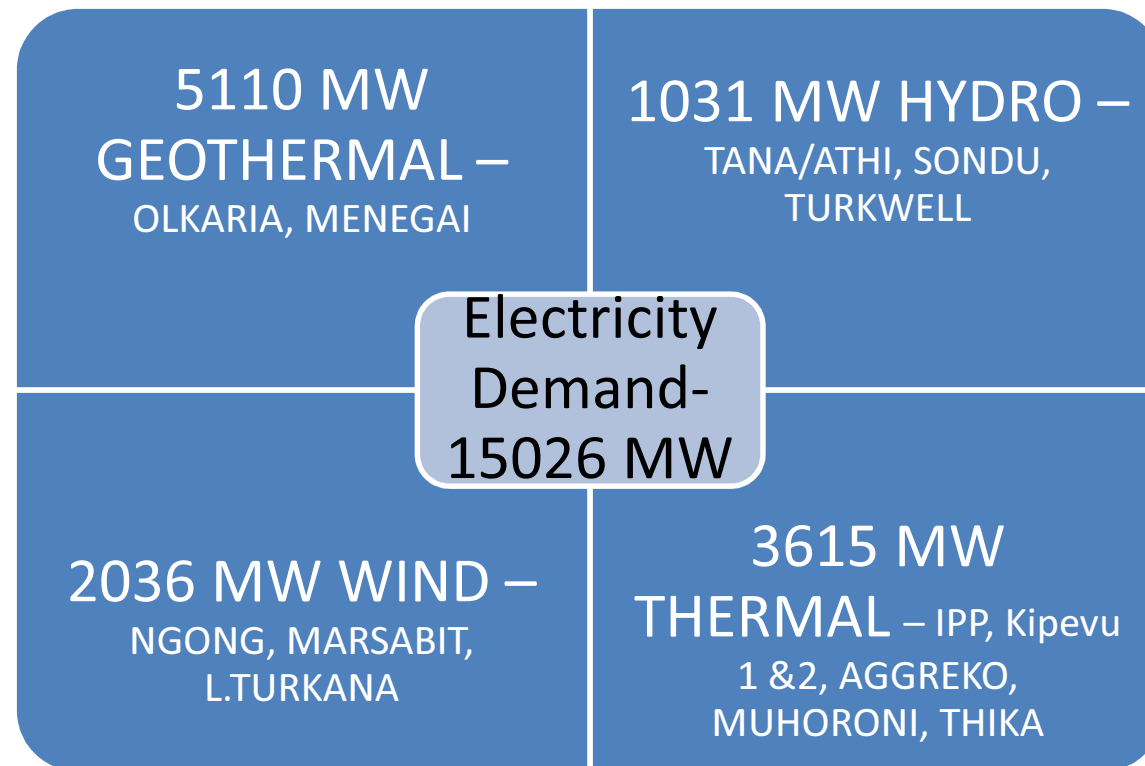
# Regional Energy Split

	NAIROBI	COAST	WESTERN	MT.KENYA
GWh Sales (2009)	2898	979	867	411
VALUE OF POWER CONSUMPTION (Ksh bn)	41.3	13.7	12	5.8
% of National Consumption	56.4	18.8	16.5	8.2
LABOUR EARNINGS (Ksh. Bn)	231.4	80.2	18.6	



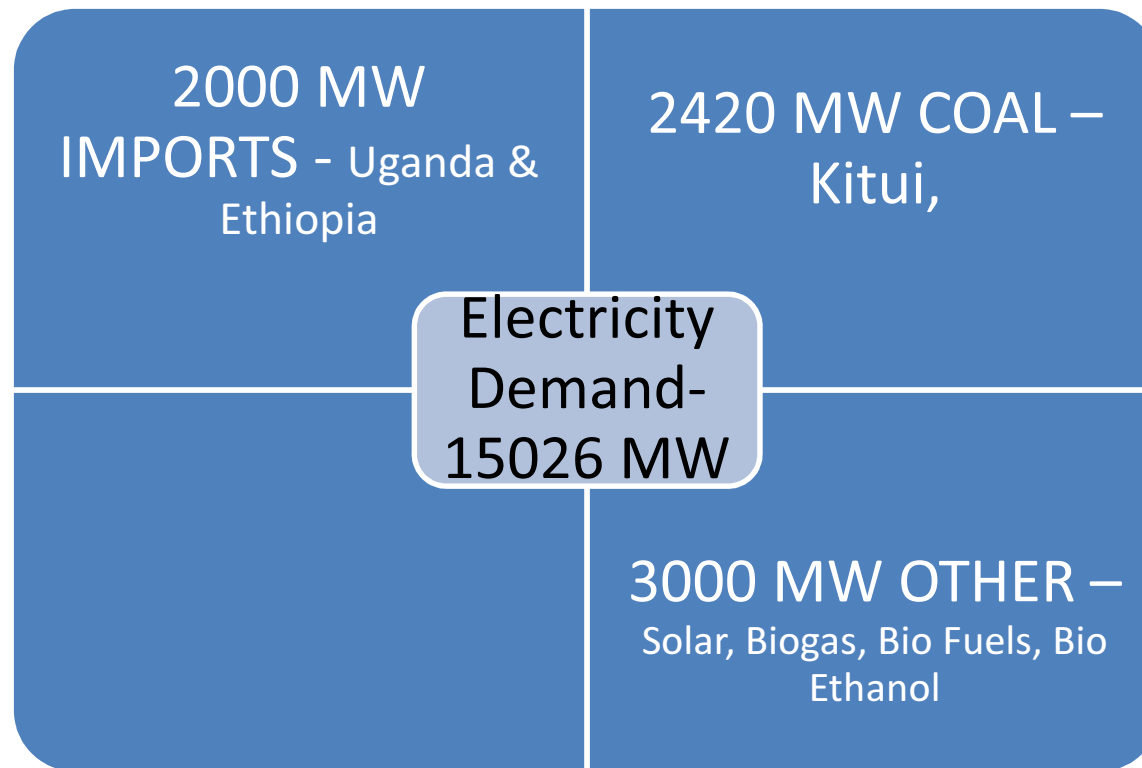
# Least Cost Power Development Plan

- Energy Demand to grow from 1302 MW to 15026MW by 2030.



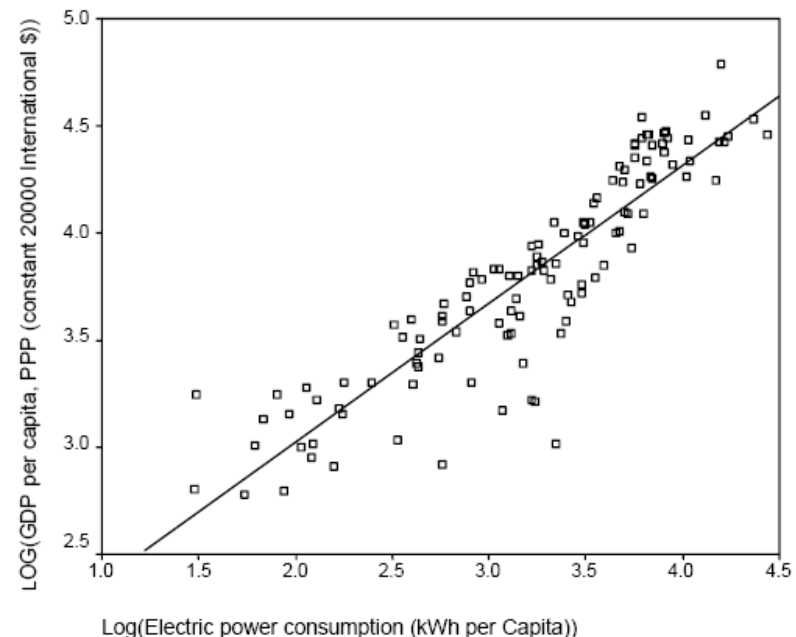
# Least Cost Power Development Plan

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# ENERGY AND ECONOMIC DEVELOPMENT

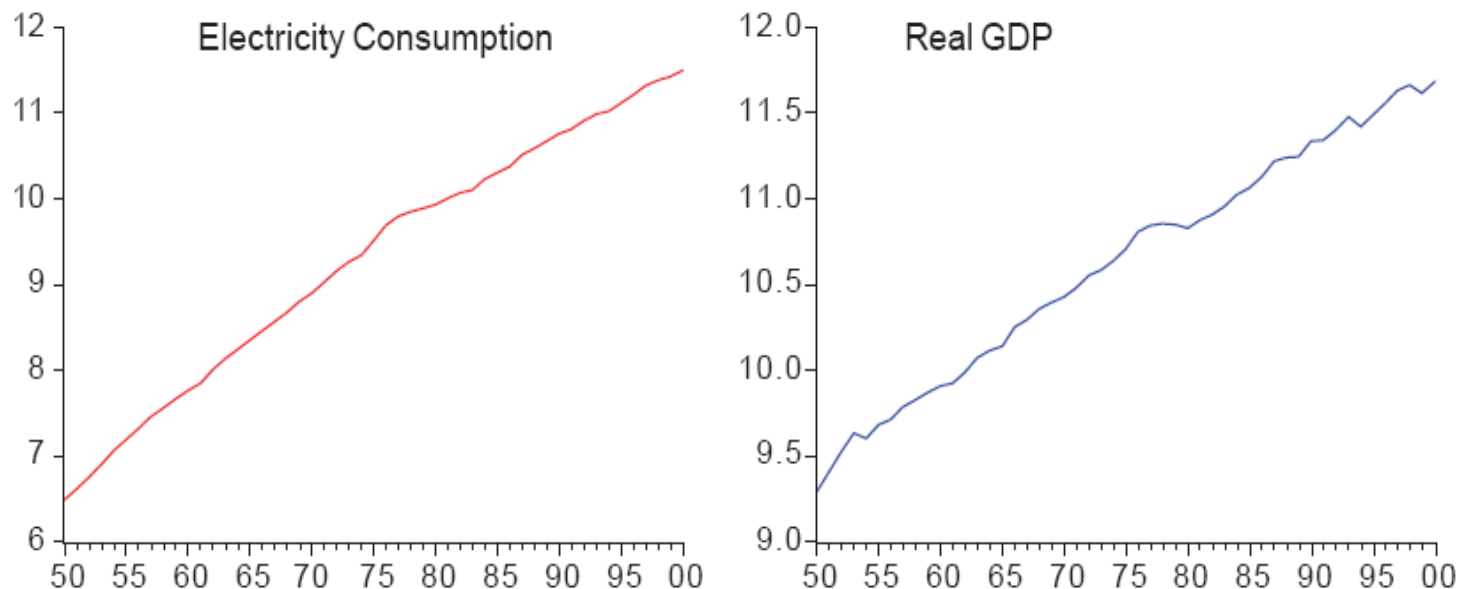
- Growth of GDP per capita correlates strongly with increasing electricity use. Analysis of electrification in Sri Lanka, for example, determined that every additional megawatt-hour<sup>10</sup> in electricity supply was found to increase economic output by \$1,000 to \$1,500.
- Inadequate or unreliable electricity infrastructure can constrain balanced economic development. For example - blackouts, poor phone and fax communications, and inadequate road networks all limit the ability for businesses to develop and grow.





# ENERGY v/s GDP

- At a projected GDP growth of 10% p.a., the expected growth in electrical energy demand should grow 12% pa to match the GDP growth.



# Agriculture Value Added and Electricity Consumption

Modern  
Energy  
Access

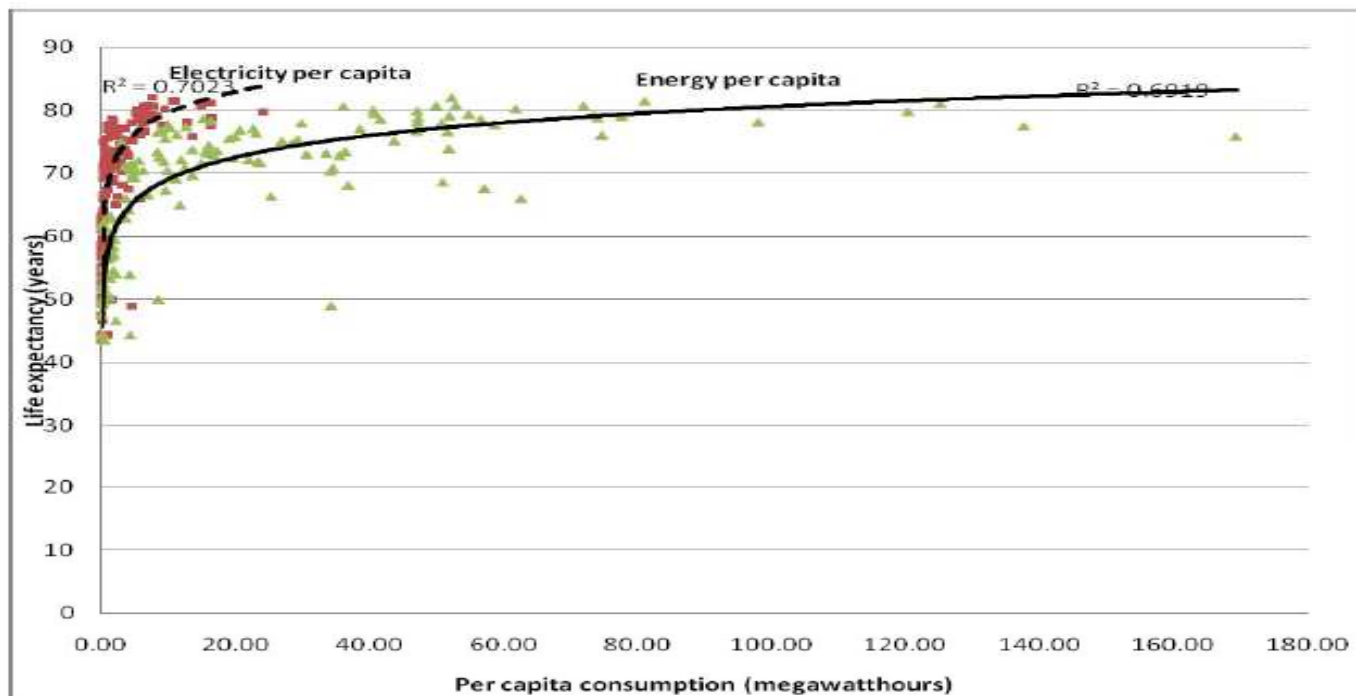
- Increased Productivity
- Increased Employment

Electrical  
Mechanical  
Energy Inputs

- Agricultural Production
- Post Harvest Processes

# ENERGY v/s LIFE EXPECTANCY

Figure 1. Life expectancy in 2006 by per capita electricity and per capita energy consumption, 135 nations



High power availability leads to **improved living standards** and **higher life expectancy**. Kenya's electricity per capita is 0.15MWh and we have a life expectancy of 57.

The USA's electricity per capita is 12MWh and they have a life expectancy of 80.

# BARRIERS



Inadequate Data  
High cost of Resource Assessment  
Feasibility studies

High Cost Finance  
Limited Credit



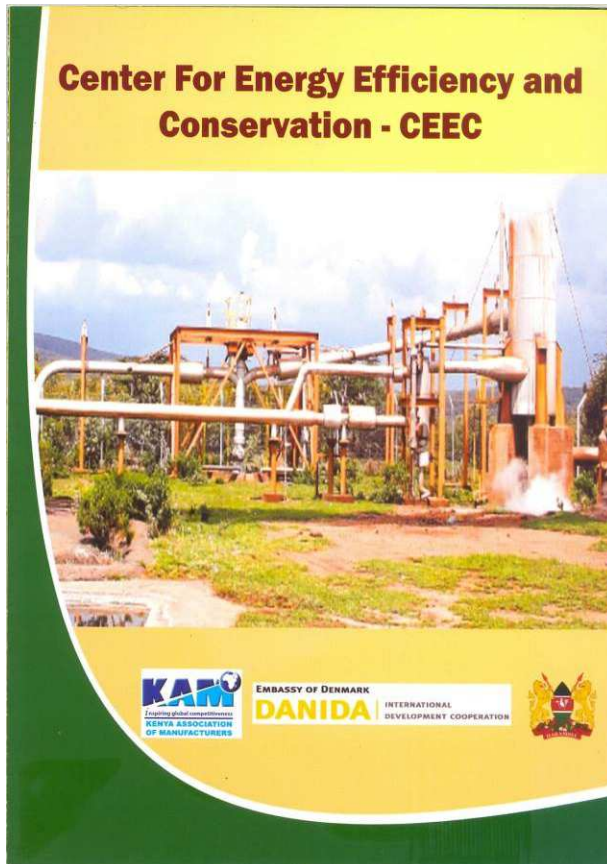
Limited Human Resource &  
Capacity Equipment  
Poor After Sales



# Way Forward

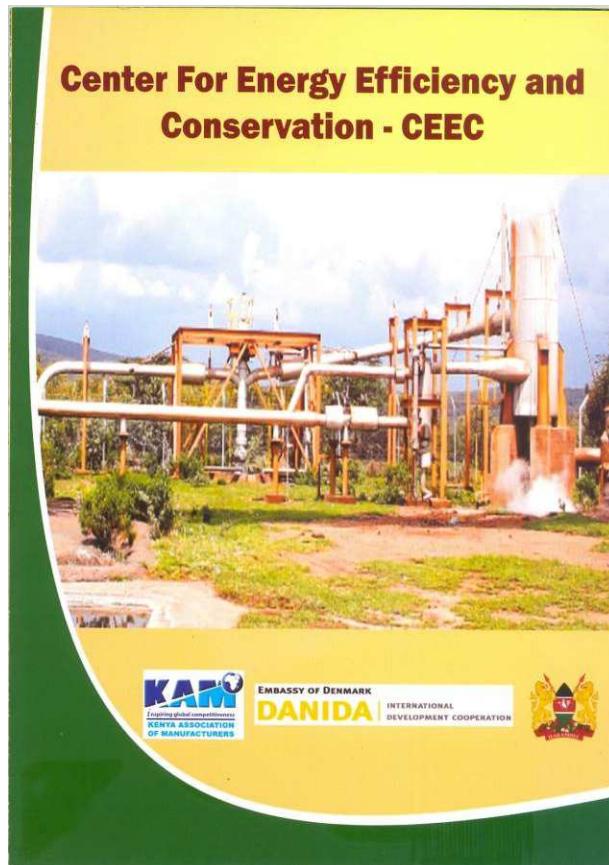
- Financial institutions to be encouraged and incentivized to avail affordable capital.
- Government to promote and encourage the use of Renewable energy.
- Continue with awareness raising on the potential opportunities and economic benefits
- Government to put mechanisms in place to mitigate climate change impact

# KAM CEEC Project



- Established in 2003
- Development of National Focus on EE and Conservation
- Public Awareness on EE
- Demonstrate Feasibility of energy conservation and implementation of bankable projects.
- Provide expertise for promotion and institutionalization of EE and conservation.

# CEEC PRODUCTS



- Energy Audits: more than 150 carried out
- EMA Training – 40 CEMs so far
- Energy Efficiency Accord – 19 companies signed up 15% reduction (GIZ support)
- EMA Awards – 8<sup>th</sup> year 2011

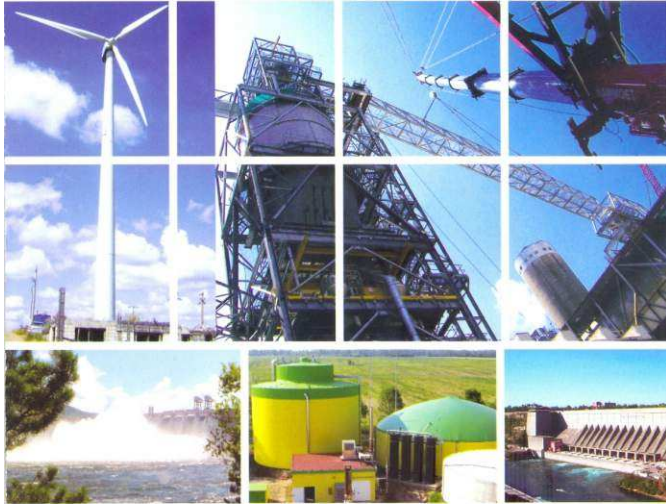
# Beneficiaries of Energy Audits by sector and location

Manufacturing	Hotels	Agro-Processing	Public Institutions	Dairy	Commercial Buildings
97	11	16	6	2	2

Nairobi	Mombasa	Nakuru	Kisumu	Eldoret	Thika
78	14	3	4	4	7

Kericho	Athi River	Limuru	Ruiru	Nyeri	Kisii
6	6	4	3	3	2

# Renewable Energy and EE in East Africa



**SUPPORTING AND FINANCING RENEWABLE ENERGY  
& ENERGY EFFICIENCY PROJECTS IN EAST AFRICA**

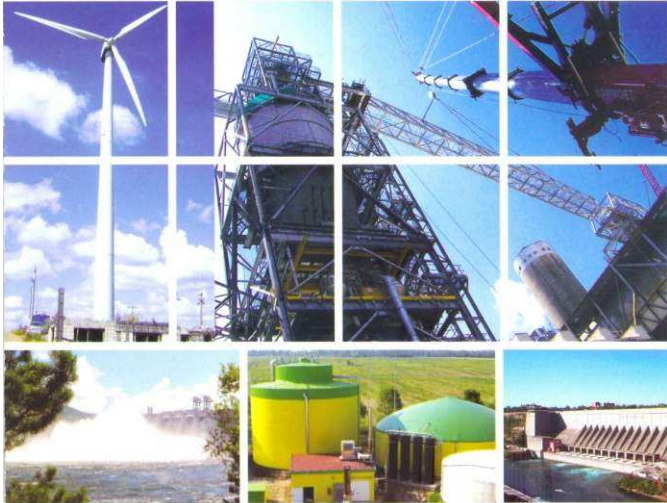
*Regional Technical Assistance Programme*



- AFD support - \$ 39 million for Kenya and EAC partners
- Line of Credit CfC Stanbic and Co-op banks. (30 mini hydro projects targetted).
- RTAP – housed at KAM: providing technical support
- Funded by AFD and Infrastructure Trust Fund (ITF) of the EU.



# RTAP Technical Support



**SUPPORTING AND FINANCING RENEWABLE ENERGY  
& ENERGY EFFICIENCY PROJECTS IN EAST AFRICA**

*Regional Technical Assistance Programme*



- Support to Prescriptive RE and EE Projects
- Support to Custom RE and EE projects –require feasibility before being qualified.
- Technical Assistance Pre-financing to eligible project sponsors with the development or implementation of RE or EE systems.



# GOING FORWARD

- KAM advocacy to continue especially on Energy matters.
- Collaboration with government and partners.
- Drive demand driven profitable services to Industry



**50 + Years of Manufacturing Excellence!**

**Since 1959**