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PRIVATE INVESTMENT IN PRACTICE – HOW KPLC WORKED WITH RABAI POWER LTD TO MOVE A POWER INVESTMENT FROM THE FEASIBILITY STAGE TO FINANCIAL CLOSURE

By

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Introduction

- Kenya Power and Lighting Company (KPLC) is a power utility company responsible for transmitting and distributing electricity energy in Kenya.
- It is listed in the Nairobi Stock Exchange
- Governed under the State Corporations act.
- Customers as of end of April 2009 were 1,229,580
- Enhancing number of customers by connecting 200,000 per annum.
- Current number of Staff is about 6,000

Introduction Cont.

-The interconnected installed capacity is 1336MW.

-The effective capacity during average hydrology is 1289 MW.

-The recorded instantaneous peak Demand stands at 1071 MW as in December 2008.

-The unconstraint demand is estimated to be 1180MW.

-The reserve margin is 9% against an industry practice of 15%.

-With a projected load growth of 7% more generation capacity has to be installed to avoid load-shed.

ELECTRICITY GENERATION SOURCES

Producer Category	Producer/Company	% Contribution
Public	KenGen	75%
Independent Power Producers (IPPs)	Iberafrica Tsavo OrPower4 Mumias	14%
Emergency Power Producer (EPP)	Aggreko	11%

ELECTRICITY GENERATION SOURCES

Producer/ Company	Type of generation	Installed Capacity, MW	Current Effective Capacity, MW
KenGen	Hydro	747	722
	Geothermal	114	114
	Diesel	75	60
	Gas Turbine	70	60
	Wind	0.35	0.35
Sub Total KenGen		**1006**	**956**
Tsavo	Diesel	74	74
Iberafrica	Diesel	56	56
OrPower4	Geothermal	48	48
Mumias	Steam	2	Non-firm
Sub Total IPPs		**180**	**178**
Aggreko	Diesel	150	146
GRAND TOTAL		**1,336**	**1,280**

Background of IPPS in Kenya

- Before introduction of Independent Power Producers (IPPS), Kenya relied on concessionary funding to finance investment in power generation.
- In the 1990s there was reduced donor funding-affecting development of new energy sources.
- This opened an opportunity for opening up generation sector to private participation.
- In 1996 the Government of Kenya liberalized power generation as part of power sector reform.
- As part of private sector participation, the following plants were developed by independent power producers (IPPs) under Build-Own-Operate (BOO) arrangement:
    - Stop Gap 43.5MW Gas turbine Westmont for 7 years from 1997
    - Stop Gap 44 MW Diesel Iberafrica for 7 years from 1997

REFORMS AND RESTRUCTURING

The Electric Power Act (Cap 314) and Electric Supply Lines Act (Cap 315) were repealed and the Electric Power Act (1997) was enacted in April 1997.

Electric Power Act (Cap 314)

Electric Supply Lines Act (Cap 315)

- Electric Power Act (1997) enacted in April 1997
- Became operational in January 1998

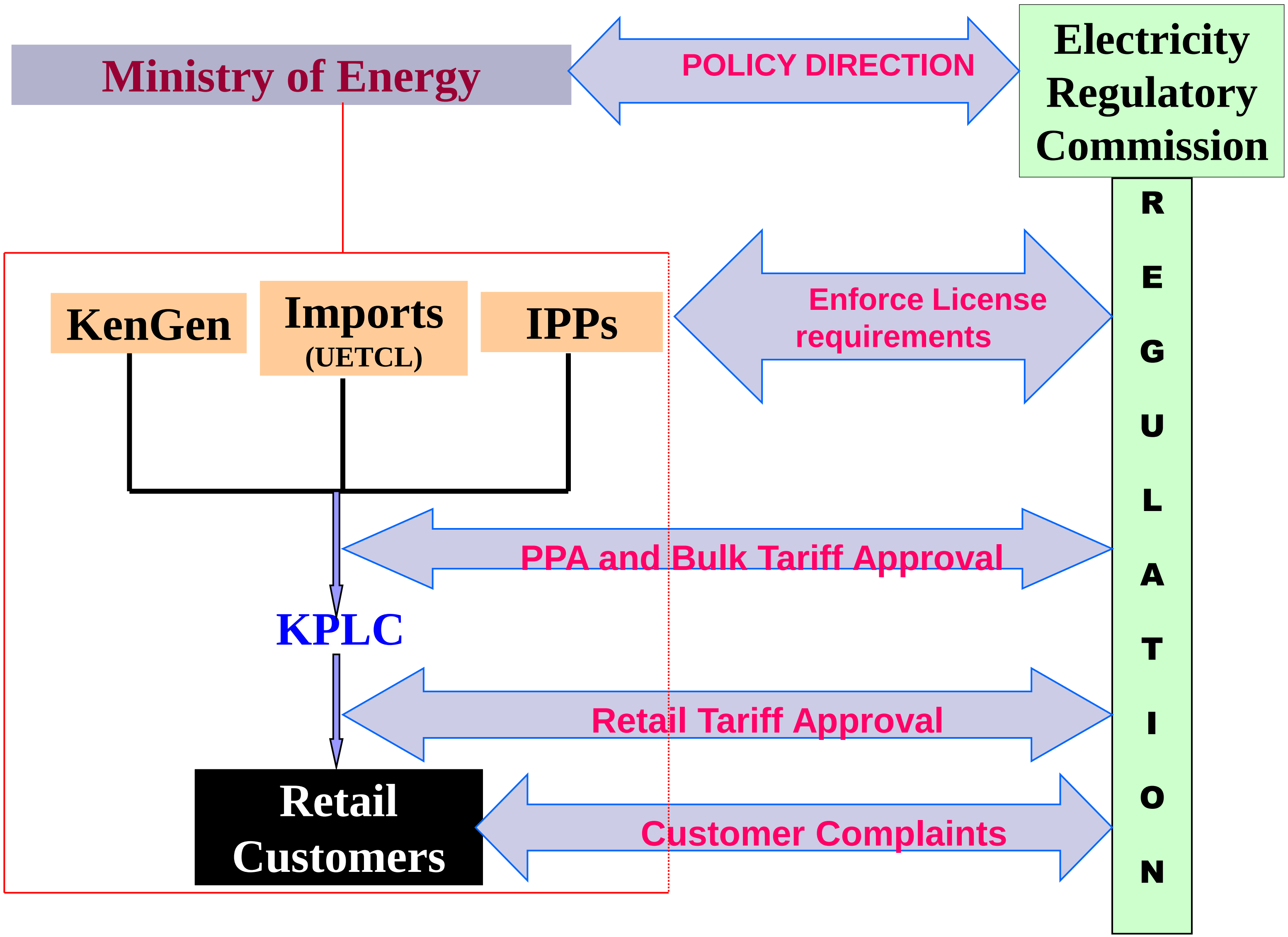
REFORMS AND RESTRUCTURING

- Led to Liberalization of Generation
- The operations of Kenya Power Company (KPC), which later changed its name to Kenya Electricity Generation Company (KenGen), were separated from KPLC in 1997
- KenGen assumed responsibility for generation facilities in the public sector
- KPLC assumed responsibility for all transmission and distribution (T&D) assets; and customer service
- Led to liberalized to allow private sector participation

REFORMS AND RESTRUCTURING

- The Electricity Regulatory Board (ERB) was established the Act to perform all the regulating functions within the sub-sector hitherto performed by the Ministry of Energy such as:-
  - review and approval of retail and bulk tariffs;
  - enforcement of environmental and safety regulations;
  - investigations of complaints made by the consumers of electricity; and
  - make recommendations to the Ministry of Energy in granting and revocation of generation and distribution licenses.

POWER SECTOR STRUCTURE AFTER REFORMS



IPPS after Energy Sector Reforms

- These were sourced through international competitive bidding
- Power Purchase agreements (PPA) were approved by the then Electricity Regulatory Board (currently Commission)
- Two Long Term PPAs were signed:

  Tsavo Power -74 MW Diesel for a term of 20 years
  Orpower - 64 MW Geothermal for 20 years (capacity later revised to 48 MW).

- During the severe draught of 2000 and 2001 the Government brought in (through competitive bidding) three emergency diesel generators with a total output of 105MW.
- Still electricity demand has continued to outstrip the supply.
- In 2006 the Government brought in 100MW of Emergency supply from Diesel generators. Enhanced in 2007 to 146MW

Summary of IPPs

Project	Size (MW)	Cost (US$ million)	Fuel	Type of Contract	Expiry Date
Westmont	46	20	DPK	BOO	2004
Iberafrica (Existing)	56	65	HFO	BOO	2019
Tsavo	74	85	HFO	BOO	2021
Rabai	89	121	HFO	BOOT	20 years from FCOD
Iberafrica (Additional Plant)	53	70	HFO	BOO	25 years from FCOD
Mumias	26	50	Bagasse (co-gen)	BOO	10 years from FCOD

Performance of IPPs

Project	Comm. Operation Date	Term (yrs)	Capacity (MW)	Target Avail. (%)	Average Actual Avail. (%)
Iberafrica					
- Existing	1997/2004	15	56	85	86
- Additional	2009*	25	53	85	-
Tsavo Power	2001	20	74	85	90
OrPower 4					
Early Gen.	2000	8	12	92	97
Additional Plant	2009	20	12 36	96	-
Mumias	2009*	20	26	85	-
* Planned					

Performance of IPPs

- Initially perceived as expensive and therefore unwanted;
- Perception has changed because of the important role they are playing in bridging capacity shortfall;
- Their operational performance has been good; and
- No PPA has been terminated before expiry due to good performance and their important role

IMPORTANCE OF IPPs

- Bridging gap in capacity shortfall;
- Contributing 14% of installed capacit;
- Contribution set to increase to 30% by end of the year; and
- Cheaper than emergency generation (Kenya currently has 146 MW of emergency generation)

PUBLIC- PRIVATE PATNERSHIP REGULATION 2008

- The Government of Kenya has formulated the Public Procurement and Disposal (Public-Private) Regulation 2008, the PPP Regulation.
- This will provide a legal framework for procurement of goods or services under Public- Private Partnership.
- This will apply to areas not covered by the PP&D Act 2005.
- Expected to Stimulate infrastructural growth in various sectors of the Economy

90MW
RABAI POWER PROJECT

TENDERING FOR THE PROJECT

- The 80-90 MW Rabai project forms part of the power generation enhancement contained in the Least Cost Power Development Plan (LCPDP);
- Project procured through competitive bidding ;
- Tendering for the project commenced in June 2006; and
- The requirement was for an MSD on a Build, Own, Operate and Transfer (BOOT) arrangement.

TARIFF STRUCTURE

The tariff proposed by KPLC in the RFP provided for:

- Energy Charges to cater for variable O&M costs;

- Capacity payments comprising a fixed component to cover capital & financing costs and return on equity; and

- An escalable component to cover fixed O&M costs

- Fuel charges as a pass through cost

WINNING BID

- A consortium by Aldwych International Ltd and Burmeister & Wain Scandinavian Contractor A/S (AB Consortium), emerged as the winning bidder.

- The bid by AB Consortium was based on a design comprising:

  - ✓ five (5) Wärtsilä 18V46 medium speed diesel engine driven generator sets with a total net capacity of 83.3 MW

  - ✓ an exhaust recovery steam turbine generator with a net output of 5.3 MW utilizing excess energy from the diesel units exhaust gasses (“**Steam Unit**”)

NEGOTIATIONS

- Following tender award, the parties negotiated and entered an initial PPA in February 2007.

- The issues for negotiation included:
  - ✓ The tariff
  - ✓ Lender requirements including payment security and Government letter of support
  - ✓ Currency of payment
  - ✓ Construction programme
  - ✓ Fuel supply arrangements

- The PPA was signed between KPLC and Rabai Power Ltd, a project company incorporated by AB Consortium

AMENDED AND RESTATED PPA

- A renegotiation of the PPA was necessitated by:
  - ✓ Delay arising from court case and
  - ✓ Additional costs for increased stack height and sound attenuation based on Environmental Impact Assessment (EIA) report
- The amended and restated PPA was approved by ERC and signed by the Parties in September 2008

CONDITIONS PRECEDENT

- As renegotiations were going on, the parties worked together to satisfy the conditions precedent (CPs)
- The CPs were as follows:
  - ✓ Approval by ERC
  - ✓ Issuance of generating licence to Rabai Power
  - ✓ Lodging of construction security by Rabai Power
  - ✓ Issuance of the Government letter of support
  - ✓ Execution of Direct Agreement by KPLC
  - ✓ Completion of EIA
  - ✓ Agreement on terms of tender documents for procurement of fuel
  - ✓ Rabai Power being given vacant possession of the site
- All CPs were satisfied in September 2008 when the PPA became effective

Other challenges

- Other challenges that have been jointly addressed by Rabai Power and KPLC are:
  - ✓ Development and agreement on the Resettlement Action Pan (RAP);
  - ✓ Holding of joint meetings with area residents and provincial administration to address of concern from the residents;
  - ✓ Fuel procurement process for the plant; and
  - ✓ The initial long term fuel supply agreement with a term of 5 years is in place.

CONCLUSION

- Apart from initial delay caused by a court case, both parties worked diligently to move the project from feasibility stage to financial closure;

- Construction on schedule and commercial operation is expected on or before the required commercial operation date;

- The project a success story of private public partnership;

- Financial closure and construction start date were achieved within record time; and

- Co-operation between the parties was crucial in achieving this success.

Thank You