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**REGULATORY AND COMPETITION-RELATED REFORMS IN
KENYA'S POWER AND PETROLEUM SECTORS**

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ABBREVIATIONS

COMESA	-	Common Market for Eastern and Southern Africa
EAC	-	East Africa Community
ERB	-	Electricity Regulatory Board
ERC	-	Electricity Regulatory Commission
EU	-	European Union
GoK	-	Government of Kenya
IEA	-	Institute of Economic Affairs
IPD	-	Independent Petroleum Dealers
IPPs	-	Independent Power Producers
ISO	-	Independent System Operations
KenGen	-	Kenya Electricity Generating Company
KPC	-	Kenya Pipeline Corporation
KPLC	-	Kenya Power and Lighting Company Ltd.
KPRL	-	Kenya Petroleum Refineries Limited
KVDA	-	Kerio Valley Development Authority
MPC	-	Monopolies and Price Commission
NAFTA	-	North Atlantic Free Trade Area
NEMA	-	National Environment Management Authority
NIE	-	New Institutional Economics
NOCK	-	National Oil Corporation of Kenya
OTS	-	Open Tender System
PPAs	-	Power Purchase Agreements
REA	-	Rural Electrification Authority
TARDA	-	Tana and Athi River Development Authority
UK	-	United Kingdom
UNCTAD	-	United Nations Conference on Trade and Development
WTO	-	World Trade Organization

EXECUTIVE SUMMARY

Kenya embarked on fundamental structural and regulatory reforms in the energy sector in earnest after mid-1990's following the enactment of the Electric Power Act, 1997 and later the Energy Act 2006. These legislations laid the foundation for the separation of generation from transmission and distribution in the electricity sector and the liberalization of the procurement, distribution and pricing of petroleum products in the country. The petroleum sub-sector was regulated by the Petroleum (Exploration & production) Act 1994 and the Petroleum Development Fund Act No. 4 of 1991. The Energy Act 2006 consolidated all laws relating to energy and provided for the establishment of the Energy Regulatory Commission (ERC) as a single sector regulatory agency with responsibility for economic and technical regulation of electric power, renewable energy and petroleum sub-sectors. These reforms were preceded by the enactment of the Restrictive Trade Practices, Monopolies and Price Control Act of 1989 which aimed at promoting competition and reducing direct control of prices in the entire economy.

This study looked into the regulatory framework and the application of regulatory and competition-related practices in the electricity and petroleum sub-sectors. It specifically focused on the existing regulatory mechanisms and investment incentives and how they affect commercial provision of energy services involving private investment. Our assessment benchmarked the regulatory framework on identified regulatory designs and institutional endowments having in mind the provision of efficient and affordable energy services as envisioned in the Kenya Vision 2030 blue print. Both primary and secondary data were used. Primary data was obtained through interviews with regulators, regulated firms and other key stakeholders, including private sector players. The data was analysed using a combination of statistical and qualitative methods based on key study parameters.

In nutshell, reforms in the energy sector in Kenya essentially involved vertical separation and gradual deregulation of competitive segments, from those that were deemed to have natural monopolistic characteristics and subject to price, network access, service quality and entry regulations. The expectation was that the regulatory mechanisms would provide more powerful incentives for regulated firms to reduce costs improve service quality in a cost effective manner, stimulate the introduction of new products and services and stimulate efficient investment in pricing of access to regulated infrastructure services.

However, the attainment of the above expectations faces several constraints and challenges. For instance, electric power tariffs have remained high amidst continued market domination in regulated and unregulated segments. It is difficult to compare state-owned utilities with private sector players or even measure the resulting impacts of regulations since the former are often not exposed to market costs of capital. Similarly, the reforms in the petroleum sub-sector have not yielded desired results despite measures which allowed greater participation of private sector, particularly in the importation, distribution and supply services.

The study established that limited achievements of the expected regulatory outcomes were largely attributed to weaknesses in institutional and legal frameworks, limited and uncoordinated enforcements, inadequate technical capacities and external economic conditions among other constraints and challenges. In summary, findings are as follows: - first, state-owned public utilities continue to play a dominant role in generation, transmission and distribution of electric power despite increased participation of private sector following the regulatory reforms. Second, structural weaknesses in coordination and implementation of competition-related regulations hinder competitive pricing in provision of electricity and petroleum product services. Third, shortages of technical expertise within the regulatory authorities hinder effective implementation and enforcement of existing laws and regulations. Fourth, there is poor coordination amongst statutory bodies during enforcement of desired regulations, especially those related to quality and standards. Fifth, the poor physical infrastructures for transportation, refining and storage of petroleum products hinder efficiency in service provision.

The study has identified a number of shortcomings that prevent energy users and consumers in Kenya from reaping the full benefit of the energy sector reforms. The findings support the conclusion that there is further need to strengthen the regulatory system in the energy sector both for increasing investor confidence and enhancing consumer protection. In this regard, the study suggests, among others, greater political and financial autonomy of regulators as a means of supporting the intentions of the reforms and ensuring that the domestic market for energy contributes sustainability, competitiveness and security of supply. Secondly, monitoring & evaluation as well as accurate collection of data on the activities and capability of all services providers in regulated sectors should be given priority and form the basis for designing regulatory and liberalization policies.

Finally, the study also draws conclusions with regard to enforcement actions under both the national competition laws as well as regional approaches to competition. With respect to the

latter, the study strongly recommends a multi-national regulatory collaboration and development of shared information and possible pooling of resources between regulators in neighbouring countries e.g. partner states of the EAC. This is similar to the EU approach and more recently the Southern Africa region and has a particular advantage both responding to and helping encourage trade, integration of markets and networks and increasing the scope for competition.

1.0 INTRODUCTION

1.1 Context of the Study

The shift towards private sector participation in infrastructure financing and development began in the last few decades (Epictatus et al., 2005). This has mainly been driven by the need to address shortcomings in the performance of public utilities many of which became highly inefficient and caused huge drains on government resources. However, initial conditions for competition can be unfavourable, especially if prices for liberalised utilities are determined under duopolistic market conditions. Hence, regulatory arrangements that can manage and regulate the restructured industries and competition across services suppliers are important for liberalised utilities.

Removal of state involvement in the day to day operation of sector utilities creates unfavourable conditions which justify efficient regulations necessary to restore efficiency and quality of service provision (Stern, 2000). Further, effectively regulated private or public monopolies prepare grounds for introduction of competition which would in turn improve efficiency, reduce the costs of infrastructure services and lower prices for consumers. New forms of regulation have become necessary to support the utility reforms being undertaken in many countries, especially in instances where an economy may remain susceptible to market failures. The welfare of consumers and taxpayers is likely to be increased by combining utility unbundling and privatisation with effective economic regulatory arrangements. The challenge for many countries is the establishment of effective regulatory infrastructures capable of playing complementary roles in fostering success in competitive markets and safeguarding consumer welfare (Newbery, 2004).

In Kenya, privatization of infrastructure provision as a major approach to the development of infrastructure started in earnest in the 1980's (Republic of Kenya, 2004). Structural reforms were targeted in energy, water, transport and telecommunication sectors. In these sectors, the government gradually withdrew from activities of commercial nature to pave way for increased private sector participation. In the energy sector, the structural reforms were aimed at introducing competition in commercial segments of electricity and petroleum sub-sectors in order to attract private sector investments. In tandem with the structural reforms, the Kenya government enacted the Restrictive Trade Practices, Monopolies and Price Control Act of 1989 in order to support the reforms by encouraging competition and reducing direct control of prices in the entire economy. The competition law and regulations are enforced by the Monopolies and Price Commission, under the Ministry of Finance. In addition, the Energy Act, 2006 established the Energy Regulatory Commission (ERC) as a single sector regulatory agency to specifically be responsible for economic and technical regulation of electric power, renewable energy and petroleum sub-sectors.

The expectations of these reforms was that the newly introduced regulatory mechanisms would provide more powerful incentives for regulated firms to reduce costs and improve service quality in a cost effective manner, stimulate the introduction of new

products and services and stimulate efficient investment in pricing of access to regulated infrastructure services. However, the attainment of the above has been mixed. For instance, electric power tariffs have remained high amidst continued market domination of both liberalised and non-liberalised segments. Further, it remains difficult to compare state-owned utilities with private sector players or even measure the resulting impacts of regulations since the former are often not exposed to market costs of capital. Similarly, reforms in the petroleum sub-sector¹ allowed greater participation of private sector, particularly in the importation, distribution and supply of services. Since October 1994, the procurement, distribution, and pricing of petroleum products were liberalized with a view to enhancing operational efficiency of the industry and also attracting private capital. The 1994 reforms also included the liberalization of transportation modes and attendant tariffs. Since liberalization, the oil industry has attracted a number of operators (Indetie, 2003 and ERC, 2008). However, the reforms have yielded mixed results, particularly with regard to competitive pricing and improvements in quality of products. This is largely reflected by growing public discontent about unrealistic fuel prices and escalating electricity tariffs and how these directly affect consumers.

This study looked into the regulatory framework and the application of regulatory and competition-related practices in the energy sector in Kenya. It specifically focused on the competition and regulatory systems and how they affect commercial provision of energy services involving private investment. Our assessment does not consider the outputs and outcomes of agencies' regulation or the effectiveness of regulatory instruments. Rather the final goal is to benchmark the competition and regulatory framework based on identified regulatory designs and institutional endowments having in mind the provision of efficient and affordable energy services as envisioned in the Kenya Vision 2030 blue print. The results of this study provide useful insights into possible mechanisms of promoting synergy and cooperation between the Competition Commission and Sector-Specific regulators with a view fostering efficiency and competitiveness in delivery of services.

1.2 Overview of Electricity and Petroleum Sub-Sectors in Kenya

The energy sector in Kenya comprises four sub-sectors namely: Biomass, fossil fuels, electricity and other renewable energy sources. The commercial energy sector is dominated by three main sources namely wood fuel (68%), petroleum (22%), electricity (9%) and others including coal and solar (1%) (Economic Survey, 2009).

(i). Electricity

According to Kenya's Economic Survey (2009), the major sources of electric power generation are hydro (50.6%), thermal oil (33.2%), geothermal (16.1%), cogeneration (0.061%), and wind (0.003%) as indicated in table 1.

¹ 99.4% of petroleum distribution market share is done by the private sector.

Table 1: Electricity Generation by Source

SOURCE (GWH)	2004	2005	2006	2007	2008*
Hydro	3,169	3,039	3,025	3,592	3,272
Thermal oil	1,038	1,506	1,819	1,736	2,145
Geothermal	987	1,002	1,046	989	1,039
Cogeneration	-	-	5.6	8.3	4.0
Wind	0.4	0.3	0.3	0.1	0.2
Imports	161.9	27.9	10.8	22.5	-
Total	5,357	5,575	5,906	6,325	6,460

Source: Economic Survey, 2009

* Provisional figures

The major consumers of electricity are commercial and domestic household users (see table 2). Consumption of electricity is extremely low in Kenya amounting to only 121 kilowatt-hours (KWH) per capita and national access rate of about 15% which is far below the average 32% in developing countries. The current effective power capacity in the country stands at about 1,263 megawatts, including 146 MW of emergency plants against a peak demand of 1,055 megawatts and is projected to rise by 14% per annum to 2,100 MW in 2016/17. The reserve margin excluding the emergency power plant stands at 6% against an international benchmark of 15% for systems of similar size to guarantee security of supply during periodic maintenance or break-downs.

Table 2: Electricity Consumption in Kenya 2004-2008

SECTOR (GWH)	2004	2005	2006	2007	2008*
Domestic and small commercial	1,417	1,508	1,572.4	1,741.8	2,000.8
Large and medium	2,587	2,754	2,919.8	3,140.6	3,019.8
Off-Peak	66.8	52.9	44.6	49.2	66.2
Street Lighting	7.2	8.5	10.0	12.2	26.3
Rural Electrification	156.5	175.8	205.6	212.8	239.1
Total Domestic	4,234.1	4,498.4	4,752.4	5,156.6	5,352.2
Exports to Uganda	-	24.4	46.7	58.3	41.0
Transmission losses	960.3	1,024.2	1,095.8	1,109.7	1,067.4
TOTAL DD - TOTAL SS	5,194.5	5,547.0	5,894.9	6,324.6	6,460.4

Source: Economic Survey, 2009

* Provisional figures

Domestic supply of electricity increased by 2.1% from 6,324.6 GWh to 6,460.4 GWh in 2007 and 2008, respectively. This was much lower than the 7.1% growth realized during the previous year. Total domestic consumption of electricity grew by 3.8% between 2007 and 2008 compared to 8.5% and 5.6% growth rates during the previous two years, respectively. The number of customers connected under the Rural Electrification Programme rose by 20% to stand at 133,044 customers as at June 2007 up from 110,724 in June 2006.

(ii). Petroleum

Petroleum is the most important source of commercial energy. Petroleum fuels are imported in form of crude oil for domestic processing and also as refined products, and mainly used in the transport, commercial and industrial sectors. Fluctuations in international prices directly affect domestic prices. For instance, the international price of Murban crude oil rose by 46% from US\$ 62.05 per barrel in December 2006 to US\$ 90.60 per barrel in December 2007 and about US\$140 per barrel in August 2008, before plummeting to less than US\$ 50 by March 2009. Total quantities of petroleum imports registered a growth of 16.4% to stand at 3,691.8 thousand tonnes in 2007. The total import bill of petroleum products rose by 7.1% in 2007 compared to 8.9% in 2006. Total domestic demand for petroleum products also rose by 2.8% from 3,131.5 thousand tonnes in 2006 to 3,218.3 thousand tonnes in 2007.

Trends in the sale or consumption of petroleum fuels indicate that retail pump outlets and road transport constitute the single largest consumer of petroleum fuels followed by aviation and power generation (see table 3). Kerosene as a cooking and lighting fuel is equally important especially for the rural and urban poor households and sometimes used as a substitute to wood fuel. Tax policy measures on kerosene have far reaching implications on its consumption and household welfare. Kerosene has other implications on air pollution, health impacts on the poor and security concerns particularly when used to adulterate other fuels.

Table 3: Domestic Sale of Petroleum Fuels by Consumer Category

Consumer category 000 tonnes	2004	2005	2006	2007	2008*
Agriculture	58.1	35.7	34.8	56.5	37.1
Retail pump outlets and road transport	1,269.0	1,344.5	1,542.5	1,570.4	1,609.3
Rail transport	20.8	17.9	20.5	16.4	13.5
Tourism	8.5	8.7	8.9	11.6	8.1
Aviation	520.9	549.4	594.5	635.7	0.8
Power generation	204.2	319.3	386.6	399.9	567.0
Industrial, commercial and other	291.2	362.4	405.9	408.8	360.4
Government	39.9	57.8	31.2	8.3	482.0
Others	-37.9	11.7	13.4	13.3	12.5
Total	2,374.6	2,707.5	3,038.2	3,121.1	3,133.1

Source: Economic Survey, 2009

* Provisional figures

Table 4: Petroleum consumption by category

Type 000 tonnes	2004	2005	2006	2007	2008*
Liquefied petroleum gas	41.7	49.4	64.6	77.4	84.4
Motor spirit (Super & Regular)	326.4	333.7	358.2	367.1	381.3
Aviation spirit	522.9	561.1	595.3	640.7	561.7
Illuminating kerosene	236.1	307.0	279.2	262.2	244.7
Light diesel oil	789.4	892.4	1,035.6	1,116.5	1,141.1
	25.2	25.5	40.7	40.1	30.0

Heavy diesel oil Fuel Oil	432.8	546.7	664.6	614.8	690.0
Total	2,374.5	2,715.9	3,038.2	3,118.8	3,133.0

Source: Economic Survey, 2009

* Provisional figures

1.3 Statement of the Problem

A well functioning institutional and regulatory framework is central to achievement of sustainable energy supplies and the objectives of the Vision 2030 in Kenya. In that regard, the Kenya Government introduced competition in commercial segments of electricity and petroleum sub-sectors in order to attract private sector investments. The structural reforms have significantly changed the functioning of the electricity and petroleum product markets and provided new opportunities, products and services. However, while much progress has been made in market opening, there persist shortages in generation capacity and poor incentives for massive investments into the sector. For instance, as at end of June 2008 the national power system had an installed capacity of 1,310 MW with a maximum output of 1,267 MW under normal operating conditions (KPLC Annual Report 2009). Total system peak demand during the period was 1,044 MW implying a near zero reserve margin without the EPPs. Besides, currently, hydro power accounts for about 54.6% while thermal and geothermal accounts for 45.4% with negligible investments in wind power generation. Independent and Emergency Power Producers produce only thermal and geothermal power as opposed to hydro or cheaper alternative sources. Consumption of electricity is low in Kenya amounting to only 121 kilowatt-hours (KWH) per capita and national access rate of about 15% which is far below the average 32% in developing countries.

KenGen which is largely government-owned accounts for about 76.6% of effective production capacity, while EPPs and IPPs account for only about 11.5% and 11.3%, respectively. Besides, electric power tariffs have remained high amidst continued market domination of both liberalised and non-liberalised segments. On average, the unit cost of electricity has been increasing the years i.e. from ksh. 5.92 per Kwh in 2003 to Ksh 8.13 per Kwh in 2008 (KPLC Annual Report, 2008). Likewise, the petroleum market portray oligopolistic tendencies and oil marketing companies rarely pass on cost reductions to consumers when international oil prices are on a downward spiral. For instance, when the load port price of murban crude oil dropped from a record high of US\$ 137.35 per barrel in July 2008 to US\$ 42.10 per barrel (69.9% drop) in December 2008, the pump prices of super petrol dropped from ksh. 110.00 per litre to ksh. 78 per litre or by 29.1% over the same period (ERC Annual Report 2008).

1.4 Objectives and Scope of the Study

The overall objective of this study is to review and assess Kenya's national competition policy vis-a-vis the energy sector regulations. Specific objectives include:-

- a) To assess the institutional framework and structure of the national competition policy;
- b) To review and evaluate the competition-related regulations and institutional framework in the energy sector;
- c) To undertake a comparative analysis of competition and regulatory framework in energy sector in other countries;

In order to achieve the above objectives, the study accomplished the following tasks:

- a) Evaluating the institutional framework and capacity for enforcement of competition-related laws and regulations in the electricity and petroleum sub-sectors;
- b) Establishing and assessing the existing administrative procedures for enforcement of competition laws in the electricity and petroleum sub-sectors;
- c) Evaluating the relevance of existing laws and enforcement powers;
- d) Evaluating the independence, transparency and clarity of existing regulations;
- e) Assessing the market structure and performance of the electricity and petroleum sub-sectors;
- f) Assessing the quality, service delivery and dispute settlement mechanisms;
- g) Evaluating the coordination and information exchange between the competition authority and the energy sector regulator;
- h) Assessing the level of awareness about competition-related regulations among stakeholders;
- i) Identifying implementation and enforcement challenges and constraints.

1.5 Significance of the Study

Kenya, like other developing economies requires large quantities of affordable and good quality energy supplies to sustain private investments and growth. Ensuring efficiency in service delivery and competitiveness in energy prices is central to attainment of the objectives of the vision 2030. The extent to which these objectives can be realised on a sustainable basis and in an environmentally sound manner is dependent on the degree and extent of efficiency with which critical factors of production are made available and combined with each other to produce desired results. Further, the realization of these objectives is only feasible if quality and affordable energy services are made available to all sectors of the economy ranging from manufacturing, services, mining and agriculture to house-holds on a sustainable and cost-effective manner.

Under the circumstances, the regulatory design and institutional framework in the sector is deemed to play a central role in so far as pricing of energy products, enforcement of laws and regulations and eventual attainment of tangible benefits are concerned. Hence, an assessment of the regulatory framework within the energy sector is necessary to inform on-going reforms in the sector that will make it possible for greater private sector participation in provision of energy-related services eventually leading to enhancement of consumer welfare.

2.0: SCOPE AND METHODOLOGY

The study covers the electricity and petroleum sub-sectors. The study looks at competition policy with respect to electricity and petroleum energy sub-sectors in Kenya. The latter present a classic case study of a concentrated sector that has simultaneously undergone processes of liberalisation and domestic consolidation. The methodology used by the study team was intended to achieve the set objectives as outlined in the terms of reference.

2.1 Research Design

A cross-sectional survey was conducted between January and February 2009 in four clustered regions namely, Nairobi region, Western region, coast region and Mount Kenya region, based on KPLC's administrative geographical boundaries.

2.2 Sample Design

The field survey was undertaken at two levels: (i) key regulatory institutions and service providers and (ii) key informants and users of energy. These groups made up the study population of 110 eligible respondents i.e. 10 regulatory institutions and 100 key informants identified by a mix of purposive and random sampling techniques.

We aimed to interview key regulatory institutions. The survey covered 6 out of 10 identified institutions including the Ministry of Energy, the Energy Regulatory Commission (ERC), the Monopolies and Prices Commission (MPC), the Kenya Power and Lighting Company (KPLC), the Kenya Electricity Generating Company (KENGEN) and the National Oil Corporation of Kenya (NOCK). On the other hand, the sample group of key informants constituted 100 respondents drawn from a list of key interest groups including Manufacturers, the Kenya Association of Manufacturers (KAM), consumer organizations, Professional Associations and selected Civil Society Organizations distributed across the four study regions.

The survey targeted respondents from each of the four regions the sample size of which was based on proportions of the KPLC's customers by region during the year 2008 i.e. 63 respondents for Nairobi region, 22 for Western Kenya region, 13 for coast region and 12 for Mount Kenya region.

2.3 Data collection

Structured questionnaires were prepared to capture relevant information based on the study objectives and type of respondents. Questionnaires were initially administered to similar respondents in non-participating institutions to for validation. The investigators

made prior appointments with each of the relevant institutions/respondents and explained the objectives of the study. In total, 110 questionnaires were administered to all the selected eligible respondents out of which 64 were comprehensively completed. The list of respondents and institutions are contained in Annex 2.

The study team also examined the relevant documentation, which included reports, and various policy documents and internet sources. The purpose of the documentary review was to collect published data and information on the subject as a basis for further verification. Major documents were obtained from the Ministries of Energy, Energy Regulatory Commission, Ministry of Trade, Ministry of Finance as well as other government agencies involved in production, distribution or sale of energy products. Other secondary sources of data used in this study included various economic surveys, statistical abstracts, annual reports of various market players and previous study reports and publications.

2.4 Data Management and Analysis

Data base was made in MS-Excel. Before analysis, data were cross-checked for entry error and range checks. Analysis was done using SPSS version 15 for Windows. Descriptive statistics was obtained for different quantitative variables. Frequencies and percentages were used to present categorical variables. Furthermore, analysis of qualitative data was done according to identified key study parameters and content categorization in view of the research objectives.

2.5 Study Limitations

This study was carried out against a back-drop of some limitations. First, data collection and monitoring by regulatory authorities are still weak hence available data was of poor quality and in-sufficient for comprehensive analysis. The study team complemented available information with oral interviews and internet sources in order to draw relevant conclusions.

Secondly, there was an alleged oil procurement scandal at the time of the survey which put some key players into sharp focus thereby affecting information availability. This made it extremely difficult to gather all necessary information, from respondents particularly in the petroleum sub-sector for fear of investigations. The survey team however elaborated the background and purpose of the study and re-assured the respondents of the confidentiality of the information.

Finally, available financial resources were not sufficient to enable the team carry out a more national comprehensive survey targeting all consumers countrywide. The team therefore purposively sampled key informants to ensure that the views from all key stakeholders and interest groups were gathered during the survey.

On account of the above limitations a number of issues were not exhaustively addressed in the report. In spite of the above constraints, the study team put together all information gathered and developed this report in response to the study objectives. In particular the team made a number of important findings and recommendation, including those relating to areas for further study.

2.6 Organization of the Study

The rest of the study is organized as follows. Part 3 of the report covers the literature review including the theoretical literature and analytical framework used in the study. In part 4 of the report, an overview of the competition policy and the energy sector institutional and regulatory framework in Kenya is presented. A comparative analysis, country experiences and best practices in energy sector regulatory and competition-related issues are provided in part 5 of the report. In part 6, the study findings as well as the major constraints and challenges are presented and discussed. The final part contains the conclusion and recommendations.

3.0 LITERATURE REVIEW

3.1 Theoretical Literature on Regulation

The design and institutional framework of competition authorities is linked to internal customary and administrative structures. Sustainability and success of regulatory models depends considerably on the establishment of effective and autonomous regulatory institutions. Overall, competition authorities should be delegated the power to implement competition policies at the national level and also guaranteeing their close coordination with sector regulators. In ideal situations, where a regulator has full information, is benevolent and able to fulfil any promises made, competition cannot improve upon regulated monopolies. In such circumstances, the regulator will ensure the firm produces the ideal range of services at the lowest possible cost and will set welfare-maximizing prices for these services (Joskow, 2005).

Consequently, industry performance will not improve if an additional firm operated in this setting. However, market information is naturally scanty and regulators invariably lack important information about the markets they oversee. On the other hand, the regulated firm will be better informed about the demand for the regulated services, the minimum possible costs and potentials for less costly future provisions. This information asymmetry gives rise to an unavoidable trade-off between rent and efficiency: the firm can be motivated to operate efficiently but only if awarded substantial rent for doing so. In particular, the firm will operate at minimum cost and attempt to satisfy the needs and desires of customers only if it is awarded the full surplus that its activities generate. However, such an incentive to the regulated firm typically will provide it with significant rent, and thereby reduce the net benefits enjoyed by consumers, hence the need to limit it.

3.2 Key Regulatory Principles

1. Licensing

The prime requirement for regulation is to license all organizations that wish to be actively involved in the market. The license defines the parameters within which the licensees are empowered to operate and lays down rules on the provision of service to customers; the data that the regulator requires at specified intervals; and evidence that financial transactions between the licensed and non-licensed operations of the company conform to the prohibition of cross-subsidy and predatory principles rules. The license is also the link with other necessary legislation; relevant interest by other agencies and the necessary technical and safety requirements by which the energy industry functions.

2. Price control & Service Quality

Monopoly providers have no external commercial incentive to become more efficient. Thus left to themselves, they go for monopoly pricing, normally high, with declining

quality of services because the customer is captive and has no choices. Price controls on regulated monopolies are an attempt to combat monopoly pricing and to try to stimulate the monopoly to act as if it were in open competition with others. This can be through revenue, profit or cost caps. The most effective method of price control is to cap the revenue generated since it is easily verifiable unlike profit and costs. Improvement in customer care in a monopoly is an offshoot of price control, in that the quality control of services to customers can be quantified in terms of the satisfaction that customers experience when they are compensated for a failure by the monopoly to undertake an action as set out in the rules and regulations.

3. Enforcement

Regulation is the imposing of conditions on monopolies that without sanctions, would be considered 'unnatural' and intrusive to a monopoly way of life. All the price controls, license conditions and codes of practice would be ignored if there were no obvious, robust and simple sanction that the regulator could impose. Every license requirements has enforcement or compliance rules which stipulate sanctions that are clear, obvious in intent and swift in application. Evidence of a breach of the basic duties by a licensee of the compliance invokes enforcement of such sanctions or penalties.

4. Quality

Theoretically, quality should be such that the cost of the last unit of quality improvement equals the aggregated marginal willingness to pay for the additional quality (Hirschhausen et al, 2004). State-owned utilities are likely to over-invest if they face no hard budget constraints. On the other hand, un-regulated monopolies will supply too much (or too little) depending on whether the marginal willingness to pay for quality by the marginal consumer is higher (lower) than the average willingness to pay in the group of consumers. Regulatory processes affect maintenance and expenditures and capital allocations. In the electricity sub-sector, quality measurements arising from regulatory processes are interpreted as reductions of power outages.

3.3 Best Practice in Regulatory Reforms

Three aspects of best practice have been identified in regulatory reforms namely: the *form of regulation*, which relates to the powers and responsibilities of the regulatory agency; the *process of regulation*, which relates to the way that the agency carries out its responsibilities and the *outcome of regulation* i.e. the measurement of success of the regulatory agency (Green et al., 2006).

2.3.1 Form of Regulation: This involves an examination of the competencies and strengths of the regulatory agencies based on their powers and responsibilities. These include whether regulatory rules are set *ex ante* or *ex post*, the former being better for investment decisions and efficiency in decision making. In addition, the extent of ministerial involvement is important and the less such involvement the better so as to minimize arbitrary political interventions. Again, the strength of information acquisition

powers i.e. the stronger being better for the monitoring of market power and the setting of regulated tariffs. Strong and effective regulators have control over tariff setting, network access term, issuing of licences, setting of delivery terms and in settling of disputes and enforcing punishments. The other elements are the extent of independence and tenure and terms of appointment of heads of regulatory agencies or commissioners whereby longer terms less subject to arbitrary dismissals are better. Besides, the financing of the agencies is important with freedom from general government expenditures and better remuneration of employees.

2.3.2 Process of Regulation: The measures of process might include whether all stipulated are posted on the website i.e. if there is a work plan, whether work plan targets have been delivered; if there is use of external advice; if there is ex post assessment of decision making etc.

2.3.3 Outcome of regulation: Though difficult to clearly establish, outcome indicators include adequacy of amount of investments, level of capacities shortages and outages, the size of system losses (technical and non-technical) and the percentage of non-payments. Others include price trends, switching rates in retail competition and the cost of regulation per unit of energy delivered. These measures can be looked at country by country over time. For instance, In the UK's regulatory agency, there were large price reductions in regulated transmission and distribution charges of about 30% and 50% respectively, between 1993 and 2005 (Green et al., 2006).

3.4 Empirical Studies

Different studies that have assessed regulatory agencies in the infrastructure sector have considered the United States Model of the independent commission as their benchmark of comparison and analysis. The US model emphasises agencies that make decisions independently from the Executive Branch, are subject to the accountability of parliament and have budgeting autonomy (Andreas et al, 2007). A third approach considers mechanisms for achieving high quality regulation regardless of the sector and the agency's design (OECD, 1999). According to UNCTAD (2005), some of the best practice features of a competition authority are as follows:-

- Independent, insulated from political interference;
- Transparent, well-designed administrative mechanisms, regulations and procedures;
- Separate investigation, prosecution and adjudication functions;
- Checks and balances with rights of appeal, reviews of decisions and access to information on legal and economic interpretations;
- Expeditious and transparent proceedings with safeguard sensitive business information;
- Provisions for imposing significant penalties.

Johannsen (2003) measured the formal independence of energy regulators in eight European countries namely, Austria, Ireland, Italy, Luxembourg, Northern Ireland and Spain. The study assesses the independence of energy regulatory agencies through four

main variables: a) independence from government, b) independence from stakeholders, c) independence in decision-making process and d) organizational autonomy. According to the survey, the energy regulator in Italy proves to be the organization with the largest degree of independence followed by Ireland, while Spain and Luxembourg had the lowest scores. The study draws conclusions reflecting on the fact that the main emphasis has been on creating independent bodies rather than independent regulation and that greater emphasis should be on the actual activities of regulators rather than theoretical designs.

Gilardi (2002) develops an independence index, covering regulators from five sectors in seven European countries i.e. Belgium, France, Germany, Italy, Netherlands, Sweden and the United Kingdom. The author attempts to prove that governments delegate their regulatory powers and competencies to independent regulatory agencies to enhance the credibility of their policies. The independence index focuses on formal independence and is divided into five components: a) the status of the head of the agency; b) the management board members'; c) the general nature of the relationships with the government and the parliament; d) the degree of financial and organizational autonomy; and e) the extent of delegated regulatory competencies. The study concludes by confirming the "credibility theory" and stressing the positive impact of the economic nature of regulation.

Stern and Holder (1999) developed a framework to assess the governance of economic regulators in several sectors (electricity, natural gas, telecommunication, transport and water) in six developing Asian economies (Bangladesh, India, Indonesia, Malaysia, Pakistan and the Philippines). Their appraisal scheme is composed of two variables related to the formal (institutional design) and informal (regulatory processes and practices) aspects of regulation. The first variable contains the following components: clarity of roles and objectives, autonomy and accountability. The second variable includes participation, transparency and predictability. Results indicate middle-low levels of regulatory governance for all sectors and countries included in the research.

Two comprehensive approaches to assessing the governance of regulatory agencies have been those developed by Correa *et al.* (2006) and Brown *et al.* (2006). Correa *et al.* provide a detailed analysis of Brazilian regulatory agencies. These studies approach the assessment of independent regulatory agencies through the indices of autonomy, transparency, accountability and an number of indicators which define the content of regulations i.e. tariff levels, network access conditions and existing customers.

Several factors affect the optimal choice between regulation² and unregulated competition (Armstrong *et al.*, 2005). These include among others: (i) the resource constraints the regulator faces; (ii) the potential role of regulation in pursuing

² Regulation is the mechanism whereby the providers of a service or facility are directed to provide the highest stand of service and customer care in the most cost effective manner possible. This is achieved by providing incentives to operators to bring their corporate desires and needs into line with the desires and needs of their customers. Benefits are passed to customers by encouraging open competition which will provide enhanced services to customers and creating a series of controls where competition is weak or non-existent.

distributional objectives; (iii) the instruments available to the regulator; (iv) the prevailing degree of regulatory independence and accountability; (v) the ownership structure of incumbent industry producers; and (vi) the importance of industry investment and innovation.

3.5 Analytical Framework

The research framework described in this paper is adopted from the literature on institutions and transaction costs in which institutions play critical roles in determining efficient solutions to problems of organization in competitive environments (North, 1991). In this framework, Williamson (2000) argues that a private-enterprise system cannot work properly unless property rights are created in resources and this is done when someone wishing to use a resource has to pay the owner to obtain it. Once property rights have been defined and their enforcement assured, some order occurs, the government steps aside and the legal system is necessary to arbitrate disputes (Coase, 1959). Levy and Spiller (1994) further elaborated this framework when evaluating the performance of utilities whereby market competition and enforcement of property rights are critical in ensuring smooth functioning of markets.

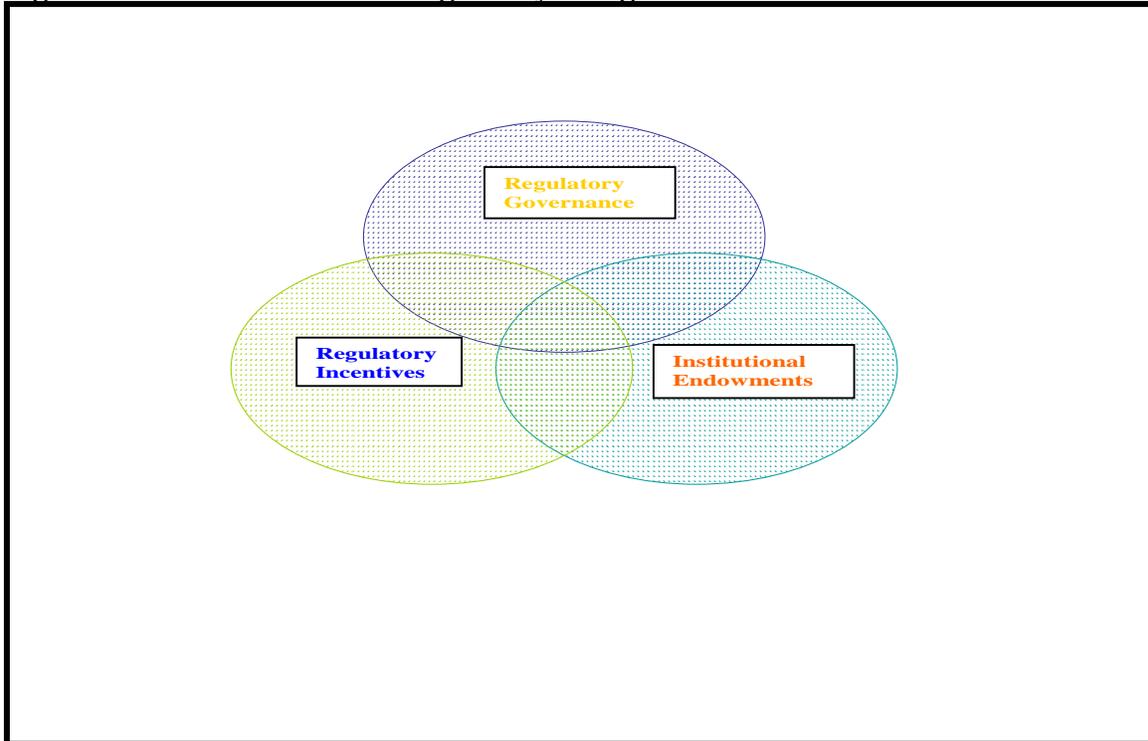
According to Levy & Spillar (1994) utility services are characterised by: 1) Economies of Scale and scope; 2) highly specific and non-deployable and 3) have broad range of domestic users. Under the New Institutional Economics (NIE), these characteristics create problems that undermine ordinary market mechanisms. Economies of scale and scope and highly specific assets imply that the number of providers of basic utility services may be relatively small, while widespread domestic consumption implies that pricing of utilities by and large becomes a political issue. In addition, these characteristics make utilities highly vulnerable to administrative controls e.g. price settings, specific investment requirements, labour contract conditions, which affect private investments in utilities.

Literature on the design of regulatory agencies generally focus on three main aspects namely, a) the Regulatory Governance, 2) Regulatory incentives and 3) institutional endowments as presented in figure 1 below (Levy and Spiller, 1994; North, 1990; Williamson, 1985).

The governance structures of a regulatory system: These are mechanisms that societies use to constrain regulatory discretion and to resolve conflicts that arise in relation to these constraints or 'contractual obligations'. On the other hand, *incentive structure* comprises rules governing utility pricing, subsidies, entry, interconnections etc. The performance of regulatory incentives depends on how governance structures have been put in place. Both regulatory governance and incentives are choice variables in hands of policy-makers, constrained though by *institutional endowments* of countries. A country's institutional endowment comprises 5 elements as follows: 1) the legislative and executive institutions- for appointing legislators and decision-makers and for making laws and regulations; 2) the judicial institutions - formal mechanisms for appointing judges and determining the internal structure of the judiciary and resolving disputes among private parties, or between private parties and the state; 3) customs and norms

that constrain the action of individuals and institutions; 4) social interests, ideologies and their balance within a society and lastly, the administrative capabilities of a nation (North, 1990).

Figure 1: Framework for Regulatory Design



Source: Adapted from Levy & Spillar (1994)

In addition, Brown et al, (2005) developed a best practice independent regulator model whereby ten key principles were identified as being necessary for effective regulation. The ten principles include; (i) independence, (ii) accountability, (iii) transparency and public participation, (iv) predictability, (v) clarity of roles (vi) completeness and clarity of rules, (vii) proportionality, (viii) requisite powers, (ix) appropriate institutional characteristics, and (x) integrity.

Presently, the economics of regulation literature includes three broad propositions as follows (see Kirkpatrick and Parker, 2004 for further discussions):

(i) The institutional context is critical to the process and outcomes of a regulatory regime. Regulation in economies involves the setting of particular rules regarding market structure and business conduct and these rules both arise out of and influence the future of economic institutions. Levy and Spillar (1994) focus on regulatory arrangements to sustain private investment and how these vary with institutional authority, though there usually will be a right of appeal to the courts to ensure fairness and rationality in the decision-making processes.

(ii) A regulatory framework should be both effective and efficient. Effective regulation achieves the social welfare goals set down by the government for the regulator at the time the regulatory office was established and as subsequently amended after appropriate consultations. This can be achieved by regulation affecting (a) the structure of markets and (b) conduct in markets through appropriate incentives and penalties. Efficient regulation achieves the social welfare goals at minimum economic costs. Economic costs of regulation take two broad forms: (1) the costs of directly administering the regulatory body or bodies; and (2) the compliance costs of regulation, which are external to the regulatory agency and fall on consumers and producers in terms of economic the economic costs of conforming with the regulations and of avoiding and evading them.

(iii) Competition is superior to state regulation and should be preferred. Economic regulation attempts to 'mimic' the social welfare results of competition, but it can do so only in a 'second-best' way because competitive markets generate superior knowledge of consumer demands and producer supply costs (Sidak and Spulber, 1998). Thus, there is a strong preference for competition over state regulation only until competition arrives.

Following Levy & Spillar (1994), Brown et. al (2005); Kirkpatrick et. al (2004) and UNCTAD (2006), we adopt six (6) broad indicators/principles to evaluate the institutional and regulatory framework of the electricity and petroleum sub-sectors namely: (1) Institutional capacities, (2) Regulatory Independence and Transparency, (3) Market structure and sector performance, (4) Quality of service delivery and dispute settlement, (5) Coordination and Information Exchange and (8) Advocacy and Awareness creation. The evaluation of the relationship between competition policy and the regulatory framework was guided by five key approaches identified by UNCTAD (2006). These parameters formed the basis for evaluating the economic and competition-related regulations in Kenya's electricity and petroleum sub-sectors.

4.0 OVERVIEW OF COMPETITION AND REGULATORY FRAMEWORK

4.1 Competition Policy and Laws

a. The Legal Framework

Kenya's competition law is enshrined in the Restrictive Trade Practices, Monopolies and Price Control Act which came into force in 1989³. The Act replaced the Price Control Act which was repealed, but the previous price control provisions were incorporated into the new law as a transitional measure to allow movement from a price control to a market economy. The intentions of the law are to allow government to encourage competition in production of goods and services and reduce direct control of prices in the entire economy. The Act specifically provides for the control of restrictive business practices, the control of monopolies and concentration of economic power and the control and display of prices. However, there was suspension of part 4 relating to control and display of price since 1994 and petroleum products were the last to be removed from the price control regime. A summary of the provisions of the other sections are described below:-

(i) Restrictive trade practices

Part 2 of the Act, defines restrictive trade practices as acts performed by one or more persons who eliminate opportunities to participate in the market or to acquire goods and services. Reduction or elimination of opportunities is to be measured with reference to the situation that would have been obtained in the absence of the practice in question. These include:-cartels, resale price maintenance, quantity rebates and discrimination and market sharing. However, a wide range of exemptions are stipulated in section 5 (a) including exemptions of trade practices that are directly and necessarily associated with the exercise of exclusive or preferential trading privileges conferred by an Act of parliament or by an agency of the government acting under an Act of parliament.

The above has in effect removed practices of public enterprises from the provisions of the competition law but the public enterprises themselves remain subject to the laws in accordance with section 73 of the Act. Thus by and large much of market and business conduct practices of utility sectors (electricity etc) fall within this exemption and are therefore not subject to the general competition law.

(ii) Monopolies and concentration of economic power

Under Part 3 of the Act, the minister of finance is required, in section 23 to keep the structure of production and distribution of goods and services under review to determine where unwarranted concentrations of power exist whose detrimental impact

³ A new bill, the Competition Bill, 2009 contained in Kenya Gazette Supplement No. 24 (Bills, No. 4) has been introduced in parliament. The Bill comprises 10 parts namely:- Part 2: Establishment of the Powers and functions of the Competition Authority; Part 3: Restrictive Trade practices; Part 4: Mergers; Part 5: Control of Unwarranted concentration of economic power; Part 6: Consumer welfare; Part 7: Establishment and Powers of the Competition Tribunal; Part 8 Financial Losses; Part 9 Miscellaneous and Part 10: Repeal, Savings and Transitional Provisions.

on the economy out-weighs the efficiency advantages if any, of integration in production and distribution. It requires special attention to be paid to the following:- 1) where a person controls a chain of distributing units the value of whose sale exceed one third of the relevant market for those goods, which can be national, regional or urban; 2) where a person controls two or more physically distinct units which manufacture substantially similar products supplies more than one third of the domestic market; 3) where a person has beneficial interest exceeding twenty percent in a manufacturing enterprise and simultaneously has any beneficial interest in one or more wholesale or retail enterprises which distribute products of the manufacturing enterprise; 4) where a person has a beneficial interest exceeding twenty percent in a wholesale distributing enterprise and simultaneously has any beneficial interest in one or more retail enterprises which distribute goods of that wholesale enterprise. Concentration of economic power are deemed to be prejudicial when they; unreasonably increase the costs of production, supply, and distribution of goods/services, increase prices and profits, reduce or limit competition or result in the deterioration of quality.

(iii) Control of mergers and takeovers

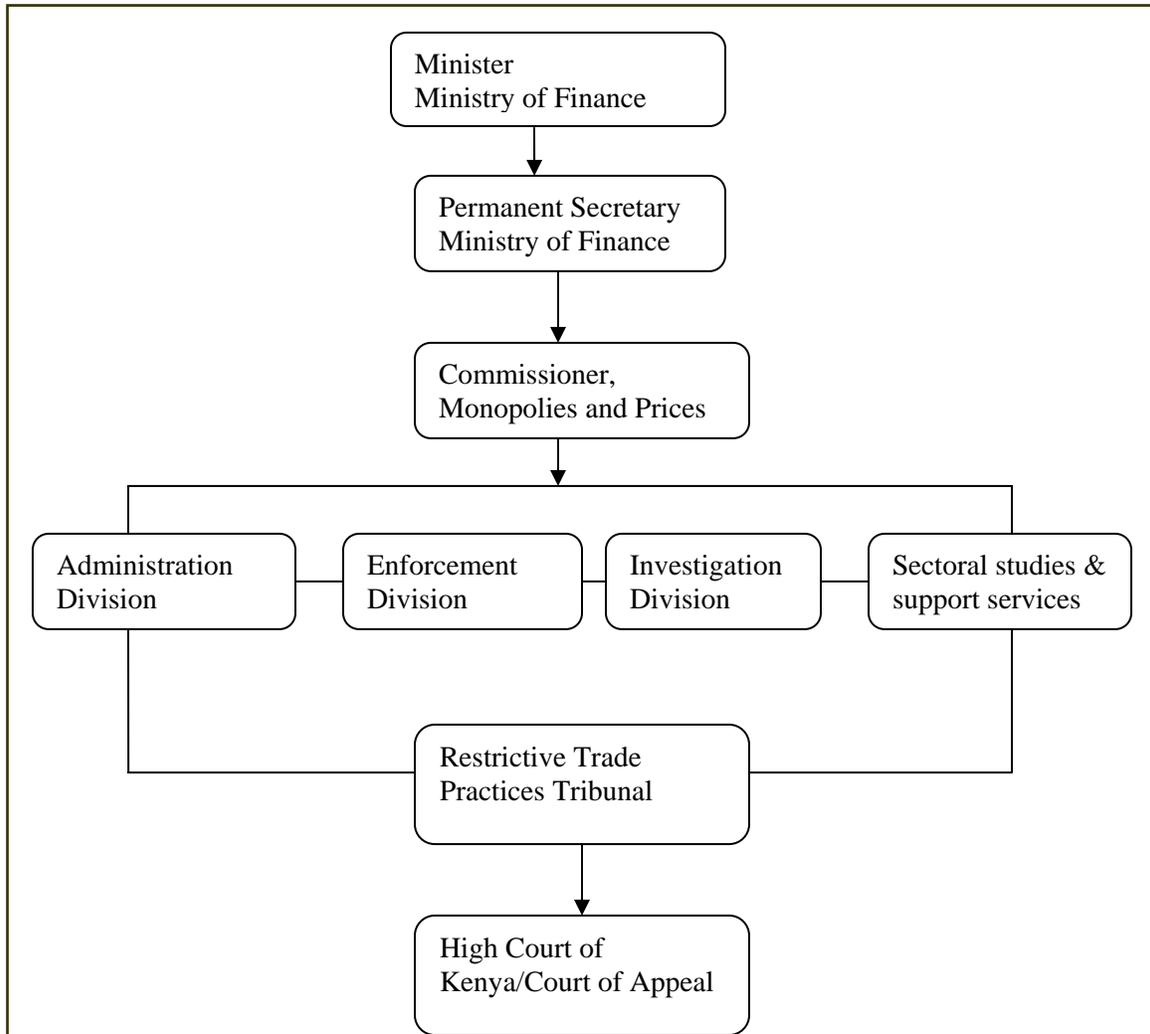
Section 27 of the Act prohibits horizontal mergers and takeovers between two or more independent enterprises unless they are authorized in accordance with the law, by the minister of Finance. Application for an order authorizing a merger or takeover is made to the minister through the commissioner who then investigates the application before making a recommendation to the minister. In evaluating the application the commissioner must have due regard to the set out criteria; 1) advantageous to Kenyans to the extent that they are substantially more efficient unit with lower production costs and greater marketing thrust, thus enabling it to compete more effectively with imports and expand Kenya's exports and therefore increase employment; 2) disadvantageous to the extent that it reduces competition in the domestic market and increases the ability of producers of the goods or services in question to manipulate domestic prices due to oligopolistic interdependence; 3) disadvantageous to the extent that it encourages capital intensive production technology in lieu of labour intensive technology.

b. The Institutional Framework

The Act presently provides for four enforcement institutions namely; the office of the Minister of Finance; the Office of the Commissioner for Monopolies and Prices; the Restrictive Trade Practices Tribunal; the High Court of Kenya. The office of the Minister of Finance has the overall powers to administer and enforce competition law. Under Sections 3 of the Act, the Commissioner of Monopolies and Prices Control is subject to the control of the Minister for Finance. All decisions made by the Commissioner regarding restrictive trade practices, control of concentration of economic power, mergers and takeovers are subject to the orders of the Minister of finance. The commissioner only makes recommendations to the minister. However, the Act doesn't make it mandatory for the minister to seek recommendations from the commission. The Act also provides four institutions for the enforcement, administration and settlement of disputes in relation to Competition and Fair Trading, namely the Minister for Finance, the Commissioner of the Commission, the Restrictive Trade Practices Tribunal (RTPT)

and the High Court of Kenya. If an aggrieved party is dissatisfied with the Tribunal, the law provides that the person can appeal to the High Court. The decision of the Court is final.⁴

Figure 2: Structure of the Prices and Monopolies Commission⁵



Source: Ministry of Finance, 2009

The office of the Commissioner for Monopolies and Prices Control is responsible for the control and management of the competition authority. Though the Act mentions the appointment of the commissioner, the appointing authority of the Commissioner as well as other officials is unclear but they serve under the terms and conditions of the Public Service Commission. The powers of the Commissioner include; receiving complaints from aggrieved parties, investigating complaints, evaluating cases, hosting public hearings and making recommendations to the minister. Since the Commission is a

⁴ Since the establishment of the competition authority, there has not been an appeal case presented to the High Court.

⁵ The Tribunal and the High Court are independent institutions and not part of the Commission per se.

department of the Ministry of Finance, the Commissioner is placed under the supervision of the Permanent secretary ministry of finance. The Commission has two Deputy Commissioners who are in charge of legal and technical matters, respectively. The commission has four divisions; investigations, enforcements, administration and sectoral studies & support services division. The Commission has 32 members of staff of which 21 professionals.

The restrictive trade practices tribunal is provided for by section 64 of the Act. The tribunal comprises of a chairman and between two to four other members. The chairman must be an advocate of the high court of not less than seven years. The tribunal handles appeals on decisions made by the minister on the recommendation of the commissioner. A party that is dissatisfied with the decision of the tribunal can appeal to the high court against that decision within thirty days after the date on which notice of that decision has been served. The decision of the final court is final.

4.2 Proposals for New Competition Laws

A new bill, the Competition Bill, 2009 has recently been introduced in parliament to replace the Restrictive Trade Practices, Monopolies and Price Control Act, 1989. The proposed bill is intended to “*promote and safeguard competition in the national economy; to protect consumers from unfair and misleading market conduct; to provide for the establishment, powers and functions of the Competition Authority and the Competition Tribunal*”. The new bill proposes the establishment of an independent Competition Authority and the protection of consumers from unfair and misleading market conducts among other notable changes. The proposed functions of the Authority include:-

- a) Promote and enforce compliance with the Act;
- b) Receive and investigate complaints from legal or natural persons and consumer bodies;
- c) Promote public knowledge, awareness and understanding of obligations, rights and remedies under the Act and the duties, functions and activities of the Authority;
- d) Promote the creation of consumer bodies and the establishment of good and proper standards and rules to be followed by such bodies in protecting competition and consumer welfare;
- e) Recognize consumer bodies duly registered under the appropriate national laws as the proper bodies, in their areas of operation, to represent consumers before the Authority;
- f) Make available to consumers information and guidelines relating to the obligations of persons under the Act and the rights and remedies available to consumers under the Act;
- g) Carryout inquiries, studies and research into matters relating to competition and the protection of the interests of consumers;
- h) Study government policies, procedures and programmes, legislation so as to assess their effects on competition and consumer welfare and publicize the results of such studies;

- i) Investigate impediments to competition, including entry into and exit from markets, in the economy and publicize the results of such investigations;
- j) Investigate programmes of regulatory authorities so as to assess their effects on competition and consumer welfare and publicize the results of such studies;
- k) Participate in deliberations and proceedings of government, government commissions, regulatory authorities and other bodies in relation to competition and consumer welfare;
- l) Make representations to government commissions, regulatory authorities and other bodies in relation to competition and consumer welfare;
- m) Liaise with regulatory bodies and other public bodies in all matters relating to competition and consumer welfare;
- n) Advise the government on matters relating to competition and consumer welfare;

The Authority shall consist of the following members:-

- a) A non-executive Chairman, appointed by the Minister;
- b) The Permanent Secretary in the Ministry for the time being responsible for finance or his representative;
- c) The Permanent Secretary in the Ministry for the time being responsible for trade or his representative;
- d) The Attorney-General or his representative;
- e) The Director-General appointed under section 12; and
- f) Five other members appointed by the Minister from among persons experienced in competition and consumer welfare matters, one of whom shall be experienced in consumer welfare matters.

4.3 Institutional and Regulatory Arrangements in the Energy Sector

4.3.1: The Electricity Sub-Sector

a. The Legal and Institutional Framework

The legal framework related to the regulatory governance of the Energy sector comprises of two Act of parliament; the Energy Act of 2006 and the State corporations Act of 1986. The Energy Act 2006 consolidated all laws relating to energy and provided for the establishment of the Energy Regulatory Commission (ERC) as a single sector regulatory agency with responsibility for economic and technical regulation of power, renewable energy and petroleum sub-sectors. The state corporations Act is a law that gives the president powers to govern all state corporations, and therefore also governs ERC and other state corporations in the sector(KenGen, KPLC, KPC, KPRL and NOCK)

The current institutional arrangement in the power sector, which closely fits the purchasing Agency Model, came about following reforms that resulted in the separation of policy setting, regulatory and commercial functions in the energy sector. While, the Ministry of Energy is responsible for overall policy formulation, the ERC is responsible for regulating generation, transmission and distribution of electricity as well as the

importation and transportation of petroleum products. On the other hand, the commercial functions are performed by both public and private sector entities as guided by existing rules and regulations as discussed herein below.

1. The Ministry of Energy

The Ministry of Energy has the overall mandate and formulates overall policy in the energy sector. In addition, it is also responsible for administering the Rural Electrification Scheme. Overall, the functions of the ministry include:-

- Energy policy and development
- Hydropower Development
- Geothermal exploration and development
- Thermal power development
- Petroleum products, import/export/marketing policy
- Renewable energy development
- Energy regulation, security and conservation
- Fossil fuel exploration and development
- Expanding and upgrading of Energy infrastructure
- Promoting energy efficiency and conservation
- Protecting the environment
- Mobilizing requisite financial resources for operation and expansion of energy services consistent with rising demand
- Ensuring security of supply through diversification of sources and mixes in a cost effective manner
- Increasing accessibility to all segments of the population
- Enhance legal, regulatory and institutional frameworks to create both consumer and investor confidence
- Enhancing and achieving economic competitiveness and efficiency in energy production, supply and delivery

2 Energy Regulatory Commission (ERC)

ERC was established under the Energy Act 2006 as a single sector regulatory agency, with the responsibility for economic and technical regulation of electric power, renewable energy and petroleum sub-sectors. It is also responsible for setting and reviewing tariffs, licensing, enforcement, dispute settlement and approval of power purchase agreements.

b. Functions of the Energy Regulatory Commission

The objects and functions of the ERC are set out in section 5 of the Energy Act 2006. These are to:

1. regulate:-
 - a. the importation, exportation, generation, transmission, distribution, supply and use of electric energy;

- b. the importation, exportation, transportation, refining, storage and sale of petroleum and petroleum products;
 - c. the production, distribution, supply and use of renewable and other forms of energy;
2. protect the interests of consumer, investor and other stakeholder interests;
 3. maintain a list of accredited energy auditors as may be prescribed;
 4. monitor, ensure implementation of, and the observance of the principles of fair competition in the energy sector, in coordination with other statutory authorities;
 5. provide such information and statistics to the Minister as he may from time to time require;
 6. collect and maintain energy data;
 7. prepare indicative national energy plan;
 8. Perform any other functions that are incidental or consequential to its functions under the Act or written law.

In addition, section 6 of the Energy Act 2006 details ERC's powers to:-

1. issue, renew, modify or revoke licences and permits for all undertakings and activities in the energy sector;
2. make proposals to the Minister, of regulations which may be necessary or expedient for the regulation of the energy sector or for carrying out the objects and purposes of the Act;
3. formulate, enforce and review environmental, health, safety and quality standards for the energy sector, in coordination with other statutory authorities;
4. Enforce and review regulations, codes and standards for the energy sector etc.

Finally, the Act also defines boundaries of regulatory actions including: powers and duties of the regulator, rights and obligations of firms, consumers and other stakeholders, relationships between the regulator and other branches of government, investigation of complaints made by parties or consumers with grievances over matters to be regulated, approval of power purchase agreements etc.

c. Regulated Firms in the Power Sector

Under the present institutional arrangements, the companies engaged in the business of power generation include:- the Kenya Electricity Generating Company (KenGen) the Tana River Development Company Ltd, Tana and Athi River Development Authority (TARDA), the Kerio River Development Authority (KVDA) and a number of Independent Power Producers (IPPs). On the other hand, the transmission and distribution of electricity has been the responsibility of the Kenya Power and Lighting Company⁶ (KPLC). These entities are all under the broad framework created by the Electric Power Act 1997 and the Energy Act 2006, with the boundaries of permissible conduct and the consequences for non-compliance defined by specific licence conditions. Further, the Commission approves Power Purchase Agreements (PPA) between generation companies and the KPLC. For instance, KenGen and KPLC began trading on

⁶ A new publicly owned power transmission company is to be formed.

an interim PPA approved by the then Electricity Regulatory Board (ERB) in 1999. In early 2008 the two companies prepared and submitted to ERC a proposed power purchase agreement for consideration and approval as required by the Act⁷.

i. The Kenya Power and Lighting Company

KPLC is a limited liability company responsible for the transmission, distribution and retail of electricity throughout Kenya. KPLC owns and operates the national transmission and distribution grid, and retails electricity to more than 1,200,000 customers throughout Kenya. KPLC is responsible for ensuring that there is adequate line capacity to maintain supply and quality of electricity across the country. The interconnected network of transmission and distribution lines covers about 30,404 kilometers. The national grid is operated as an integral network, linked by a 220 kV and 132 kV transmission network. There is a limited length of 66 kV transmission lines. The national grid impacts on the future growth of the energy sector because any new generation capacity must take into consideration the existing network and its capacity to handle new loads. KPLC has more than 980,000 customers who consumed about 6,000 Gigawatt hours of electricity during the year 2008.

ii. The Kenya Electricity Generating Company Ltd.

KenGen came into force following the enactment of the Electric Power Act 1997, which separated the generation from transmission and distribution. Kenya Electricity Generating Company Limited (KenGen) is the leading electric power generation company in Kenya, producing about 80 percent of electricity consumed in the country. The company utilizes various sources to generate electricity ranging from hydro, geothermal, thermal and wind. Hydro was the leading source in 2008, with an installed capacity of 737MW, which was 73 per cent of the company's installed capacity. Thermal and wind accounted for 22.8% and 0.03% respectively. KenGen has a workforce of 1,500 staff located at different power plants in the country. With its wealth of experience, established corporate base and a clear vision, the company intends to maintain leadership in the liberalised electric energy sub-sector in Kenya and the Eastern Africa Region.

iii. Independent Power Producers

A key outcome of the restructuring process was the facilitation of private sector participation in power generation through the Build Own and Operate system. The Acts provide the broad framework for regulating IPPs, the bidding and awarding processes for projects earmarked for development and ensuring compliance with licensing conditions. There are private sector players in commercial power generation. During 2008, there were five independent power producers namely, Iberafrica, Westmont⁸, Tsavo, Mumias-cogeneration and Orpower 4. These had a combined installed capacity of up to 200MW.

⁷ KPLC and KenGen have signed a 20-year PPA effective 1st July 2009.

⁸ Westmont was retired in August 2004 upon expiry of supply contract with KPLC.

iv. Emergency Power Producer (EPP)

The government commissioned an EPP (Aggreko ltd) was commissioned in June 2006 to address the electric power shortfall in meeting the country's demand. Aggreko ltd has an installed capacity of 145 MW and sold 556 GWh during 2008.

4.3.2 The Petroleum sub-sector

a. The Existing Legal Framework

Although the ERC is empowered by the Energy Act 2006 to regulate the importation, exportation, transportation, refining, storage and sale of petroleum and petroleum products, regulatory functions in the petroleum sector is basically shared among various players including the Ministry of Energy, the Kenya Bureau of Standards, the Petroleum Institute of East Africa, the Provincial Administration and Local Authorities. For instance, the Ministry of Energy has since 2004 been coordinating importation of crude oil through an Open Tender System, whereby all licensed importers are required to participate through legal notice No. 197 of 2nd December 2003. Through this arrangement, the Kenya Petroleum Refineries Ltd (KPRL) is given protection to process 1.6 million tonnes of crude oil which meets about 50% of the local demand. The other 50% is met through importation of refined petroleum products. The Ministry of Energy coordinates another OTS for importation of 35% of refined products in which all licensed companies are entitled to participate. The companies are allowed to import the balance of 15% on their own outside the tender system. The licensing requirements for importers, exporters, wholesalers and distributors include the nature and value of businesses, areas of operations, estimated volume of throughput and proof of product sources.

However, the licensing requirements for retailers are more complicated partly due to the fact that they deal with the public. Consequently, matters relating to Environment, Health and Safety standards are keenly addressed. For instance, there are requirements for approval of construction sites, plans as well 'change of user' certificates. In addition, retailers also require to apply for 'a kerbside' licence which permits for storage of petroleum products in underground tanks as well as trade licenses from the local authorities.

b. Institutional Arrangements of the Petroleum Industry

The petroleum industry can be broadly categorised into two i.e. the upstream and downstream segments. The upstream segment involves exploration and production of oil. It ends at the point where the crude product is delivered to an export terminal in the country of production. The downstream segment begins at the loading port and ends at the point where the consumer purchases petroleum products at the retail outlet. This study concentrates on the downstream segment of the sub-sector which comprises public and private sector players. Reforms in the petroleum sector have led to

realignment of its market structure as well as changing roles of different institutions in the petroleum industry. For instance, there exists government intervention on importation of crude oil through the Ministry of Energy as well as processing through the KPRL. The refinery is co-owned by the government and three private companies (BP, Shell and Chevron) on a 50-50 equity basis. The government also owns the KIPVU Oil Storage Facility through the Kenya Pipeline Company. The roles and functions of government owned and quasi-owned institutions are as follows:-

i. The Kenya Petroleum Refineries Ltd

The Kenya Petroleum Refineries Limited was originally set up by Shell and the British Petroleum Company BP to serve the East African region in the supply of a wide variety of oil products. The Company was incorporated in 1960, under the name East African Oil Refineries Limited. The first refinery complex which has distillation, hydro treating, catalytic reforming and bitumen production units was commissioned in 1963. The second refinery train was commissioned in 1974 and also has distillation, hydro treating and reforming units. KPRL is privately owned limited liability company. The Government of Kenya (GOK) is the majority shareholder in the company owning 50% of the equity. The Shell Petroleum Company Ltd and BP each hold 17.1% while Chevron holds 15.8% of the equity.

The refinery processes Crude oil mainly imported from the gulf region for marketing companies on the basis of processing agreements which set out the precise terms on which the Refinery takes custody of specific quantities and types of crude oil, and how they should be processed and delivered. For this service the user pays a processing fee which varies according to the type of crude oil processed.

ii. The Kenya Pipeline Company

The Kenya Pipeline Company was incorporated on 6th September 1973 under the Companies Act (Cap 486) and started commercial operations in 1978. The Company is a State Corporation under the Ministry of Energy with 100% government shareholding. The company operations are also governed by relevant legislations and regulations such as; the Finance Act, The Public Procurement Regulations, amongst others. Kenya Pipeline Company operates a pipeline system for transportation of refined petroleum products from Mombasa to Nairobi and western Kenya towns of Nakuru, Kisumu and Eldoret. The company offers 3 main services namely, transportation, Storage and Loading. The mandates of KPC include the following:-

- To build a pipeline for the conveyance of petroleum or petroleum products from Mombasa to Nairobi, for the account of the Company or for the account of others, and any other pipelines in East Africa as the Company may determine.
- To own, manage or operate such pipelines and any other pipelines (whether or not built by the Company) and all ancillary pumping, storage and other facilities and such other plant, equipment and installations, movable and immovable, as the

Company may consider desirable and to manufacture, construct, maintain or modify any of the same.

- To market, process, treat and deal in petroleum products and other products and goods that may conveniently be dealt in by the Company and to provide transport and other distributive facilities, outlets and services in connection therewith.

iii The National Oil Corporation of Kenya

The National Oil Corporation of Kenya was incorporated in April 1981 under the Companies Act, Cap 481 and charged with participation in all aspects of the petroleum industry. The company has a 100% Kenya Government shareholding. The formation of National Oil was precipitated by the oil crisis of the 1970's(1973/74 and 1979/80) and the correspondent supply disruptions and price hikes which resulted in the country's oil bill comprising of almost one third of the total value of imports and therefore making petroleum the largest single drain of Kenya's foreign exchange earnings. NOCK was initially intended to act as an instrument of government policy in matters related to oil.

National Oil became operational in 1984. Initial activities mainly consisted of exploration activities delegated from the Ministry of Energy. It was not until 1988 that National Oil went downstream and started importing crude oil, into the country. The role of National Oil in petroleum exploration includes:-

- Overseeing the fulfillment of petroleum exploration companies' obligations in accordance with contracts signed with the Kenya Government.
- Providing and disseminating exploration data from various exploration activities in form of reports and promoting the same to oil companies in order to attract them to do exploration in Kenya.
- Undertaking various exploration works in various basins in accordance with available capital outlay, technical expertise and equipment available. Due to limitations of risk capital from government, to date some exploration activities such as exploration drilling have been left mostly to international oil companies.
- To manage on behalf of the government storage and disposal of government's share of oil after discovery.

National Oil started downstream activities in March 1988 and was mandated to supply 30% of the country's petroleum requirements. These supplies were sold to major oil marketers at a small margin in bulk prior to processing with the purpose of stabilizing retail prices. This however changed following the deregulation of the petroleum industry in 1994 and the company started marketing petroleum products to final consumers. The company currently owns 67 service stations spread across the country with a 5% domestic market share. National Oil has also entered into the petroleum market segments which include LPG, and fuel oil.

iv. Independent Petroleum Dealers

Liberalization of the petroleum sector in 1994 paved way for the registration of independent dealers in importation, exportation, wholesale, distribution and retail activities. While some target the export Great Lakes region, majority are involved in delivery of petroleum products from depots to service stations as well as operating dispensing sites.

There are four types of retail outlets:

- Company Owned/Company Operated. These are few but the oil companies sometimes run their stations when they fail to find independent dealers;
- Company Owned/Dealer Operated. Whereby Oil companies owns the stations and signs a dealership agreement with an independent business person;
- Dealer Owned/Dealer Operated: These include independent stations developed after liberalization in 1994.
- Dealer owned/company leased: Stations leased to oil companies by dealers of individual business persons.

In 2000, independent dealers formed the Independent Petroleum Dealers Association in a bid to consolidate their operations and take advantage of economies of scale. The objectives of the association include: coordinating joint procurement, training in product handling, safety and environmental protection, representation at industry forums, lobbying with policy makers, creating awareness about their legal rights and enhancing their knowledge about the industry operations.

5.0 COMPARATIVE ANALYSES, EXPERIENCES AND BEST-PRACTICES

5.1 Country Approaches to Sector Regulation and Competition

Competition authorities and sector regulators co-exist under various conditions and different countries have chosen different approaches to ensure coordination and policy coherence between sector regulators and competition authority. Most countries have generally recognized the need to foster close cooperation and policy coherence between competition authorities and sector regulators for effective implementation of their mandates. According to UNCTAD (2006), these approaches can be generally classified into five types:-

- I. Combine technical and economic regulation in a sector regulator and leave competition enforcement exclusively in the hands of the competition authority;
- II. Combine technical and economic regulation in a sector regulator and give it some or all competition law enforcement functions;
- III. Combine technical and economic regulation in a sector regulator and give it competition law enforcement functions which are to be performed in coordination with the competition authority;
- IV. Organize technical regulation as a stand-alone function for the sector regulator and include economic regulation within the competition authority; and
- V. Rely solely on competition law enforced by the competition authority.

A summary of country approaches to sector regulation and competition is presented in the table 5 below.

Table 5: Country Approaches to Sector Regulations and Competition

COUNTRY	TYPE	COMMENTS
Brazil	I	The competition law is fully applicable to regulated sectors and the competition authorities are in charge of its enforcement in cooperation with sector regulators.
France	II,III	Sector regulator mandates in some sectors extend beyond enhancing competition and lead to an overlap with no formal separation of jurisdiction. Decisions on mergers and acquisitions are made by the Minister of Economic Affairs and competition law generally defers to other laws and regulations if they are inconsistent.
Kenya	II	The competition authority has neither jurisdiction over regulated sectors nor advocacy power. However, sector regulators increasingly coordinate with competition authority, although they are not obliged to do so.
Mauritius	II	Some sector regulators have competition competencies.
South Korea	I, III, IV	Combines I, III and IV although moving towards III following recent reforms.
South Africa	III	Sector regulators have concurrent jurisdiction. However, the competition act neither explicitly claims precedence over it. The competition authority is required to negotiate agreements with sector regulators to coordinate the exercise of jurisdiction over competition matters in regulated sectors. The competition authority has

		agreements with regulators in the broadcasting and electricity sectors, and under those agreements, the authority is the lead investigator in concurrent jurisdiction matters. The authority also has an advocacy function.
UK	III	Sector regulators have concurrent jurisdiction. The concurrency regulations 2000 spell out the procedure by which it is decided which authority is better placed to deal with a case and settlement of cases in court in case of a dispute.
Tanzania	I	Article 96 of the Fair Competition Act, 2003 excludes conduct that is provided for in sector legislation.
USA	I, II	The division of labour for competition matters within an industry differs by sector; in limited instances, conduct is exempt from antitrust laws.. Sector regulators were created with objectives beyond protecting competition, although industry regulators and competition agencies are increasingly working together to protect and promote competition. Antitrust agencies also play a strong competition advocacy role with respect to sector regulation.
Zambia	II	Sector regulators have concurrent jurisdiction. Te competition authority also exercises an advocacy role while there is no formal system of resolving disputes.
Zimbabwe	I,II	The competition act gives primacy to the competition authority on competition issues in regulated sectors. Section 3 of the Act requires all sector regulators to apply for clearance from the competition authority for all mergers in regulated sectors.

Source: UNCTAD, 2006

Besides, competition and other regulations have also become central at the levels of regional and international economic groupings and incorporate the implications for trade between members as an additional dimension. The regional provisions tend to prioritize the goal of promoting economic efficiency and favourable terms for foreign investments. For instance, the EU competition policy is first and foremost a tool to break down national boundaries between member states and complete unification of the common market and the need to control anti-competitive conduct of public and private sectors. The system accommodates the competition policies of member states.

The North Atlantic Free Trade Area (NAFTA) provisions require that members take measures to proscribe anti-competitive business practices; they do not however establish any standards to be incorporated into domestic laws but rather, emphasize the importance of cooperation on competition enforcement. NAFTA provisions also recognize the right of governments to establish monopolies or state enterprises, but seek to ensure that they do not unduly hamper the free flow of trade by setting out disciplines on the activities of these entities based on the principle of non-discrimination. On the other hand, the COMESA competition regulations apply to all economic activity whether conducted by private or public entities and have primary jurisdiction over industries or sectors, which are the subject of a separate regulatory entity. Thus, most regional agreements on competition appear to be modelled on the EU approach, which accommodates the discrete competition policies of member states under which competition law represents a principal tool of economic integration.

5.2 Experiences from Energy Sector Regulators

a. Independent System Operators (ISOs)

Many developed countries have increasingly unbundled their electricity industries, separating generation from transmission, or at least separating generation from dispatch via the introduction of Independent System Operators (ISOs) (Stern, 2000). Such models have been implemented successfully in some middle income countries and are now developing more widely for instance in Latin America - Chile 1978-1988; Argentina - 1992; In Africa - Senegal, Uganda and Nigeria. In some cases, (particularly Central and Eastern Europe, China and Africa) transmission has been separated from generation but supply competition is restricted to monopsony purchase by a single buyer who on-sells via a bulk supply tariff to distribution companies. This model has many advantages as a transitional model in countries (a) where distribution companies are not commercialised and/or financially weak; and (b) where some consumers (typically households and/or small farmers) pay prices for electricity that are substantially below operating costs. However, the model also has disadvantages, not least regarding: (a) the payment risks imposed on the transmission company and (b) the stringent regulatory requirements necessary for efficient operation and investment. Regulatory difficulties with a single buyer model can be acute especially in imperfect markets and governance issues.

b. The Asian Model

In developing countries, the Asian IPP model was a major competitor to the unbundled model outlined above. This model covers the situation where the incumbent power company, which owned and managed transmission and dispatch, purchases power contracts from a small number of Independent Power Producers (IPPs). But the IPPs compete with the generating plant owned by the incumbent power company, which comprises the bulk of the generating capacity available in the country. This was the pattern in Indonesia, Thailand, Philippines, Malaysia and Pakistan etc. In this model, economic regulation of prices was supposedly handled in the power purchase agreements (PPAs) between the IPP and the incumbent. But this failed when the contracts became unsustainable following the onset of the Asian financial crisis in 1998. This was because there was no explicit regulation of anything other than generation prices; and secondly, there were no procedures in place for handling major shocks. *A properly designed and managed regulatory system with an independent regulatory agency would have provided for both of these problems.* Several countries in the region are now pursuing power sector reforms, which will un-bundle the generation owned by the incumbent and privatise it. They are also developing new and independent regulatory agencies to support the restructuring. In general PPAs have been singularly unsuccessful at providing an effective and sustainable contractual basis for private investment in generation, particularly outside the Americas. Up to 60% of concession contracts are re-negotiated within 3 years.

c. The European Electricity Reform Model

Electricity reform in the EU is basically an application of the theory of competitive markets in the context of an industry that has a number of vertically related stages of production, some of which have natural monopolies (Pollit, 2009). The reforms were primarily driven by two electricity directives in 1996 and 2003 grounded on the theories of regulation which suggest independent incentive-based regulation, increasing the number of firms, reducing entry barriers and increased market size (Joskow, 2006). The 2003 directive specifically set a number of key objectives to be achieved by 1 July 2007 in each member states. These include the creation of an independent sector regulator, the legal unbundling of transmission and distribution businesses from competitive generation and supply, free entry into generation markets and regular monitoring of the progress of supply competition and 100% market opening to competition for all customers including households (Pollit, 2009). At the same time the EU Commission has been making use of competition law to investigate market abuse allegations against electricity and gas utilities as part of the EU Energy sector Inquiry (European Union, 2007).

A notable feature of the EU electricity reform model is that it does not include a number of elements present in a number of leading reform countries. For instance, there is no requirement for privatization of any of the country state-owned assets. There is de facto requirement to increase private involvement because competition in generation and supply must mean that privately owned entities can enter the market. Second, ownership of unbundling of transmission system operation or transmission assets has not been required by EU directives. The key body charged with overseeing electricity reform in EU countries is the designated National Regulatory Agency for Electricity (NRAE). There is a strong correlation between the strength of this regulatory agency and the progress with electricity reform in a given country (Green et al., 2006).

d. The South East Europe

The form and situation indicators for regulatory agencies in SEE are summarized in annex Table 20. From the table only Slovenia meets the criteria of the best form and situation that exists encompassing wholesale competition, legal unbundling of networks, a fully independent regulator, price or revenue cap with a 3-5 year incentive period. In addition only Bulgaria had privatised more than 50% of its state owned electricity enterprises by the end of 2006, with several countries showing no significant privatisation.

The evidence suggests that privatisation, wholesale market competition and independent regulation are key elements of a reform in a developing country. However the leading countries sometimes exhibit features not seen in the EU e.g. cost based bidding into the power pool in Chile. Where all three of these are present there is evidence of improved efficiency though prices may have to rise from un-economic levels. The presence of initially un-economic prices presents a key political problem for developing countries. While developed countries may find prices falling due to reform

or have the capacity to absorb or adjust to rising prices for low income groups via the tax and benefit system this may be more difficult for a developing country.

5.3 Major Lessons from Country Experiences and Best Practices

From the review of the above country experiences the following lessons have been drawn:

- 1) Effective utility regulatory framework requires (a) effective legal backing in statutory law; (b) Good leadership and (c) adequate technical capacities both in numbers staff and diverse range of skills. It also requires a clear budgetary framework, an effective law enforcement regime and they also need to participate effectively in international forums e.g. the WTO.
- 2) Secondly, regulation by contract has been quite unpromising in the energy sector as opposed to road and telecoms infrastructure as experienced in Indonesia, Thailand and Pakistan etc as demonstrated during the Asian financial crisis. This is due to the substantial needs in terms of legal and other staff needs in negotiating, writing, monitoring and enforcing the contracts. Recruitment and retention of specialised staff is necessary. Thus, the institutional strengths of Kenya's regulatory bodies should form the basis for adoption of contract regulations if the Asian experience is anything to go by. For instance, a review of the staff deployed in many regulatory bodies world-wide showed that in Western Europe professional staff compositions were in the range of 50% (see annex table 23).
- 3) There is need for regulators to direct effort at communicating with civil society and the public in general and regularly enforcing the main strategic messages of sustainable development, rather than simply a plethora of detail. They should recognize the importance of communicating messages about sustainable consumption to consumers and the public and engaging more with the latter, particularly by working with public and private organizations (e.g. consumer bodies, local government and NGOs) who are better placed to interact with consumers.

6.0 STUDY FINDINGS

6.1 Implementation of Competition-Related Regulations

(1). Capacity of Regulatory Institutions

Effective regulation require substantial numbers of staff as well as diverse specialist skills e.g. economists, lawyers, accountants, financial analysts, engineers etc. These services are also needed in the regulated companies. The regulatory staffs provide the critical institutional continuity, development and responsiveness of the regulatory system. Currently, the MPC has a staff compliment of 32 employees out of which 21 are economists while 11 are support staff. On the other hand, ERC has 36 professional and non-professional staff against an establishment 56, implying a shortage of about 21 positions. Although the existing staffs are highly qualified, the expert knowledge is locked up in a few key personnel. According to the ERC Strategic Plan 2008-2013, staff shortages are apparently attributed to competition in professional staff recruitment from other existing public utilities, consultancy firms and other-related bodies who may be able to offer more attractive compensation packages and opportunities. The study established that MPC presently has no specialized energy sector experts while ERC equally has no specialized competition-related experts. The technical capacities of the two regulatory institutions compares poorly with similar institutions elsewhere. For instance, Brazil's National Agency of Electrical Energy has no less than 325 employees, the Public Utilities Board of Singapore has 101 employees while the United Kingdom's OFGEM has 252 employees.

(2). Regulatory Independence and Enforcement of Competition-related Regulations

As mentioned, the RTPMPC Act refers to four enforcement institutions namely the Office of the Minister of Finance, the Office of the Commission for Monopolies and Prices, the Restrictive Trade Practices Tribunal and the High Court of Kenya. Currently, the independence or autonomy of the MPC is not assured as it falls under the authority of the central government. The actual appointment of the Commissioner is not provided for under the Act hence assumed to be done within the general civil service conditions like the other staff. The proposed Competition Bill, 2009, seeks to establish an Authority which shall be independent and shall perform its functions and exercise its powers independently and impartially without fear or favor. Under sections 12 of the bill, the Authority shall be headed by a Director General to be appointed by the Authority from persons having knowledge and experience in competition matters. Thus, the bill falls short of stipulating specific qualifications and experience e.g. economics, law, law, industry etc as well as specific time-frames for appointment to the position of the Director General. In addition, neither the current nor proposed laws contain explicit provisions for execution and enforcement of orders by the Competition Commission/Authority. For instance, section 64 of the Competition Act 2001 of South Africa stipulates that any decision, judgment or order of the Competition Commission

or Competition Tribunal may be served, executed and enforced as if it were an order of the High Court.

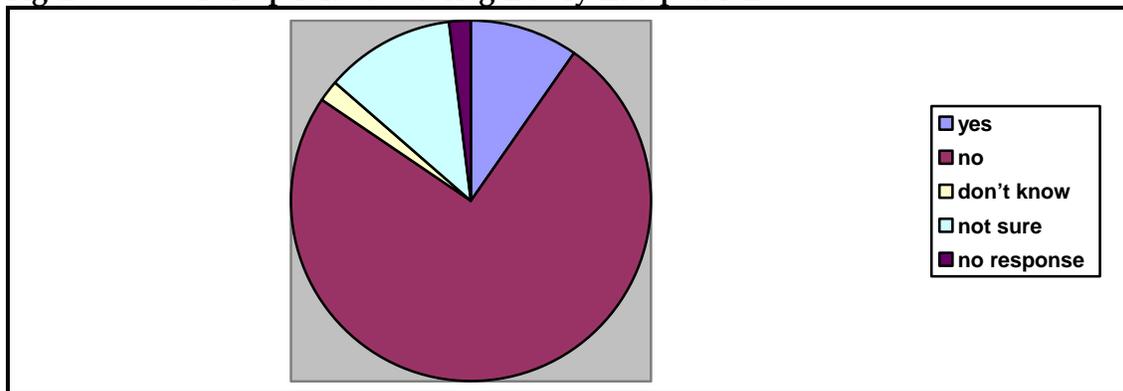
Likewise, although Section 4(3) of the Energy Act 2006 stipulates that the ERC shall be independent in the performance of its functions and duties and exercise of its powers and shall not be subject to the direction or control of any person or authority. However, section 3 of the State Corporations Act makes provision for the control and regulation of state corporations and in this case under the general guidance of the Minister for Energy, thereby undermining the independence of the ERC in decision making. Thus the extent of ministerial involvement in decision making and appointment of commissioners grossly undermine the independence of the energy sector regulator. In addition, direct involvement of the Ministry in decision making, as recently reported in respect to setting of power generation and supply tariffs in a bid to influence retail prices, interferes with the independence of the regulator. This position was reflected by the views of majority of respondents as shown in the figure below.

With regard to enforcement of specific provisions of competition-related regulations, the Act provides for three categories of enforcement procedures i.e. the *Restrictive Trade Practices*, the *Control of unwarranted concentrations of economic power* and the *control of mergers and takeovers*. The study established that MPC has not been implementing part IV of the Restrictive Trade Practices and Price Control Act, which deals with pricing since 1995 following the decontrol of prices. So far, no proven cases of anti-competitive practices have been reported in these operations and there is every indication that major players in the oil industry have a tendency to influence retail prices. For instance, when international crude oil prices were rising during 2007 and 2008, oil marketing companies quickly passed on the increased costs to consumers, but took long to pass on costs reductions to consumers when international oil prices were on a downward spiral during the last quarter of 2008. According to ERC, the load port price of murban crude oil dropped from a record high of US\$ 137.35 per barrel in July 2008 to US\$ 42.10 per barrel (69.9% drop) in December 2008 while pump prices of super petrol dropped from ksh. 110.00 per litre to ksh. 78 per litre or 29.1% over the same period. ERC and the Ministry of Energy rather relied on "*Moral Suasion*" rather than overt regulatory measures to align down-ward prices to international oil prices. Likewise, no cases for unwarranted concentration of economic power have been dealt with by MPC. However, the Commission evaluated 8 cases of mergers and take-overs, within the energy sector during the period 2005-2009⁹.

During the survey, only 9.6% of the respondents felt ERC was independent in making decisions without political interference while 73.1% felt the sector regulator was not politically independent. The remaining 17.3% respondents were either not sure or did not know whether ERC would be judged as independent as indicated in figure 3.

⁹ Cases of mergers and take-overs included: (1) Petro and Somken petroleum; (2) Shell and BP Africa; (3) Petro oil and Triton petroleum; (4) Tamiol Africa Holdings and Mobil (k) Holdings; (5) Reliance Industries Middle East and Gapco Kenya Transenergy Kenya; (6) Somken and NOCK; (7) Total and Chevron; (8) Kobil petroleum and Kenol

Figure 3: Perceptions about Regulatory Independence



Source: Study survey, 2009

With regard to financial independence, the study established that MPC fully relies on the exchequer to finance its activities unlike other autonomous Competition Authorities in the region. It has no powers to raise alternative funds e.g. through borrowing or charging fees for the services it renders. Section 78 of the Competition Bill 2009 however expands the financial sources of the proposed Authority. On the contrary, the study established a very strong degree of fiscal independence of ERC to the extent that there currently are no financial transfers to the Commission from government. Thus, about 99% of incomes are collected from electricity (52.7%) and petroleum (46.3%) levies while the remaining are generated from interests and penalties in line with recommended best practices.

Although ERC has a balanced 5-year budget, there is an apparent over-reliance on levy funds, which may be volatile given they are based on prices charge and volumes of electricity and petroleum sold. Consideration should be given to broadening the income base through hybrid mechanisms and/or pegged on costs of service delivery to various industries. In addition, although ERC does not rely on the exchequer, the resource envelop determined by collected levies may constrain the expansion programmes in terms of additional staff and facilities given the increasing roles and mandate it is expected to implement.

(3) Performance¹⁰ and Market structure

1. The Electricity Sub-Sector

a. Power Generation Systems

According to KPLC Annual Report 2009, the national power system had an installed capacity of 1,310 MW with a maximum output of 1,267 MW under normal operating conditions as at end of June 2008. KenGen accounts for about 76.6% of effective production capacity, while EPPs and IPPs account for about 11.5% and 11.3%,

¹⁰ The performance indicator used here is aimed at capturing the generation capacity and customers served and do not reflect effectiveness of regulation or efficiency of regulators and services providers.

respectively as indicated in annex table 20. Total system peak demand during the period was 1,044 MW implying a near zero reserve margin without the EPPs.

Table 6: Electric Power Generation in Kenya during 2007/08

Producer	Capacity (Ggwh)	Hydro (Ggwh)	Thermal Geothermal (Ggwh)	& Wind (Ggwh)
1. KenGen	4,818	3,488 (72.4%)	1,330 (27.6%)	0.2 (0.0%)
2. IberAfrica Power Ltd	306	- (0%)	306 (100%)	- (0%)
3. OrPower4 Inc	98	- (0%)	98 (100%)	- (0%)
4. Tsavo Power Co.	556	- (0%)	556 (100%)	- (0%)
5. Aggreko (EPP).	556	- (0%)	556 (100%)	- (0%)
6. Mumias sugar	9	- (0%)	9 (100%)	- (0%)
7. Rural Electrification	14	- (0%)	14 (100%)	- (0%)
7. Others	26	- (0%)	26 (100%)	- (0%)
Total	6,383	3,488 (54.6%)	2,895 (45.4%)	0.2 (0.0%)

Source: KPLC, 2009; Brackets: % share of type of source of power by generators

The hydro power accounts for about 54.6% while thermal and geothermal accounted for 45.4% of power during the same period as indicated in the table 6 above. It is also noticeable from the table that, IPPs and EPPs direct their investments towards thermal and geothermal power sources, unlike KenGen, which has invested in all the three sources of power i.e. hydro, thermal & geothermal and wind. The distribution of power produced by KenGen comprises 72.4% hydro, 27.5% thermal/geothermal and a minimal % of wind power. On the other hand, the IPPs and EPPs are engaged in 100% thermal power generation. By and large, there are huge potentials for exploiting wind power generation by both KenGen and the private power producers.

b. Power Purchase Costs

Power purchase can broadly be categorized into two i.e. the purchase costs based on tariffs between KPLC and generating companies as well as fuel costs. As expected, electricity purchases from KenGen constituted the bulk of the costs i.e. 94.8% of total power purchase costs. On the other hand, the IPPs constituted the bulk of the fuel costs i.e. 76.6% of total fuel costs compared to 23.4% attributed to KenGen. The total fuel costs exceeded the purchase costs during the year 2008 as indicated in table 7 below. The highest fuel cost during the year was incurred by Aggreko, which accounted for 36.5% of total fuel costs despite accounting for a paltry 499 GWh or 7.9% of electricity purchases.

Table 7: KPLC Power Purchase Costs (Ksh. millions)

Company	2003	2007	2008
a. Power Purchase Costs			
KenGen	8,943.6	11,055.1	11,453.5
Aggreko	-	834.8	878.9
Uganda Electricity Transmission Company	967.1	59.9	90.1
Tsavo Power Company Ltd	1,786.6	1,701.4	1,619.8
Iberafrica power (E.A) Company Ltd	1,360.4	944.9	836.7
OrPower 4 Inc	722.0	733.4	630.8
Mumias Sugar Company Ltd	-	7.5	18.2
Tanzania Electric Power Supply Company Ltd	-	2.8	5.4
		15,339.9	15,533.3
GoK subsidy on Power purchases from KenGen		2,759.2	2,891.1
Less recharged to REP		478.8	561.1
Total Costs	14,512.8	12,101.9	12,081.1
b. Fuel Costs			
KenGen	1,206.5	3,269.9	3,987.5
Aggreko	-	5,460.5	6,296.5
Uganda Electricity Transmission Company	-	161.1	390.2
Tsavo Power Company Ltd	1,583.3	2,933.1	3,928.1
Iberafrica power (E.A) Company Ltd	1,257.9	2,615.0	2,617.1
Mumias Sugar Company Ltd	-	3.5	6.2
Emergency Power Plant	222.4		
		14,443.1	17,225.7
Less recharged to REP		432.7	559.4
Total Costs	4,270.1	14,010.4	16,666.2

Source: KPLC Annual Report, 2009

The study further established that generation and supply of electricity is subject to *rate-of-return* regulations. Generation supply prices are determined through negotiated power purchase agreements between the generation companies (KenGen, IPPs and EPPs) and the KPLC which are subject to approval by ERC¹¹. The latter also approves the schedule of tariffs for electricity supply by KPLC to its customers. Recently, the Ministry of Energy introduced a feed-in-tariffs system as means of promoting generation of electricity from renewable energy sources. It allows producers to sell to distributors on a priority basis at a 15 year pre-determined fixed tariff. Thus, there is virtually no competitive pricing in the electricity sub-sector essentially rendering existing competition laws and regulations irrelevant or unenforceable.

c. Financial Performance

The regulated firms have generally had positive financial performance in the recent past. For instance, KPLC realized a 75% growth of net after-tax profit between 2007 and 2008

¹¹ KPLC and KenGen recently signed a 20-year PPA whereby KenGen shall receive Ksh. 2.40 per unit up from the previous Ksh. 2.36.

with net profits rising from ksh. 1.5 million to ksh. 2.5 millions as indicated in table 8. The average yields per units sold have also been increasing over time.

Table 8: KPLC Financial Indicators

ITEM/YEAR	2003	2004	2005	2006	2007	2008
Units sold (millions)	3,654	3,940	4,215	4,444	4,818	5,082
Revenue from sale of electricity (Ksh, millions)	23,130.8	23,323.1	28,341.4	33,966.7	37,944.3	40,919.2
Average yield of units sold (ksh)	6.33	5.91	6.72	7.64	7.88	8.05
Net profit/loss after tax ('000)	(3,049,425)	459,737	1,272,203	1,646,161	1,454,050	2,550,531

Source: KPLC Annual report, 2009

According to KPLC annual report for 2008, Nairobi region contribute the highest electricity revenues i.e. 55% of total revenues followed by Coast (18.1%), West Kenya (18.0%) and Mt Kenya (8.7%) in terms of geographical information. This is mainly attributed to greater levels of economic activities in Nairobi compared to other parts of the country. KPLC realized profits in Nairobi and Coast provinces but incurred losses in West Kenya and Mount Kenya regions over the last two years. Likewise, KenGen has been realizing stable growth in profits over the years with profits after tax doubling between 2007 and 2008 financial years (See table 9).

Table 9: KenGen Financial Indicators

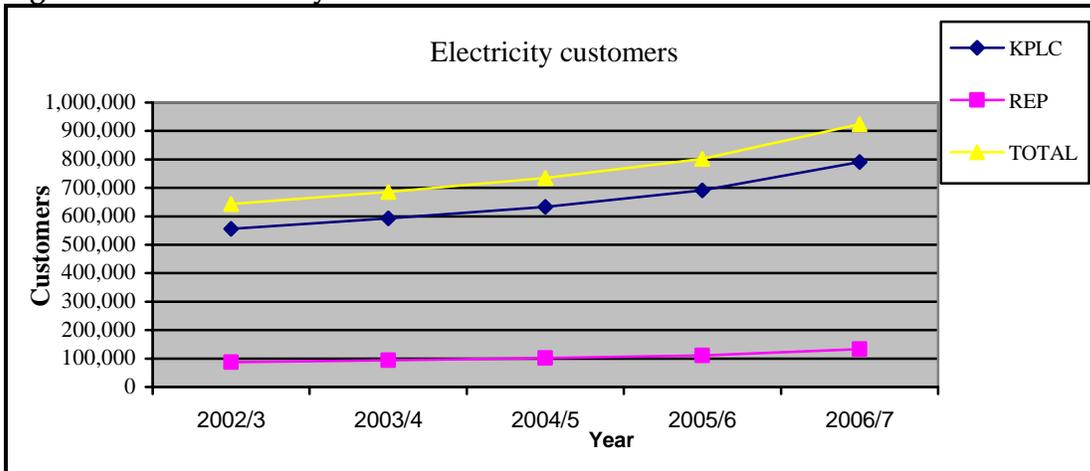
Statements (Kshs m)	2008	2007	2006	2005	2004
Sales	16,092	14,552	14,300	11,012	8,963
Operating Expenses	(12,557)	(11,410)	(11,565)	(8,517)	(5,878)
Operating Profits	3,534	3,142	2,735	2,495	3,086
Other Income	334	711	1,041	385	288
Finance Income/(Costs)	(1,441)	1,420	(56)	(261)	(949)
PBT & EI	1,629	4,719	3,721	2,619	2,426
Profit Before Tax (PBT)	1,629	4,719	3,721	2,619	2,426
Taxation	3,181	(2,274)	48	(866)	(805)
Profit After Tax	4,809	2,445	3,769	1,753	1,621

Source: KenGen Annual Report, 2009

d. Consumption Trends

Energy consumption still remains low at about 121kw per capital with a national access rate of 15% and only about 4% in the rural areas (Vision 2030). However these is changing with increased reforms which has since raised the customer base for KPLC and rural electrification programme as indicated in the Figure 4 below by the increasing customer base from 2002/3 to 2006/7.

Figure 4: Electricity Customers



Source: Study Survey

So far, large commercial and industrial users constitute the biggest customer category for electricity sales. In 2008, they consumed 2,108 Gwh or 41.8% of total sales. This is followed by domestic users 1,255 Gwh (24.9%), while the least category of consumption was street lighting 13 GWh (0.3%). During the same period, off-peak consumption realized the biggest growth of electricity sales i.e. 48% compared to 2.6% for the large commercial and industrial sales.

The large commercial and industrial users generate the highest amounts of revenues from electricity i.e. 36.5% followed by domestic users (26.8%) and medium commercial/industrial users (19.7%) as shown in table 10. Latest statistics indicate that the biggest growth rate in revenues arose from street lighting (50%), off-peak usage (48%) and domestic users (13%), while large commercial & industrial usage experienced the least growth rate in revenue sales. Thus, considerations should be given to increase incentives towards generation of cheaper electricity to meet the increasing demand for street lighting.

A further analysis shows an increasing trend in unit costs on average in all categories of consumers. For instance, there was a 37.3% increase in unit cost between 2003/04 and 2007/08 i.e. from ksh. 5.92 per Kwh to Ksh 8.13 per Kwh. Another important observation is that off-peak consumption of electricity attracts the least unit costs over the years. During 2007/08, the unit cost stood at was i.e. at ksh 5.97 per Kwh compared to street lighting which was ksh. 15.23 per Kwh. On average, domestic, small commercial and industrial use costs ksh. 9.46 per Kwh compared to large commercial and industrial use which costs ksh. 7.03 per Kwh.

Table 10: Unit Costs¹² of electricity per customers' category (Kshs/GWh)

Tariff	Customer Category	2003/04	2004/05	2005/06	2006/07	2007/08
A*	Domestic, small commercial & small industrial	6.44	7.03	8.22	9.32	9.46
A0	Domestic	5.81	6.78	7.87	8.73	8.75
A1	Small commercial & small industrial	7.61	7.48	8.91	10.50	10.98
B	Commercial & Industrial (M)	6.51	7.35	8.14	7.72	8.09
C	Commercial & Industrial (L)	5.24	6.13	7.08	6.93	7.03
D	Off-peak	4.95	8.91	5.93	5.96	5.97
E	Street Lighting	7.29	10.37	10.55	12.0	15.23
	TOTAL	5.92	6.74	7.70	7.93	8.13

Source: Calculated from Annual Report, 2009

Finally, the Kenya Power & Lighting Company has until recently been responsible for transmission, distribution and retail of electricity in Kenya. The national grid is operated as an integral network, linked by a 220 kV and 132 kV transmission network. There is a limited length of 66 kV transmission lines. The national grid impacts on the future growth of the energy sector because any new generation capacity must take into consideration the existing network and its capacity to handle new loads. However, plans are underway to transform power transmission into an open access system and allow large electricity customers to purchase power from generators.

Table 11: Problems in Power sub-sector

	Problem	% of response
<i>Generation</i>	Licensing procedure cumbersome	37.3
	Monopoly by KenGen/ dominance behaviour	44.6
	Price paid for generation is too low	3.6
	Dependency on hydro power	9.1
	High price charges. High production costs	2.7
	Dependency on diesel	0.9
<i>Transmission</i>	Monopoly	35.5
	Inefficiencies/ not well networked	45.2
	Transmission losses	12.9
<i>Distribution</i>	High costs	36
	Monopoly - no competition	32
	Corruption	12
	Inefficiencies	10

Source: Study Survey

¹² Unit cost is equal to the ratio of total revenues to total sales (GWh)

From the study survey, lack of competition within the transmission and distribution segments was cited by 35.5% and 32% of the respondents as contributing to challenges in service delivery and high tariffs.

2. Petroleum Sub-Sector

The petroleum market in Kenya is largely oligopolistic despite the incorporation of numerous small independent oil companies. Prior to liberalization, multinational firms accounted for over 90% of all petroleum products imported into the country and virtually all retail businesses. By the year 2005, activities by independent petroleum dealers were still limited to the extent that four of the major petroleum market players (Total, Shell BP, Caltex, Mobil & Kenol/Kobil) controlled about 85.3% of the market (GoK, 2006). During 2008, the market Concentration Ratio was 76.7% controlled by Kenol (8%), Shell (20.9%), Total (19.5%) and Chevron (11.1%). In addition, the Herfindahl-Hirschman Index was estimated at 1649.16, affirming the oligopolistic tendency of the industry as indicated in table 12.

Table 12: Market Share of Petroleum Industry in Kenya

Petroleum Industry Market shares, 2008		Petroleum Industry Market shares, Jan - March, 2009	
Company	Market share (%)	Company	Market share (%)
Kenol	24.76	Kenol	24.8
Shell	20.88	Shell	19.0
Total	19.50	Total	17.9
Chevron	11.08	Chevron	11.2
Libya Oil	8.37	Libya Oil	8.5
NOCK	3.37	Gapco	4.6
Bakri	2.09	NOCK	3.8
GAPCO	1.86	Bakri	2.4
Engen	1.60	Oil Com	1.8
Hass	1.47	Hashi Energy	1.7
Galana	1.30	Engen	1.2
Oil Com	0.85	Rivapet	0.9
Petro	0.41	Fossil	0.8
Dalbit	0.33	MGS	0.7
Triton	0.30	Ptro	0.4
Mul Oil	0.29	Al-Leyl	0.2
MGS	0.29	Mul Oil	0.2
INT Oil	0.24	Total	100.0
Fossil	0.21	HHI = 1545.25	
		Concentration Ratio = 72.9	
Gulf	0.16		
Hashi Empex	0.15		
Riva Oil	0.14		
Addax	0.14		
Global	0.09		

Rivapet	0.05		
Pent Oil	0.04		
Metro	0.02		
Al-Leyl	0.01		
Total	100.0		
HHI = 1649.16			
Concentration Ratio = 76.7			

Source: PIEA, 2009 and authors' calculations

Table 13 below shows the distribution of retail outlets by region. Independent/new entrants constituted about 48.6%, while major companies comprised 51.4% of oil retail outlets nationally. The former were mainly found in Rift valley, Nyanza and western regions, while the latter dominated Nairobi, central and coast regions.

Table 13: Regional distribution of petroleum retail outlets, 2008

Region	New Entrants		Majors		Total	
	No	%	No	%	No	%
Central	59	41.5	83	58.5	142	100
Nairobi	123	39.9	185	60.1	308	100
Coast	63	49.2	65	50.8	128	100
Rift Valley	170	56.9	129	43.1	299	100
Eastern/N. Eastern	53	43.4	69	56.6	122	100
Western	30	57.7	22	42.3	52	100
Nyanza	62	60.8	40	39.2	102	100
Total	560	48.6	593	51.4	1153	100

Source:

Table 14 shows the number of retail outlets of 4 major oil companies in Kenya. The market dominance by a few firms is thought to be responsible for the widely reported observation of stickiness of the retail petroleum prices to adjust downwards when international oil prices are falling (ERC, 2009).¹³ The stickiness in prices has been recently experienced after the downward spiral of international oil prices in the last quarter of 2008.

Table 14: Retail outlets by major oil firms, 2009

Company	No of service stations
1. Total	94
2. Shell	131
3. Caltex	89
4. Kenol/kobil	145
5. Agip	90

Source: Company websites, April, 2009

¹³ Total Kenya was granted approval to buy Chevron's Kenya unit (Caltex) in May, 2009.

Prices in the petroleum sub-sector may therefore not be market determined. The perception of a majority of the key informants was that the most common challenge facing the petroleum sub-sector was the existence of cartels or cartel like behaviour which accounted for 52% of the responses. The related challenge of lack of competition (and lack of proper regulation) accounted for 30% of the responses. These views are summarized in table 15 below.

Table 15: Competition related challenges in the petroleum sector

Challenge	Reponses (Percent)
Cartels	52
No competition/lack of proper regulation	31
Lack of alternative sources of energy	8
Unfair allocation of import tenders	3
Entry barriers	5
Others	2

Source: survey results.

The other survey finding was that the petroleum markets may be prone to high entry barriers mainly attributed to high capital investments. Apparently, this indirectly favours multinational companies against potential local investors.

(4) Quality, Service delivery and Dispute settlements

Quality issues in the petroleum industry are closely related to infrastructure facilities, technological literacy and information technology and vary with amongst regulated and un-regulated firms. For instance, the poor quality services at the importation, refinery and storage are blamed on infrastructure limitations and old technologies which affect distribution and supplies. Further, despite ad hoc quality surveillance or inspection exercises concerns about the quality of petroleum products (including adulterations) were identified as a major problem of the petroleum sector by the key informants. The key informants also indicated that they faced problems in sourcing for products. The main constraints faced by key informants in sourcing and consumption of petroleum were identified as frequent shortages/inadequate supply (34%), and high prices or fluctuations in prices (30%). Poor quality of products (including adulterations) was mentioned in 20% of the responses.

According to the 2006/7 ERC annual report, the number of complaints from customers has been on the decline as indicated in the number of customer complaints (technical) per 100 customers. The complaints declined from 37.2 in 2001/02 to 26.1 in 2006/7. The most common complaints were black-outs, outages, accidents, low supply etc. The supply minutes lost per customer has also been on the decline from 2003/4 an indication of improving quality of service in the electricity sub-sector.

Table 16: Customer Complaints

Indicator	2001/2	2002/3	2003/4	2004/5	2005/6	2006/7
Number of customer complaints (technical) per 100 customers	37.2	38.1	35	33.6	30	26.1
Supply minutes lost per customer	83	90	108	90	*57	*49

Source: Study survey

In terms of dispute settlements, the report indicated that 45 consumer complaints received in 2006/7, about 51% were resolved, 38% were awaiting utility response and 11% were awaiting the complainant's responses.

From the survey, 88.5% of the respondents indicated not to be receiving quality services while only 7.7% of the respondents indicated consumers were receiving quality service. Out of those who were dissatisfied, 44.2% were of the opinion that the regulator had no capacity of ensuring customer satisfaction. Besides, it was difficult to establish the real causes of poor services delivery given the multiple numbers of players in the sub-sector and transmission and distribution.

(5) Co-ordination and Information Exchange

The Energy Act of 2006 imposes an obligation on ERC to coordinate with other statutory authorities in the following areas:-

- setting enforcing and reviewing Environment Health and Safety standards,
- granting licences for sustainable charcoal development,
- competition regulation and
- coordination is also required between the ERC and the rural electrification authority.

According to the ERC Strategic Plan 2008-2012, there is need to provide more clarity as far as coordination of these activities with other implementing agencies are concerned. Both ERC and MPC have responsibilities for the regulation of competition in the electricity and petroleum industries. The ERC proposes maintenance of the capabilities to regulate competition matters in house in line with the UK model where the sector regulators hold concurrent powers for competition regulation with the competition regulators.

Various views were given by respondents as concerns the nexus between competition and sector-specific regulations. Overall, 58.8% of the respondents indicated there were options to integrate competition and regulatory framework with the majority (23.5%) holding the view the laws should be updated to accommodate new developments within the energy sector. However, 43.2% of the respondents did not respond or give their opinions on this matter. The options given for integration are as indicated in the Table 17 below.

Table 17: Competition and Regulatory Framework

Options	Percentage
Amend or enact laws to accommodate new players	13.7
Empower regulatory body to enforce competition	15.7
Clear distinction in roles of regulators	3.9
Update laws to accommodate new developments	23.5
No response / not applicable	43.2

Source: Study Survey

Thus majority of respondents tend to favour the existing arrangement assumes a model where both institutions have concurrent powers to regulate competition. While this is practiced elsewhere¹⁴, the study established that there is lack of clear co-ordination and consultative framework for effective enforcement of competition-related regulations. They do not conduct joint investigations neither has MPC ever taken over a case from ERC or vice versa based on their competencies and capacities.

(6). Transparency, Advocacy and Awareness Creation

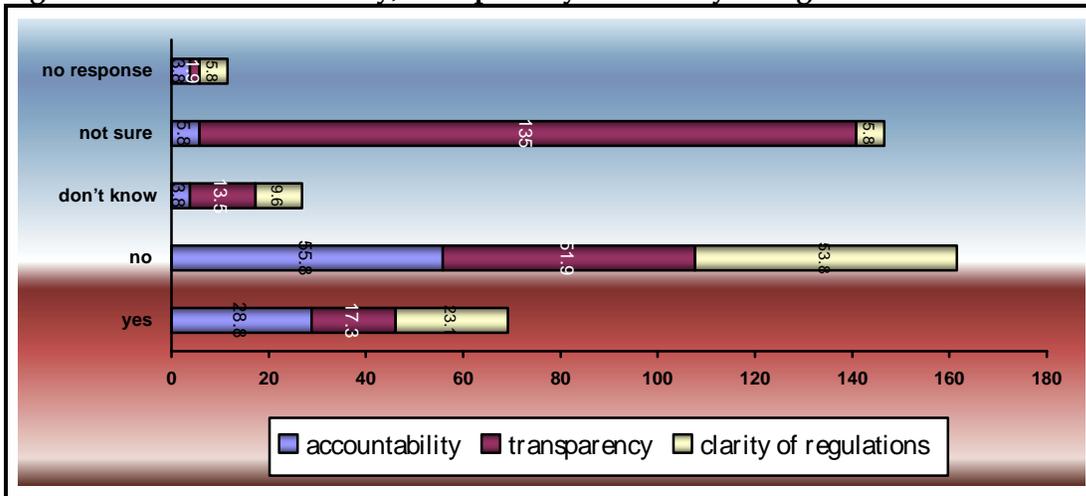
Awareness of competition related regulation is central to enhancing competition in any industry. The commission has in the recent past been active on involving the members of public in decisions particularly in respect to the formulation of wholesale and retail prices. This is in tandem with the requirement of section 110 (3) of the Act which requires the Commission to publish the proposed regulations for purposes of inviting proposals from the public before submitting such recommendations to the Minister. However, the survey results indicated that most of the respondents were of the opinion that ERC is not transparent enough in terms of making information, documents and procedures for decision making open to the public. Only 17.3% were of the opinion that the regulator was transparent.

A similar response was expressed for accountability with only 28.8% of the respondents indicating that the regulator is accountable and 55.8% indicating that the regulator is not accountable to the public. Besides, the study established that the clarity of some regulations particularly in terms of implementation and coordination with other bodies in the areas of competition regulation, rural electrification as well as environment and health standards are not clearly spelt out.

From the survey, 46.2% of the respondents were not aware of the rules, principles and guidelines pursued by ERC. 38.5% were aware of the rules and principles pursued by ERC while the remaining 15.3% either didn't know or were not sure of existing rules and regulations.

¹⁴ For instance in the UK where sector regulators and the Office of Fair Trading (OFT) hold concurrent competition regulatory powers

Figure 5: Accountability, transparency and clarity of regulations



Clarity of regulations

However the respondents had various issues regarding competition in the electricity sub sector. The respondents gave monopoly/ lack of competition as the key competition related challenge facing the electricity sub sector with a 74.1% response rate, weak regulation/ lack of policy to ensure competition with 1.7%, restriction of individual production (6.9%), inefficiencies (6.9%) and high prices due to monopolies (6.9%).

However according to 63.5% of the respondents the existing competition policy is not adequate in addressing the competition-related challenges in the energy sector; mainly because its manipulated or not observed, its outdated, has a lot of political interference and the industry generally has few players.

6.2 MAIN CONSTRAINTS AND CHALLENGES

The study identified constraints and challenges in the course of implementation of the economic and competition-related regulations in the electricity and petroleum sub-sectors. These are highlighted below as follows:-

6.2.1 Competition-Related Regulations

1). Limited independence or autonomy of the Competition Authority

The Restrictive Trade Practices, Monopolies and Price Control Act give the overall powers to administer and enforce competition law and policy to the Minister for Finance. Section 3(2) of the Act subjects the Commissioner for Monopolies and Prices to the absolute control of the Minister of Finance in all aspects of restrictive trade practices, control of concentrations of economic power and well as orders relating to mergers and takeovers. In addition, the Commission fully relies on the government's budgetary allocations to finance its operations. It does not charge fees nor receive funds from donors or obtain loans from financial institutions. Thus, like many other government departments, key programmes in the Commission are affected by under-funding including professional staff recruitments, trainings, monitoring and evaluations as well as establishment of appropriate data banks. The Competition Bill 2009 however seeks to address these anomalies once it is enacted. The Bill should be strengthened further by considering explicit provisions for execution and enforcement of orders by the Competition Commission/ Authority and its placement under the Ministry of Finance as opposed to the Ministry of Trade.

2). Provisions for consumer protection and fair-trading

Although price controls were not repealed by parliament, the MPC does not invoke Part IV of the competition law. In this way, the Commission's activities and ability to protect consumers against cartels, monopoly abuses and anti-competitive practices are rather weak. However, Articles 50-55 of Part VI of the proposed Competition Bill, 2009 provides for protection of consumers from unfair and misleading market conduct. This notwithstanding, the Ministry of Trade also has the mandate to execute fair trade practices and consumer protection. Lack of clear guidelines regarding the coordination of these activities between the Commission/proposed Authority and Ministry of Finance on one hand and the Ministry of Trade on the other hand weakens implementation of fair trading practices.

3). Exemptions of the Public Sector from the Scope of the Act

Section 5 of the Act provides wide-ranging exemptions from the scope of the Act including utility sectors and trade practices relating to licensing. Despite the reforms, the electricity and petroleum sub-sectors continue to dominate services provision thereby rendering the competition laws redundant. However, this situation is deemed to change

if the proposal for subjecting all state corporations and local authorities to Article 5¹⁵ of the proposed new Competition Bill, 2009 is passed in Parliament.

4). Weak Provisions for Sanctions, Fines and Penalties

There are every indications that existing sanctions are rather soft and do not deter offenders or would-be offenders for engaging in anti-fair trade practices. For instance, the fines contained in section 21(2) and (3) are in the range of U\$ 1,500 and U\$ 3,000. The policy objective is to impose penalties on infringing undertakings which reflect the seriousness of infringement and ensure that the threat of penalties will deter undertakings from engaging in anti-competitive practices.

6.2.2 Electricity sub-sector

1). Limited enforcement powers for competition-related regulations

Both ERC and MPC lack independence (both political and economic) to effectively enforce competition-related regulations in the electricity sub-sector. Besides, public utilities continue to play dominant roles in the generation, transmission and distribution of electric power under the existing reforms. These activities and operations are exempt from the Monopolies and Price Control Act, Cap 504. Besides, over-reliance on hydro generation and fuels grossly undermine anticipated incentives under the price-cap regulatory regime.

2). Uncoordinated enforcement of competition-related regulations

Both the Energy Act 2006 and the Monopolies and Price Control Act, Cap 504 empower the ERC and MPC to implement and promote competition within the electricity. While the latter has the overall responsibility for all sectors, the ERC mandate is specific to electricity and other energy-related aspects. However, there is no clear demarcation of responsibilities or modalities for coordination of their activities. Similarly, Article 3 of the Competition Bill, 2009 does not clearly spell out binding mechanisms for relating with other regulatory bodies beyond the identification and establishment of procedures for management of areas of concurrent jurisdictions.

3). Inadequate technical and professional staffs

Both MPC and ERC do not have adequate technical staff to effectively enforce economic and competition related regulations in the power sector. The MPC relies on and trains Ministry of Finance staff and cannot on its own independently conduct recruitment drives. On the other hand, although ERC is independent, the staffing capacities are limited by its budgetary provisions and balancing between recurrent and development activities. There are challenges particularly relating capacities for setting and monitoring standards for factories, buildings and electrical appliances, collecting, collating and maintaining energy data, recruitment of energy auditors which are largely constrained.

¹⁵ Article 5 of the Competition Bill, 2009 states that the Act shall apply to the Government, state corporations and local authorities in so far as they engage in trade.

In addition, it faces the challenge of competing to attract and retain technical expertise with other industry that may be better placed to offer better terms.

4). Climate change and security of supply issues

Despite efforts to widen the source of energy in Kenya and the region it is unclear whether these might change over-reliance on hydro electric and petroleum energy sources as well as if climatic change issues can be dealt with effectively ensure no major changes in hydro supply.

5). Infrastructure development

Effective regulation requires appropriate infrastructure physical and telecommunication networks for both regulators and the regulated firms in order to facilitate information exchange and monitoring. While ERC may have good communication infrastructure, the quality of physical infrastructures to facilitate its monitoring activities especially in rural areas is wanting.

6). Transmission network governance and pricing structures

The separation of transmission from distribution in Kenya is a welcome move and should facilitate balancing demand and supply of generation services. However, the clarity on the functions of the operator, what information it needs to perform its functions well, network operator ownership structure and how it should be regulated are major challenges. The other challenge is getting transmission pricing right in order to facilitate decentralization of competitive generation supply decisions and management of network.

6.2.3 Petroleum Sub-Sector

1). Inadequate capacities for regulatory efficiency and effectiveness

Presently, the ERC does not have adequate technical capabilities for accrediting and monitoring agents within the petroleum industry as well as collecting and maintaining data in the sub-sector. The functions were initially carried out by the ERB while ERC structures were initially biased towards the electricity sub-sector. In addition, ERC has to rely on other statutory bodies for enforcement of health and environmental standards.

2). External factors

The performance of the domestic petroleum industry heavily relies on global events and trends in international oil markets. These include the international oil prices, security-related issues and other economic performance indicators. The strong links with external factors with multinationals playing leading roles in exportation, distribution and supply makes it even more difficult to effectively regulate the sector. The cartel like behaviour of the multinational firms in the petroleum sector affects supply and retail prices.

3). Enforcement of standards and quality

Regulation of health and environmental standards in the petroleum sub-sector is shared among various statutory bodies including the Kenya Bureau of Standards, the Ministries of Health and the National Management Environmental Authority. The challenge is for these bodies to effectively monitor quality aspects yet ERC itself also does not have petroleum technical expertise to monitor industry players. Thus, adulterations, quantity measurements and related activities remain a challenge in the domestic industry.

4). Weaknesses in existing laws and regulations

The decontrol of prices in 1995 suspended price fixation in all sectors including the retail prices in the petroleum industry. Thus, the Monopolies of Prices Commission lacks the legal powers to set petroleum retail prices even under obvious circumstances. On the other hand, ERC also lacks legal powers to set prices and it is upon the Minister for Energy to make ultimate decisions. This state of affairs leaves consumers vulnerable to industry players who have the capacities to lobby the Minister in their favour in so far as pricing and other related matters are concerned.

7.0 CONCLUSION AND POLICY RECOMMENDATIONS

7.1 Conclusions

Regulatory reforms in Kenya's energy sector involved vertical separation and gradual deregulation of competitive segments of the electricity and petroleum sub-sectors. The expectations was that the regulatory mechanisms would provide more powerful incentives for regulated firms to reduce costs, improve service quality, stimulate the introduction of new products and services and stimulate efficient investment in pricing of access to regulated infrastructure services. Thus, those activities that are assumed to have natural monopoly characteristics continue to be subject to price, network access, and entry regulations.

So far, state-owned public utilities continue to play a dominant role in the generation, transmission and distribution of electric power despite increased participation of private sector following the regulatory reforms in Kenya. It is therefore difficult to attribute the sector performance to the resulting privatization and regulatory measures. Secondly, despite the progress in reforms, general structure of energy sources has remained unchanged. For instance, the hydro power still accounts for about 54.6% while thermal and geothermal accounts for 45.4% of power. The vulnerability of the two sources to climatic/environmental and external shocks respectively renders them unsustainable in the long run. Besides, the incentive structures have been unable to attract investments towards alternative energy sources like wind and nuclear. By and large, there are huge potentials for exploiting wind power generation by both KenGen and the private power producers.

On the other hand, the petroleum market in Kenya is largely oligopolistic despite the incorporation of numerous small independent oil companies. Prior to liberalization, multinational firms accounted for over 90% of all petroleum products imported into the country and virtually all retail businesses. By the year 2005, activities by independent petroleum dealers were still limited to the extent that four of the major petroleum market players which controlled about 85.3% of the market.

The study has identified a number of shortcomings that hinder attainment of the benefits of energy sector reforms. The findings support the conclusion that there is need to strengthen the regulatory system in the energy sector for increasing investments and improving competition and service delivery to consumers. Strengthening the competition and regulatory-based framework will support the intentions of the reforms and ensure that the domestic market for energy contributes sustainability, competitiveness and security of supply of energy products to meet the country's increasing demand. In addition, priority should be given to monitoring & evaluation as well as accurate collection of data on the activities and capability of all services providers in regulated sectors as a basis for designing regulatory and liberalization policies.

7.2 Recommendations

In order to address the weaknesses identified and to significantly improve the scope of competition, it is essential to apply both competition and regulatory-based remedies. In that regard, the following recommendations:-

1. Adoption of a regulatory model combining technical and economic regulations¹⁶.

Such a model gives sector regulators competition law enforcement functions to be performed in coordination with the competition authority. Such a model would allow for maximization of competition enforcement action and conclusion of binding agreements between the Competition Authority and the Energy Regulatory Commission as well as other sector-specific regulators for co-ordination and harmonization of competition matters.

2. Effective coordination of implementation of competition-related regulations

Effective implementation of competition-related regulations in the electricity and petroleum sub-sectors requires close coordination of enforcement of infringements related to pricing, fair trade practices and consumer protection by various agencies. Thus, there should be clarity about the respective roles of the Ministries of Finance, Energy and Trade and other Government Agencies and regulatory bodies on the co-ordination, harmonization and the exercise of jurisdiction over competition matters within the energy sector or industry and to ensure the consistent application of the principles of competition and consumer protection.

3. Ensuring administrative and financial regulatory independence

Under ideal situations, regulatory agencies should be free from any forms of influence either within government cycles or the private sector in exercising its authority. These includes among others, interferences in appointments especially in management positions, dispute settlement and/or major regulatory decisions. Thus, contrary to proposals in section 10 of the draft Competition bill 2009, in addition to the representatives from the Ministries of Finance, Trade and the Attorney General's Chambers the other Board members of the Authority should be appointed by Parliament and not the Minister. It is also necessary that the regulatory agency should have authority to make final decisions within its statutory domain without having to obtain approval from any other agency of government. Regulatory independence facilitates prudent decision-making, enhances integrity and bestows confidence on regulatory management and decisions by regulated firms, potential investors and consumers at large. Autonomy of regulatory institutions led to sustainability and success of regulatory models Latin America electricity reform movements as well those in the Asian utility industries. The latter's success was evident in their relative ability to respond effectively to the Asian financial crisis. In addition, regulatory authorities should diversify their

¹⁶ This is the type III of the UNCTAD Model and adopted by South Africa. Currently, Kenya has a type II model.

revenue base and minimize or cease reliance on direct budgetary support from the Government as has been the case with the Monopolies and Price Commission.

4. Widening the scope for competitive power generation market

Currently, power generation in Kenya is dominated by KenGen, which is a public utility operator, with IPPS at the margin, often generating emergency supplies. There is need to deepen horizontal divestiture of generating facilities as a way of creating additional independent competitive suppliers in order stimulate competitive price incentives under the existing regulatory framework. Enhanced competition will also address the 'perception' that IPPs are basically high cost producers of electric power. Besides, there is need to provide greater incentives towards investments alternative energy sources like wind, nuclear etc in order diversify energy sources and avoid price build-ups due to fluctuations in primary fuels.

5. Effective governance of transmission network and pricing structures

Following the establishment of a publicly-owned transmission company, appropriate governance and pricing structures should be established, particularly if the incumbent intends to retain ownership of existing transmission infrastructure. This is particularly due to the complex nature involved in controlling and coordinating generation schedules, balancing demand and supply generation services flowing over the network as well as coordinating with neighbouring control areas. In addition, it is important to work out a suitable transmission pricing to facilitate efficient decentralization of competitive generation supply decisions over time.

6. Strengthening monitoring and data reporting

Accurate information about the activities and capabilities of both incumbent suppliers and new operators is of great value and will facilitate the design of regulatory and liberalization policies. It will also enable identifying the services on which the incumbent can be afforded substantial flexibility in terms of pricing. Information about installed capacities of competitors can also be of great value in assessing both the current and likely future intensity of market competition. Thus, legal requirements should be provided for in the respective competition and regulatory laws to compel services providers to report identified regulatory indicators on regular basis that can assist regulators monitor and evaluate market conditions and improve regulatory practices.

7. Infrastructure development and efficiency in provision of petroleum products.

Efficient provision of petroleum products heavily relies on the status physical infrastructures for transportation, refining and storage. In this regard, there is need to do the following:-

- Upgrade the oil receiving jetties at the KPA to avoid delays and cost overruns.
- Upgrade the facilities for oil refinery. The refinery is known to use old technology and is therefore not able to refine residue of its processing products. This cost is passed on to its users.

- Invest in more storage capacity at the oil storage facility.
- Upgrade the Kenya Pipeline. The oil companies point out that the pipeline does not avail adequate products in all locations.

8. Increasing awareness of competition-related regulations among stakeholders

There is need to enhance awareness about the competition-related issues and reporting and enforcement mechanisms amongst the general public. A wider knowledge amongst the public would make it easier for regulators to detect and take appropriate actions against anti-competitive trade practices thereby protect consumers and enhance efficiency in markets. Specific awareness programmes should be developed in tandem with the provisions of the proposed new competition laws. In this regard, concerted efforts should be directed towards enhancing transparency in access to market information by publishing such information on a rolling basis and in a timely manner. A stronger community oversight role will require enhancing capacity of consumer and civil society organizations while at the same time reinforcing coordination between them and the regulators.

9. Regulatory Staff management and service delivery

Effective regulation requires adequate technical staff in the regulatory bodies. This is due to the substantial needs in terms of legal and other staff needs in negotiating, writing, monitoring and enforcing the contracts. Recruitment and retention of specialised staff is necessary borrowing from the experiences of the Asian countries¹⁷. From the survey, it will be necessary to broaden the income bases of the regulatory authorities so as to recruit and retain appropriate levels of technical capacities.

10. Use of multi-national regional regulatory agency

This can be done by creation of teams of utility regulators covering several countries e.g. partner states of the EAC. This requires close cooperation and coordination and trust amongst regulatory authorities in neighbouring countries. Multi-national regulatory collaboration makes it easier for development, sharing of information and pooling of resources between regulators in neighbouring countries. The EU has taken this path where regulators meet and exchange views and information and where appropriate to help adopt common approaches. Southern Africa is also adopting a similar path. In addition and in parallel, this also facilitates informal exchanges of information and pooling of resources between national regulators. This seems to be developing very interesting and potentially productive way in Southern Africa. It is also the route being followed in the European Union. A particular advantage is that informal pooling of resources can be market-driven, both responding to and helping encourage trade, integration of markets and networks and increasing the scope for competition.

¹⁷ So far, ERC and MPC make use of consultants or contract out much of the regulatory work as happens in the UK to address the effects of staff shortages. Consultants can do one-off pieces of work for instance conduct specific studies in the course of regulatory review thereby complementing existing staff.

REFERENCES

- Amol P. (2006) 'Feasibility of wholesale electricity competition in a developing country; Insights from simulating a market in Maharashtra State, India'. CSEM Working Paper Series No. 152. Berkeley, California.
- Andres L.; J.L. Guasch; M. Diop and S.L. Azumendi (2007) 'Assessing the Governance of Electricity Regulatory Agencies in the Latin American and Caribbean Region: A Benchmarking Analysis'. Policy Research Working Paper No. 4380. The World Bank, Washington D.C.
- Armstrong M. and D.E.M. Sappington (2006) 'Regulation, Competition and Liberalization'. *Journal of Economic Literature*. Vol XLIV. Pp. 325 - 366.
- Brown, A. C., Stern J., Tenenbaum B. and Gencer D. (2006) 'Handbook for Evaluating Infrastructure Regulatory Systems'. The World Bank, Washington D.C.
- Coase, R (1959) 'The Federal Communications Commission'. *Journal of Law Economics*. Vol. 2 No. 2: 2-40.
- Correa P.; C. Pereira; B. Mueller and M. Melo (2006) 'Regulatory Governance in Infrastructure Industries: Assessment and Measurement of Brazilian Regulators'. The World Bank/Public-Private Infrastructure Advisory Facility, Washington D.C.
- Epictatus E.P. and G.M. Llanto (2005) 'Competition Policy and Regulation in Power and Telecommunications'. Philippines Institute for Development Studies. Discussion Paper Series No. 2005-18, Makati.
- ERC Annual Reports (Various issues)
- ERC (2008) Energy Regulatory Commission Strategic Plan 2008 - 2012. Nairobi
- Gilardi F. (2002) 'Policy Credibility and delegation to independent regulatory agencies: A comparative empirical analysis'. *Journal of European Public Policy*. Volume 9, Issue 6, 2002, Pages 873 - 893.
- Green R.L.; A. Perez and Y. Pollit (2006) 'Benchmarking Electricity Liberalization in Europe'. Electricity Policy Research Group Working Papers No. 06/09. University of Cambridge, Cambridge.
- Hirschhausen C.H., T. Beckers, and A. Brenck (2004) 'Infrastructure regulation and investment for the long-term: An Introduction'. *Utilities Policy*. Vol. 12: pp 203-210.
- Holmes P.(2003) 'Some Lessons from the CUTS 7-UP Comparative Competitive Policy Project. A Contribution to WDR 2005 on Investment Climate, Growth and Poverty'. A Case Study done by CUTS and commissioned by DFID.
- IEA (2001) 'Developing the Frontiers of Kenya's Competition Law and Policy'. IEA Bulletin. Issue No. 56.Nairobi, Kenya
- IEA (2003) 'Reviewing the Electric Power Supply and Tariff Policy'. IEA Bulletin. Issue No. 45.Nairobi, Kenya
- Indetie L (2003) 'Emergence of Independent Petroleum Dealers in Kenya'. IPRA Special Report Series. Special Report No. 04/2003
- Johannsen, K.S. (2003) 'Regulatory Independence in Theory and Practice - A Survey of Independent Energy Regulators in Eight European Countries'. AKF, Denmark.
- Joskow P.L. (2005) 'Incentive Regulation in Theory and Practice: Electricity Distribution and Transmission Networks'. EPRG Working Paper 05/11.

- KIPPRA (2005). 'Infrastructure and the enabling environment for business in Kenya'. Paper presented in the Improving the enabling environment for business in Kenya: Reducing costs of doing business. Conference held in the Intercontinental hotel, Nairobi, Kenya 20th January 2005.
- KIPPRA (2006). 'Policy Options for Reducing the Impact of Energy Tariffs in Kenya'. A briefing paper prepared for the National Economic and Social Council (NESC).
- Kirkpatrick C. and D. Parker (2004) 'Infrastructure Regulation: Models for Developing Asia'. ADB Institute Research Paper No. 60. ADB Institute, Tokyo.
- KPLC Annual Reports (various issues)
- Levy, B. and P. Spiller (1994). 'The Institutional Foundations of Regulatory Commitment: A Comparative Analysis of Telecommunications Regulation'. *Journal of Law, Economics, & Organization*. Vol 10 No 2, pp. 201- 246.
- Mwangi E. et al (2003). 'The Limits of Competition and Privatization in the Kenya Electricity Supply Industry'. Briefing Paper No. 2/2003. Kenya Leadership Institute.
- Newbery D.M. (2004) 'Regulation and Competition Policy: Longer-Term boundaries'. *Utilities Policy* 12: 93-95
- North D. C. (1991) 'Institutions'. *Journal of Economic Perspectives*, American Economic Association. Vol 5(1) PP: 97-112.
- OECD (1999) 'OECD Guiding Principles for Regulatory Quality and Performance'. Paris
- OECD (2007), 'Round-Table on Energy Security and Competition Policy'. Note by the US Department of Justice and Federal Trade Commission. Paris.
- Pollit M. (2009) 'Evaluating the Evidence on Electricity Reform: Lessons for the South East Europe (SEE) Market'. *Utilities Policy*. Vol 17(1) pp: 13-23.
- Republic of Kenya (2004). 'Sessional Paper No. 4 of 2004 on Energy'. Printed by the Government Printer, Nairobi
- Republic of Kenya (2006) 'Energy Act, 2006'. Printed by Government Printers. Nairobi.
- Republic of Kenya (2007) 'Economic Survey 2007'. Printed by Government Printers.
- Republic of Kenya (2009) 'The Competition Bill, 2009'. Kenya Gazette Supplement Bills, 2009. Bill for Introduction into the National Assembly. The Competition Bill, 2009. , Government Printer, Nairobi.
- Republic of South Africa (2001) 'Competition Act: Competition Second Amendment Act, No 39 of 2000'. Gazette No. 21880, Notice No. 1354, December 13, 2000, Pretoria.
- Sidak J.G and D. Spulber (1998) 'Deregulatory Takings and the Regulatory Contract: The Competitive Transformation of Network Industries in the United States'. , Cambridge: Cambridge University Press.
- Stern J. (2000) 'Electricity and telecommunications regulatory institutions in small and developing economies'. *Utilities Policy* 9 131 - 157.
- Stern J. and S. Holder (1999) 'Regulatory Governance: Criteria for Assessing the Performance of Regulatory Systems: An application to infrastructure in developing countries of Asia'. Regulatory Initiative Discussion Paper Series No. 20.
- UNCTAD (2006) 'Best practices for defining respective competencies and settling of cases, which involve joint action by Competition Authorities and Regulatory Authorities'. TD/RBP/CONF.6/13/Rev.1. UNCTAD Secretariat, Geneva.

- Williamson, O.E. (200) 'The New Institutional Economics: Taking Stock, Looking Ahead'. *Journal of Economic Literature*, VOL 38 (3): 595-613
- World Bank (1993) 'Telecommunications: A Comparative Analysis of Five Country Studies', World Bank Annual Conference on Development Economics 1993, pp. 215-251.

ANNEX 1

General Guidelines for apportioning competition-enhancing tasks between competition agencies and regulators – By OECD

1. It might not always be necessary to employ economic regulation to address problems arising from alleged market power either because such power could be transitional to be worth worrying about or because light-handed regulation may possibly be a superior alternative;
2. technical regulation will not likely fit well within competition agencies;
3. since there are advantages in combining economic regulation with technical regulation, economic regulation should probably not be organised as a stand-alone function;
4. given what has been said about technical and economic regulation, there seem to be three practical alternatives:
 - a. combine technical and economic regulation in a sector-specific regulator and leave competition law enforcement entirely in the hands of the competition agency;
 - b. organize technical regulation as a stand-alone function and include economic regulation within the competition agency;
 - c. combine technical and economic regulation in a sector-specific regulator and give it all or some competition law enforcement functions.
5. separating competition law enforcement from regulation means sacrificing certain synergies and having to adopt measures ensuring firms that are not subjected to inconsistent demands, but it also ensures that both policies are administered by agencies thoroughly understanding them and having cultures suited to their implementation;
6. If a decision is made to combine competition law enforcement and economic regulation, serious attention should be paid to differences in how they would carry out a combined mandate;
7. in sectors expected to evolve reasonably quickly to being workably competitive, assuming a decision has been made to combine economic regulation with competition law enforcement, it would probably be better to locate these functions within the competition agency than within a sector-specific regulator;
8. in non-transition sectors, if it is decided to combine economic regulation with the responsibility for ensuring non-discriminatory access to necessary inputs, this is probably better done within a regulator than within the competition agency;
9. Because competition agencies appear to have comparative advantage over regulators when it comes to enforcing prohibitions of anti-competitive behaviour and reviewing mergers, such agencies should have exclusive jurisdiction in those domains, or at least retain as general concurrent jurisdiction along with a regulator;
10. There seem to be good reasons for organizing regulators as general rather than sector-specific agencies and regulators would likely disappear if the regulator were instead of being sector-specific; and

11. Economic regulation, especially that being applied to markets in the process of liberalization, should be subject to sun-setting and should not be renewed unless the competition agency believes that it is justified by continued market power, thought should also be given to requiring regulatory forbearance in any market which is workably competitive, and once again the competition agency could usefully be involved in that determination.

ANNEX Table 18: Situation indicators for electricity markets in SEE, 2006

	<i>% state electricity assets privatised⁶</i>	<i>Industry structure</i>	<i>Type of unbundling</i>	<i>Independence of regulator</i>	<i>Transmission tariff setting</i>	<i>Distribution tariff setting</i>	<i>Incentive period (years)</i>
Albania	0%	Monopoly	None	Partially	Price/revenue cap	NA	3
Bosnia-Herzegovina	c.15%	Monopoly	Limited Legal/Accounting	Partially	Cost+	NA	
Bulgaria	>50%	Wholesale comp	Legal/Accounting	Fully	Cost+	Cost+/Revenue cap	5
Croatia	0%	Monopoly	Legal	Partially			
UNMIK	0%	Monopoly	None		NA	NA	
FYROM	c.32%	Wholesale comp	Ownership/Legal	Partially	Revenue cap	Price cap	To be implemented
Montenegro	0%	Monopoly	Accounting	Partially	Price cap	Price cap	1
Romania	17%	Wholesale comp	Legal/Accounting	Fully	Revenue cap	Price cap	5
Serbia	0%	Monopoly	Legal	Partially			
Turkey	0%	Wholesale comp	Legal	Fully	Revenue cap	Revenue cap	5
Greece	49%	Monopoly	Accounting	Fully	Cost+	NA	
Slovenia	19%	Wholesale comp	Legal	Fully	Price cap	Price cap	3

Source: Pollit, 2009

Annex Table 19: Power System Operations in Kenya

Company	Capacity (MW) as at end of June 2008		Energy Purchased Units in GWh					
	Installed	Effective	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08
1. Kenya Electricity Generating Company								
Hydro	737	719	3,120	3,259	2,869	3,025	3,277	3,488
Thermal	154	135	260	352	491	626	421	408
Geothermal	115	115	277	682	920	886	900	922
Wind	0.4	0.4	0.3	0.4	0.4	0.4	0.2	0.2
Total	1,006	970	3,657	4,294	4,280	4,538	4,599	4,818
2. Rural Electrification Programme								
Off-grid thermal stations	9.0	7.9	10	10	11	11	12	14
3. Independent Power Producers (IPP) - Thermal & Geothermal								
Iberafrica	56.0	56.0	251	240	330	408	321	306
Westmont ¹⁸	0.0	0.0	29	15	3	0	0	0
Tsavo	74.0	74.0	473	200	508	570	547	556
Mumias-cogeneration	2.0	0.0	0	0	0	9	4	9
OrPower 4-Geothermal	13.0	13.0	109	105	115	117	112	98
IPP Total	145	143	861	560	956	1,103	984	970
4. Emergency Power Producers (EPPs)								
Aggreko to Kenyan mkt	150	146	0	0	0	30	561	499
Aggreko to Uganda	0	0	0	0	0	0	0	57
EPP Total	150	146	0	0	0	30	561	556
Imports								
UETCL	-	-	222	171	99	15	13	25
TANESCO	-	-	0	0	0.3	0.4	0.5	1.0
Total Imports	0.0	0.0	222	171	99	15	13	26
SYSTEM TOTAL	1,310	1,267	4,750	5,035	5,347	5,697	6,169	6,385

Source: KPLC Annual Report, 2009

¹⁸ Westmont was retired in August 2004 upon expiry of the supply contract with KPLC

Annex Table 20: Ibera Africa Financial Indicators

Year Ended 31st December	2007	2006
	Kshs m	Kshs m
Sales	3,173	4,072
Cost of Sales	2,807	3,683
Gross Profit	366	389
Other Operating Income	33	2
Admin & Other Expenses	(216)	(199)
Operating Profit	183	192
Finance Costs	(62)	(139)
Profit before Tax	120	54
Tax	(43)	8
Profit After Tax	77	62

Source: Annual report, 2009

Annex Table 21: Tsavo Power Company

Year Ended 31st December	2007(US\$ '000)	2006(US\$ '000)
Sales	73,252	68,510
Cost of Sales	(58,455)	(53,857)
Gross Profit	14,797	14,653
Admin & Other Expenses	(2,728)	(2,398)
Operating Profit	12,069	12,255
Finance Costs	(3,041)	(4,159)
Profit before Tax	9,028	8,096
Tax	(3,029)	(1,590)
Profit After Tax	5,999	6,506

Source: Annual Report, 2009

Annex Table 22: Staff of National Electricity Regulatory Agencies 1997

Country	Authority	Type of agency	No. of Regulatory staff	Market structure	License/concession administration	Tariff regulation	Size of system
Brazil	National Agency of Electrical Energy	Autonomous	325	D	D	D	60.8
Chile	CNE	Ministry	40	R		D	7.4
Malaysia	Department of Electricity and Gas	Ministry	150	R	D	R	11.8
Philippines	Energy Regulatory Board	Autonomous	200	P	D	D	8.7
Singapore	Public Utilities Board	Autonomous	101	D	D	D	5.6
South Africa	National Electricity Regulator	Semi-Autonomous	22	P	A	D	35.2
Spain	Csen	Autonomous	74 (8 lawyers, 18 economists and 28 engineers)	P	D	P	41.7
UK	OFGEM	Autonomous	252 (106 lawyers, economists, accountants and others)	P	D	D	70.5

Source: Stern, 2000 D - Decision-making; A - Advisory; R - Recommendatory and P - Proposes

ANNEX 2: LIST OF INTERVIEWEES

Institution	Interviewed	Contact Details
A: Regulatory Authorities		
1. Ministry of Energy	Mr. Masinde	
2. Energy Regulatory Commission	Dr. Fredrick Nyang	
3. Monopolies and Prices Commission	Mr. B.M. Nyagol	
B: Key Institutions (Electricity)		
4. Rural Electrification Authority	Edward Gakunju, Senior Economist	egakunju@rea.co.ke
5. KPLC		
6. Kenya Electricity Generating Company (KenGen)	Mr. John Ndambiri	
7. Kenya Electrical Workers Union	Mr. Earnest Nadome	
C: Independent Power Producers (IPPs)		
8. Mumias Sugar Company		
9. Iberafrica Power (E.A.) Limited,		
10. <u>Tsavo Power Company Limited,</u>		
11. <u>Orpower4 Inc. Limited,</u>		
12. <u>Pan African Paper Mills (E.A.) Limited,</u>		
13. <u>Oserian Development Company Limited,</u>		
14. <u>Brooke Bond (K) Ltd - Unilever</u>		
D: Key Institutions (Petroleum Industry)		
15. National Oil Corporation of Kenya (NOCK)		
16. Kenya Pipeline Corporation (KPC)		
17. Petroleum Institute of East Africa		
18. Kenya Independent Petroleum Dealers Association (KIPEDA)		
E: Other Government Agencies		
19. Kenya Investment Authority	Senior Policy Advocacy Officer	info@investmentkenya.com

20. Ministry of Trade	Nancy Wanjiru Mwangi, Senior Trade Development Officer	ndwanjiru@yahoo.com
21. Kenya Bureau of Standards	Mr. R. Gisore, Manager, EAC/COMESA Regional Standards & Trade Affairs	reubengo@kebs.org
22. Kenya Industrial Research and Development Institute (KIRDI)	Asego O., Research Scientist	asegongaya@yahoo.com
23. Kenya Institute for Public Policy Research and Analysis	Fred Owegi, Analyst	fowegi@kippra.or.ke
24. Privatization Commission of Kenya	P. Kimuyu, Chairman	pkimuyu@uonbi.ac.ke
25. Jomo Kenyatta University of Agriculture and Technology, Juja	Emily Murenga	Murengae-n@gmail.com
26. Kenya National Bureau of Statistics	B. Mworria, Senior Statistical Officer	moriahbm@yahoo.com
27. Mombasa Polytechnic Campus	Arnold Maghanga, Lecturer	marymagman@yahoo.com
28. Coast Development Authority	Mr. Wainaina, Research Manager	wainaina@cdakenya.org
29. Maseno University	Dr. Raphael A. Kapiyo, Associate Director	rkopiyo@yahoo.com
30. Moi University, Eldoret	Prof. Kingiri Senelwa, Associate Professor, Sustainable Energy & Environment Systems Department of Forestry & Wood Science	ksenelwas@yahoo.co.uk
F: Petroleum Companies		
31. Kenya Shell Ltd.	M.M. Ngari	Mwawa.m.ngariksl.shell.com
32. National Oil Corporation of Kenya	C. Genga	cgenga@nockkenya.co.ke
G: Professional, Industry Associations and Research Institutions		
33. Kenya Association of Manufacturers	Mary G. Kiema	Mary.kiema@kam.co.ke
34. Kenya Association of Manufacturers	Jayesh J. Shah, Director	jayesh@spinknit.biz
35. Association of Professional Societies of East Africa (APSEA)	Felix Okatch, Governor, Professional Business Development	felixokatch@yahoo.com
36. Association of Professional Societies of East Africa	Vincent Oluoch. Convenor Public Affairs Committee	Otieno_oluoch@yahoo.com

(APSEA)		
37. Institute of Economic Affairs	Kwame Owino	owinok@iea.or.ke
38. Renewable Energy Technology	Enos A. Arela, Project Coordinator	ambale@retp-afric.org
39. Federation of Kenya Employers (FKE)	Martin Mati, Research Manager	mmati@fke-kenya.org
40. Catholic University of East Africa (CUEA)	David O., Database Programme	Otisomolo287@gmail.com
41. Kenya National Chamber of Commerce and Industry	Raphael Omusi Senior Trade Officer	kncci@swiftkenya.com
42. Kenya National Chamber of Commerce and Industry, Coast Office	Felix Mogaka	felixmogaka@africaonline.co.ke
43. Lake Basin Development Authority	Joseph O. Osimbo, Civil Engineer	joseosimbo@yahoo.com
44. Kenya Ferry Services	Kalu, Procurement Officer	info@kenyaferry.co.ke
45. Kenya National Association for Jua Kali Artisans	Samuel Kimani	
46. PanAfrican Paper Mills (E.A) Ltd, Webuye	K.N. Kothari, General Manager	kkothari@panpaperkenya.com
H: Consultants		
47. Renewable Energy Consultant	S. Arungu Olende	
I: NGOs		
48. Consumer Information Network	Emma Wanyonyi, Project Officer	wanyonyie@gmail.com
49. Climate Network Africa	Grace Akumu, Executive Director	gakumu@yahoo.com
50. Central Food Trade Network, Nyeri	Mr. David Ngige, Convenor	dmngige@yahoo.com
51. Kenya Union of Domestic Hotels, Education Institutions, Hospitals and Allied Workers, Mombasa	Mr. Wafula, Branch Secretary	
J: Others		
52. Bata Shoe Company	Seth O., Technician	Seth-o@gmail.com
53. 2NK SACCO Ltd	Mr. Patrick Muguna - Chairman	2nsacco@wanainchi.com
54. Savanna Shiners	Mr. Agili Nyangweso	nyangwesoagilijohn@yahoo.com

Secondary School		
55. East Africa Spectre	Mr. Erick O.	odhiamboeric@yahoo.com
56. Pan Africa Life	Mr. Simon Njagi	njaginjoguo@yahoo.com
57. KIRDI	Mr. Simbi M., Researcher	Simbi.mark@yahoo.com
58. Shiv Enterprises 9E) Ltd	Albert Kimwatan, Director	shiveld@gmail.com
59. Homa Lime	Stephen R. Brooks	Private Bag, Kisumu
60. Lake Victoria Basin Commission	Samuel K. Gichere	gichere@lvcsec.org
61.	Mr. James Muiru, Hotelier, Youth Leader, Nanyuki	jaka@yahoo.com
62. Mt Kenya Tourism Grant, Nanyuki	Mr. Wachira Chrtus	wachiracaritus@yahoo.com
63. Suluhisho Africa	Mr. Patrick Kuria, Vice Chairman	nyeriforum@gmail.com
64. Coast Rural Support Programme	David Moi, Business Advisor	Andymoi2000@yahoo.com
65. KEMA Investments	Mrs. Janet Kwanya Abudho, Branch Manager	kemamsa@pop.uunet.co.ke
66. Nairobi Serena Hotel	Mr. S. Amwom, Finance Officer	amwom_samwel@yahoo.com
67. Institute of Healthcare Management	Steven Ogweno, Deputy Director	Steve_ogweno@yahoo.com
68. Spectre International Ltd	Isreal O. Agina	agintai@spectreint.co.ke
69. Agro-Chemical & Food Company Ltd, Muhoroni	Caleb Oguya	coguya@acfc.co.ke
70. Kenya Methodist University, Nyeri	Mr. Nelson Mwingi	Nelson.mwingi@gmai.com