AN ANALYSIS OF THE CHALLENGES THAT AFFECT PERFORMANCE OF UTILITY REGULATORS IN KENYA: A CASE STUDY OF ENERGY REGULATORY COMMISSION

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Declaration

This research project is my own work and has not been submitted to any other University or College for an award.

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Approval by Supervisor

This research project has been submitted for consideration with my approval as the university supervisor.

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Dedication

I will lift up my eyes unto the hills, from where comes my help. My help comes from the Lord, who made heaven and earth (Psalms 121:1-2). It is through your abundant grace that I have come this far. You chose that I be born in this lovely and peaceful country; Kenya, and has blessed me at every stage in my life since I was conceived in my mother's womb.

I have no words to thank you for my wonderful parents; the late Mzee Caleb Oketch Abong'; may his soul rest in external peace and Mama Wilkister Akumu Oketch; continue to show her your mercy, grant her strength and add her many more years to continue guiding us. They brought me up in the best possible way under quite challenging circumstances.

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Definitions of Operational Terms

Utility	Any organization that maintains infrastructure and uses the infrastructure to provide public service
Vision 2030	Kenya's development programme covering the periods 2008 to 2030
Renewable Energy	Is the energy that comes from resources which are continually replenished, such as sunlight, wind, rain and geothermal heat
Kilowatt-hour	Is the unit of measuring electrical energy
Licence	Means a document or instrument in writing granted to any person authorizing the importation, exportation, refining, storage and sale of petroleum or authorizing the importation, exportation, generation, transmission, distribution and supply of electrical energy, in the manner described in such document or instrument.
Permit	Means an authorization granted to a person to enable the carrying out of any activity in the energy business, where a licence is considered onerous.
Tariff	Means a set of prices, rates, charges and any cost associated with capacity, supply and delivery of electrical energy.

List of Abbreviations/Acronyms

CCK	-	Communications Commission of Kenya
CEO	-	Chief Executive Officer
EHS	-	Environment Health and Safety
EIA	-	Environmental Impact Assessment
ERB	-	Electricity Regulatory Board
ERC	-	Energy Regulatory Commission
ICT	-	Information Communication Technology
IMF	-	International Monetary Fund
IPPs	-	Independent Power Producers
KEBS	–	Kenya Bureau of Standards
KenGen	-	Kenya Electricity Generation Company
KETRACO	-	Kenya Electricity Transmission Company
KFS	-	Kenya Forest Services
KPC	-	Kenya Pipeline Company
KPLC	-	Kenya Power and Lighting Company
KPRL	-	Kenya Petroleum Refineries Limited
KPTC	-	Kenya Post and Telecommunications
KWH	-	Kilowatt- hour
MOE	-	Ministry of Energy
NCS	-	National Communication Secretariat
OTS	-	Open Tender System
POSTA	-	Postal Corporation of Kenya
PURC	-	Public Utility Research Centre; University of Florida
REA	-	Rural Electrification Authority
SPAs	-	Service Provision Agreement
WASREB	-	Water Services Regulatory Board
WSBs	-	Water Service Boards
WSPs	-	Water Service Providers
ICBE-RF	-	Investment Climate and Business Environment Research Fund

Abstract

The broad objective of this study was to analyse the challenges affecting the performance of utility regulators in Kenya, whereas the specific objectives of the study were, to find out the effects of regulatory framework on performance of Energy Regulatory Commission, to determine how segregation of policy formulation, policy implementation and regulatory roles affected the performance of Energy Regulatory Commission, to examine how resource allocation and utilization affected the performance of Energy Regulatory Commission, and to establish the effect of regulatory knowledge within the energy sector on the performance of Energy Regulatory Commission. The last decade has seen a worldwide shift towards greater private sector participation in the infrastructure industries. Most governments are reducing their roles as owners and operators of facilities, causing new emphasis to be placed on their ability to establish sustainable regulatory arrangements. A key factor influencing the implementation of reforms is the ability of utility regulators to effectively perform regulatory functions in the presence of pressures from government ministries, the private sector, consumers, and other interest groups (Jamison and Berg, 2008). Since the establishment of the various utility regulators in Kenya, concerns have been raised by the stakeholders on their performance, more so in so far as meeting their expectation is concerned. In trying to understand the basis of the problem, the study conducted a case study of the Energy Regulatory Commission to establish how it functions and carries out its daunting mandate. This was done through a census of all the staff of ERC and by use of semi-structured questionnaires to gather data on pertinent issues on sector regulations. Descriptive analysis of the data so gathered was conducted which led to the following conclusions and recommendations;

Resource allocation to ERC has been insufficient hence hindering delivery of services to its stakeholders, the performance of the Commission has been challenged by the Energy Act which has failed to give the Commission enforcement powers thus for the energy regulator to perform to expectation, the policy makers should look into how to effectively fund its operations and overhaul the laws and regulations to give it more autonomy and enforcement powers in the sector it is regulating.

CHAPTER ONE

INTRODUCTION

1.0 Chapter Overview

The introduction to this study has endeavoured to look at the background of utility regulation in Kenya and how it has evolved over time. It then looked at Energy Regulatory Commission as a single energy sector regulator; where the case study was conducted and previewed its establishment as well as the transformations it has undergone since the inception of utility regulation in Kenya. This is followed by articulation of the statement of the problem and objectives of the study. The research questions which were crafted to address the specific objectives of the study are then outlined. Lastly a look at the importance of the study, scope of the study and, limitations and delimitations of the study is done as a conclusion to the introduction.

1.1 Background of the Study

In the early and mid-twentieth century, utility services in many countries especially the developing world were provided by state-owned monopolies. By the latter part of the century, it became clear that state-owned monopolies were generally inefficient providers of utility services and ineffective in making these services broadly available to the public (Jamison and Berg, 2008). This was largely attributed to their incompetent management and interference from the political elite who influenced the appointment of staff; which resulted into over-employment and poor job placement in most of the utilities. Most governments also lacked the resources to be the sole providers of utility services as their sources of funding; mostly from the larger loaning agencies like the World Bank and the International Monetary Fund (IMF) was fast dwindling due to poor credit rating. Weak institutions allowed political interference in the management of the state-owned monopolies and in some instances, prices were kept artificially low to the level of relying on government subsidies to finance investments and cover other costs (Armstrong at el, 1999). Where fiscal constraints prevented the government from providing the subsidies consistently, then there was under investment and poor service quality. In other instances, the utility services would be used as cash cows to fund other government functions. This resulted in under investment and poor service quality for the utility services as private

sector could not enter the utility provision sectors while the governments could no longer meet the demand for the utility services which kept on growing with the population booms (Laffont and Jean-Jacques, 2005).

In the late 1980s and early 1990s, policy makers began to conclude that regulated, privately-owned service providers might be more effective than state-owned operators because private operators might be less subject to political opportunism and might operate more efficiently than state-owned enterprises, especially if subjected to competitive pressures, because profit motives provide clear and consistent incentives to control costs, deploy infrastructure where demand is sufficient to cover costs, offer prices that encourage efficient utilization of the infrastructure, and innovate when customers find the innovation sufficiently valuable to pay for the improvement. These factors drove countries to begin to introduce competition wherever possible and developed utility regulatory agencies that would enforce concession or licensing agreements and regulate prices (Jamison and Berg, 2008). The market reform has been noticed in most countries although with varied shapes across sectors and countries.

In telecommunications, liberalization and privatization have been the most prevalent features of market reform, although countries have varied in their degrees of market liberalization and privatization. Telecommunications regulators and policymakers have generally focused on removing barriers to entry, ensuring efficient network interconnection, rebalancing prices to reflect new competitive realities, and promoting access to telecommunications for the poor and in rural areas (Laffont and Jean-Jacques, 2005). In Kenya, the telecommunication sector has also seen tremendous changes which culminated in the enactment of, The Kenya Communications Act No. 2 of 1998 which unbundled the Kenya Postal and Telecommunications Corporation (KPTC) into five separate entities namely; the Communications Commission of Kenya (CCK) which is the regulator, the National Communications Secretariat (NCS), which serves as the policy advisory arm of the government on all matters pertaining to the information and communications sector, the fixed-line operator; Telkom, the Postal Corporation of Kenya

(POSTA), and a Communications Appeals Tribunal (The Kenya Communications Act No. 2 of 1998).

In electricity, industry restructuring and commercialization; sometimes through privatization have been the most prevalent market reforms. Restructuring has sometimes involved structural separation that unbundles the sector into competitive generating companies and monopoly transmission and distribution companies (Jamison and Berg, 2008). In Kenya, power sector partially unbundled with Kenya Electricity Generating Company (KenGen) and Independent Power Producers (IPPs) participating in generation while Kenya Power and Lighting Company (KPLC) has remained with transmission, distribution and supply functions. The Rural Electrification Authority (REA) was formed as a fully owned governmental organization to spearhead distribution network expansion in areas considered economically unviable by Kenya Power and Lighting Company. It is funded by the exchequer and other development partners so as to promote rural electrification and hence taking development to the people in the rural areas (Energy Act No. 12 of 2006). The Kenya Electricity Transmission Company (KETRACO) has been the latest inclusion in the sub-sector to spearhead development of new transmission lines in the country.

The petroleum industry in Kenya has a much more complex structure with oil marketers participating in open tender system (OTS) for crude petroleum as well as refined petroleum products which they then sell through their retail outlets while Kenya Oil Refineries Limited (KPRL) and Kenya Pipeline Company (KPC) deal with local production and bulk transportation of petroleum products respectively.

The reforms in the Kenyan Energy sector in the mid-21st century saw the transformation of the then Electricity Regulatory Board (ERB) into the Energy Regulatory Commission (ERC), with the expand role to be a single energy sector regulator responsible for electricity, downstream petroleum and renewable energy sub-sectors and the formation of the Energy Tribunal where any decisions by the Commission can be appealed against (Energy Act No. 12 of 2006).

The Kenyan water sector underwent far-reaching reforms through the Water Act No. 8 of 2002. Previously service provision had been the responsibility of a single National Water Conservation and Pipeline Corporation as well as of a few local utilities established since 1996. After the passage of the Act, service provision was gradually decentralized to 117 Water Service Providers (WSPs). These are linked to 8 regional Water Services Boards (WSBs) in charge of asset management through Service Provision Agreements (SPAs). The Act also created the Water Services Regulatory Board (WASREB), which carries out performance benchmarking and is in charge of approving SPAs and tariff adjustments. WASREB is a non-commercial state corporation established in March 2003 on the basis of the Water Act No. 8 of 2002. Its functions comprise: issuing of licenses to water services boards and approval of Service Provision Agreements, developing tariff guidelines and carrying out tariff negotiations, setting standards and developing guidelines for service provision, publishing the results of sector monitoring in the form of comparative reports for the WSPs as well as the WSBs (Water Act No. 8 of 2002). The Ministry in-charge of Water and Irrigation is in charge of policies for water supply and the Ministry of Public Health and Sanitation deals with policies for sanitation.

The utility regulators are expected to spur growth in the infrastructure, improve quality of service to consumers and prevent exploitation of the consumers as well as safeguarding private investor interests by setting a climate for sustainable prices for the services (Jamison and Berg, 2008). They are seen by each of the stakeholders in the particular industry as their saviour who is to address their perceived problems fast enough and with the required precision. This has led to several complaints raised against the utility regulators by the stakeholders in the industries who feel their needs are not being addressed to their expectations. Where the governments as key stakeholders with extreme powers have felt the utility regulators are not meeting their expectations; they have resorted to dissolving the regulatory agencies which leads to the big questions; what key strategies should the utility regulators employ to position themselves in the particular industries and the economies at large? Are these strategies effective in providing confidence to the various stakeholders on the work and existence of the utility regulators?

1.1.1 Energy Regulatory Commission

Energy Regulatory Commission (ERC) was established under the Energy Act, 2006. Following the enactment of the Energy Act, 2006, with effect from July 7 2007, the Electricity Regulatory Board (ERB) became Energy Regulatory Commission (ERC) with the following expanded objectives and functions; regulate the electrical energy, downstream petroleum and related products, renewable energy and other forms of energy, protect the interests of consumer, investors and other stakeholder interests, maintain a list of accredited energy auditors as may be prescribed, monitor; ensure implementation of, and the observance of the principles of fair competition in the energy sector, in coordination with other statutory authorities, provide such information and statistics to the minister in-charge of Energy as he/she may from time to time require, collect and maintain energy data, prepare indicative national energy plans and to perform any other function that is incidental or consequential to its functions under the Energy Act or any other written law (Energy Act No. 12 of 2006)

The Energy Regulatory Commission is an autonomous, independent energy sector regulator with powers and whose broad mandate is to, inter alia, formulate licensing procedures, issue licenses and permits, make recommendations for the necessary regulations to be issued by the minister in-charge of energy, formulate, enforce and review environmental, health, safety and quality codes and standards, set, review and adjust electric power tariffs, approve power purchase agreements and network service contracts, examine and approve meters, investigate complaints between parties within the sector, accredit energy auditors, ensure competition, collect and maintain energy data, protect stakeholder interests, and prepare an indicative national energy plan (Energy Act No. 12; 2006).

In order to discharge its mandate effectively and efficiently, the Energy Regulatory Commission (The Commission) has established the following four key departments;
Electricity Department which is responsible for the technical regulation of the electric power sub-sector and its functions are; review of and advise on government policy on the electricity sub-sector, preparation of strategic and operational plans, licensing of the

generation, transmission, distribution and supply of electricity, reviewing of power purchase agreements and network service contracts, development and enforcement of regulations, standards and licence conditions, collection and maintenance of information relating to the technical regulation of the electricity sub-sector, generation and transmission expansion planning, regulating the use of electrical energy including metering and meter certification, licensing of electricians and registration of electrical contractors, and investigation and determination of complaints and disputes within the sub-sector. The Petroleum Department which is in charge of the technical regulation of the petroleum sub-sector and its functions are; review of government policy on downstream petroleum, governing the petroleum sector with focus on licensing, issuing of construction permits, developing standards for bulk petroleum transportation and, petroleum costs and prices monitoring, take the lead in the formulation, review and enforcement of rules, regulations and codes for the petroleum sector, identifying gaps in environmental health and safety (EHS) and developing interventions to address the gaps to ensure that EHS clearly understands standards and rules that it is expected to regulate which include the review and enhancement of existing standards. The Renewable Energy Department which is responsible for monitoring and evaluation of development of renewable energy sources in Kenya by focusing on assisting the Ministry in-charge of Energy to develop and implement regulations and standards for all forms of renewable energy. This is done in consultation with other statutory bodies such as the Kenya Bureau of Standards (KEBS) and Kenya Forest Services (KFS). Preparing indicative energy plans for renewable energy, using available energy data and carrying out relevant research activities in this sector as well as promoting energy efficiency and conservation (ERC Strategic plan, 2007). The Economic Regulation Department which is responsible for promoting efficient operation of undertakings in the energy sector, enhance competition, promote investment and safeguard consumer concerns regarding affordability of the various energy services with the following major functions; monitoring the efficiency and performance of undertakings, price regulation, assessment of licence applications for their financial and economic viability, assessment of licence fee, monitoring and promoting competition within the energy sector, promoting investment in the energy sector and protection of consumer interests, in terms of

affordability and sustainability of energy services. The four key departments are supported by the following other departments and functions; Human resources and Administration, Finance and Strategic Planning, Communication and Public Affairs, Legal, Procurement and Information Communication and Technology (ICT). (ERC: Strategic plan 2007).

The management of ERC is vested in its Commissioners; who are the Chairperson (appointed by the President), Permanent Secretary Ministry of Energy, Director General (who is the Chief Executive Officer (CEO)) and five other commissioners appointed by the Minister in-charge of Energy to represent private sector interests and to bring varied expertise in the Top Management of the regulator. Under the CEO is a team of professionals in the fields of Engineering, Law, Economics, Environmental Science, Finance, Human Resource Management, Procurement, and ICT among others. The current staff compliment is fifty seven (57) permanent employees and eight (8) contract employees. The Commission's first strategic plan was for period 2008-12 and has developed a new strategic plan to cover the period 2013-17. In its strategic objectives, ERC has identified the following as fundamental, position ERC as an autonomous, transparent and respected regulator, facilitate investments to expand access to sustainable energy supply, promote and enforce efficiency in energy supply and use, proactively communicate and engage with consumers and sector stakeholders to achieve common understanding of objectives and aspirations, and internal transformation of ERC to lead by example in delivering high performance in the sector (ERC Strategic Plan, 2012). The key performances indicators have been implementation of the service delivery charter, customer satisfaction, service delivery innovations, resolution of consumer complaints, developing licensing regulations, timely processing of licences, developing services quality standards and enforcement of regulations among others (ERC Performance Contract, 2009). The current practice is that ERC signs annual performance contract with the Government of Kenya represented by the Ministry of Energy running from July to June of the next year which is monitored and evaluated by the efficiency and monitoring unit in the office of the prime minister. The performance rating for the 2011/2012

financial year was rated at 4, which was very good, while for the previous two years were both rated at 3 which was good (ERC Performance Reports, 2008/2009 – 2011/12).

1.2 Statement of the Problem

The overall research problem addressed in this study is that, despite the effort to establish independent utility regulators in Kenya, little has been done to analyse the challenges the utility regulators face in positioning themselves in their particular sectors and the economy at large so as to meet the expectations of the various stakeholders. Studies carried out in Kenya and other developing countries have stressed the importance of establishing independent utility regulators as a means of spurring investment and improving service delivery by the regulated utility providers (Jamison and Berg, 2008). The study on regulatory and competition related reforms in Kenya's power and petroleum industries commissioned by ICBE-RF in 2009 recommended the need for more administrative and financial independence, as well as adequate technical staff for the regulatory bodies (ICBE-RF Research Report No. 19/11). But how the utility regulators have fitted into the various sectors is yet to be studied and proposals put forward on what further facilitation they may require so as to achieve the enormous tasks bestowed upon them. If the challenges affecting performance of utility regulators are not identified, analysed and concrete proposals based on research findings outlined and implemented, the benefits of establishing independent utility regulators may not be realized to its full potential. This in the long run will hinder Kenya from achieving its Vision 2030 development blue print and transforming itself into a middle income country by the year 2030.

1.3 Objectives of the study

General Objective

The general objective of the study was to analyse the challenges that affect performance of utility regulators in Kenya through a case study of the Energy Regulatory Commission.

Specific Objectives

In order to achieve its general objective, the study narrowed to the following specific areas;

i. To find out the effects of regulatory framework on performance of Energy Regulatory Commission.
ii. To determine how segregation of policy formulation, policy implementation and sector regulatory roles affect the performance of Energy Regulatory Commission.
iii. To examine how resource allocation and utilization affects the performance of Energy Regulatory Commission.
iv. To establish the effect of regulatory knowledge on the work of Energy Regulatory Commission.

1.4 Research Questions

Data was collected, analysed and interpreted so as to answer the following questions;

i. To what extent has regulatory framework affected performance of Energy Regulatory Commission?
ii. What are the effects of segregation of policy formulation, policy implementation and sector regulatory roles on the performance of Energy Regulatory Commission?
iii. How has the allocation and the utilization of resources affected the work of Energy Regulatory Commission?
iv. To what extent has regulatory knowledge affected the work of Energy Regulatory Commission?

1.5 Importance of the Study

The aim of this research was to provide deeper understanding on the competitive forces in utility regulation in Kenya and how the sector regulators should position themselves effectively in the various industries and the economy at large. Data and information presented purports for every utility sector regulator to make use to come up with strategies, plans and designs that will assist them to strategically position themselves in the volatile, diverse and complex environment that is experienced at present especially because of globalization and stakeholder empowerment. This study should be helpful for other researchers who may be focusing on understanding the concept of sustainable and effective utility regulation more so in developing economies like Kenya. The notable

significance of this study is the possibility that other researchers may be able to use the findings in this study for future studies that will create a huge impact in society. This study's findings can be used for other findings that might prove to be helpful in introducing changes to the utility regulation in developing countries.

1.6 Scope of the Study

The study was a case of the Energy Regulatory Commission; which is based at Eagle Africa Centre Building in Upperhill Nairobi and involved an in depth investigation of all its departments/sections and their interaction with the various players in the energy sector, and the other sector stakeholders in Kenya as a whole.

1.7 Limitations and Delimitations of the Study

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 found to be of poor quality and in-sufficient for comprehensive analysis. The study thus complemented available information with semi-structured questionnaire to acquire relevant data from the respondents so as to draw informed conclusions. Secondly, as the researcher is an employee of the Energy Regulatory Commission, gathering un-biased information from respondents was found to be challenging as some felt obliged to give favourable information in support of the Commission by hiding some of the pertinent issues for fear of injuring relationship between themselves and the Commission. The researcher 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 researcher to carry out a more comprehensive survey targeting all energy stakeholders countrywide. The researcher therefore got information from the staff of ERC only.

CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction

In the literature review the study looked into who the utility providers are, why should they be regulated and what then should constitute the performance of a utility regulator. The study then narrowed to the energy sector in Kenya and looked at the introduction of its regulation, its existing regulatory framework, segregation of roles of policy formulation, policy implementation and regulatory function, resources allocation and utilization by its regulator, and the regulatory knowledge within the energy sector with the aim of identifying existing gaps and developed a systematic way which was used to study the underlying factors that affect the performance of utility regulators through an in depth study.

2.2. Review of Past Studies

2.2.1. Performance of the Utility Regulators

Public utilities are business enterprises that provide essential services to the economy and are public in nature. The features that make an enterprise public include supplying continuous or repeated service through permanent physical connections between the plant of the supplier and the premises of the customer (e.g., electricity or water). Public enterprises also include transportation entities such as airlines, railroads, and gas or oil pipeline companies. Utilities typically create a good or service at one location, and then distribute it over a ‘network’ where it is delivered to numerous customers for end use. The use of a network structure creates special issues for utilities. The network often exhibits economies of scale and involves substantial sunk costs, so the issue of natural monopoly has played an important role in utility literature. The network may require the use of public streets or other rights of way, so government involvement is of particular concern. Since several firms often utilize the network, there are ‘network externalities’ or congestion if its use is not properly priced. The activities of utilities can be broken down into three components: production, transmission, and distribution. While the production component has, in most developed countries, been almost exclusively privately owned, the transmission and distribution stages have been either private or government-owned.

In some regulated utilities, the firm is fully 'vertically integrated' into all three activities, and a salient issue is the 'unbundling' of these functions under competition. Most commentators now agree that the production stage is inherently competitive in most utilities, so that different firms may perform the production and transmission/distribution functions (Crandall and Ellig, 1997). The focus is then on the proper structure for the transmission and distribution segments of the business, with particular attention paid to the question of entry by competitors, or 'access' to transmission and distribution infrastructure. The high degree of public interest in the provision and widespread use of these services forms the basis for government regulation. Economically, the basis for traditional regulation was the belief that these services are more efficiently provided by monopoly firms rather than through competitive markets. Whether monopolies, or increasingly, multiple firms in competition, most public utility service providers are private firms whose operations are governed by law and regulated by public authorities (Baldwin at el, 1999). It can therefore be deduced that the company or firm in this context is the substitute for the State in the performance of the public service, thus becoming a public servant.

Government entities have historically regulated utilities extensively. The debate in the academic literature over the rationale for this intervention has accordingly been considerable. The literature falls into two broad categories: positive and normative. The normative, or 'public interest' strand provides rationales for how and why government ought to intervene in utilities, typically pointing out 'market failures', or situations in which government intervention could, in theory, improve market operation. According to this approach, government enacts regulation in response to a market failure. This view was dubbed 'normative analysis as positive theory' by Joskow and Noll (1981), since it purports to explain what regulation ought to do. Natural monopoly theory has historically provided perhaps the most important public interest rationale for utility regulation. This theory holds that an industry is 'naturally monopolistic' if its product can be produced at least cost by a single firm. Traditionally, this was thought to be the case where a firm produces a single good and its long-run average cost curve is declining throughout the entire range of output. Therefore, to achieve productive efficiency, it is necessary to have

only one firm operating in the industry (thus justifying legally protected, monopoly service territories). At the same time, this monopoly had to be regulated to prevent price gouging and to ensure it earned a 'fair' rate of return on its investment (Moorhouse, 1995). Alternatively, this could be achieved through state ownership of the utility, as was more frequently the case in Europe. In this way, regulation (or ownership) would ensure both productive and cost efficiency.

It seems fair to say that governments establish regulation of utilities to improve sector performance relative to no regulation. What might be meant by "improve sector performance," however, can be subject to considerable debates? It often means that the government wants to control market power and/or facilitate competition. It may also mean that the government wants to address commitment issues to protect operators and customers from politically driven decisions that sacrifice long-run efficiency for short-term political expediency. "Improve sector performance" might also mean that the government has chosen to regulate in order to favour particular types of customers or to protect operators from competition. In one country, for example, regulation has been used to subsidize electricity for farmers. In many countries, regulation has subsidized customers of primarily local telephone services with the prices imposed on large users of long distance telecommunications (Jamison and Berg, 2008).

In analysing the performance of a regulator, it is imperative to look at the sector as a whole by bringing in the key stakeholders into perspective. A stakeholder is an individual who possesses a stake in the matter under consideration. The traditional definition of a stakeholder is "any group or individual who can affect or is affected by the achievement of the organization's objectives" (Freeman, 1984). Friedman and Miles (2006) points out that there is a clear relationship between definitions of stakeholders and identification of who are the stakeholders. The main groups' of stakeholders are; Customers: Those who consumer the products or services offered by the Energy sector; who are electricity consumers, petroleum product consumers, regulated utilities, licensees etc., Employees: All those who are employed by the energy sector, Local communities: The Kenyan public

at large, Suppliers and distributors: Those who do business with the energy sector, Shareholders: Owners of the various businesses within the Energy sector.

2.2.2. Regulatory Framework in the Energy Sector in Kenya

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 and 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 downstream 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 and more recently the Competition Act 2009, which seeks to promote and safeguard competition in the economy; protect consumers from unfair and misleading market conduct; to provide for the establishment, powers and functions of the competition tribunal (ICBE-RF Research Report No. 19/11).

On 2nd December 2010, the Minister for Energy released the Energy (Petroleum Pricing) Regulations, 2010 which were issued as Legal Notice Number 196 and published in Kenya Gazette Supplement No. 98 dated 3rd December 2010. The objective of the regulations was to establish maximum pump prices for Super Petrol, Regular Petrol, Kerosene and Automotive Diesel and to put in place the frequency in which such maximum prices will be set. The regulations established a formula for calculating the maximum price caps after taking into account costs which are prudently incurred in the supply chain of petroleum products and incorporating marketing margins. The regulation was issued following public outcry on the escalating fuel prices. However the timing could be seen to have been bad, since the increase in prices was occasioned by rising

international prices and as such the regulation could not meet the public expectations of reduced prices. The advantage is that the prices of the products are now cost reflective and any reduction in international prices will be reflected in the pump prices (ICBE-RF Research Report No. 19/11).

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).

The form of Regulation 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, that is 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 ((ICBE-RF Research Report No. 19/11).

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). Two 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, that is the measurement of success of the regulatory agency (Green et al., 2006).

2.2.3 Segregation of Roles within the Energy Sector in Kenya

The energy sector has been undergoing restructuring and reforms since the mid-90s, which culminated in the enactment of the Energy Act, No 12 of 2006 (the Act). Under the Act, the Ministry of Energy (MoE) is responsible for formulation and articulation of policies through which it provides an enabling environment to all operators and other stakeholders in the energy sector. The Energy sector in Kenya has the four sub-sectors over which MoE exercises oversight on behalf of the Government of Kenya (GoK), namely Electricity Supply Industry (ESI), Petroleum importation and Supply Industry, Renewable Energy Industry and Energy Sector Regulation.

Principal operators in the ESI, are the Kenya Electricity Generating Company (KenGen) which accounts for close to 80% of generation, the balance being provided by Independent Power Producers (IPPs), namely Iberafrica Power (EA) Ltd, Tsavo Power Company Ltd, OrPower4 Inc, Mumias Sugar Company Ltd and Rabai Power Ltd. Several other IPPs have secured their contracts and are at various stages of joining the Electricity Supply Industry. The Kenya Power and Lighting Company (KPLC) is responsible for transmission, distribution and retail supply of electrical energy to end users. It purchases power in bulk from KenGen and the IPPs through bilateral contracts or Power Purchase Agreements (PPAs) approved by ERC. Other operators in the ESI

include James Finlay, Sotik Tea Company, Sotik Highlands Tea Estate, Oserian Development Company, Pan African Paper Mills, and Unilever Tea Kenya Ltd , who are licensed to generate electrical energy for own use. Other players in the ESI are; The Rural Electrification Authority (REA), mandated to, inter alia, develop and update the rural electrification master plan, implement the rural electrification program and promote the use of renewable energy sources, The Geothermal Development Company (GDC) formed in 2009 for the purpose of exploiting the hugely untapped geothermal energy potential, and The Kenya Electricity Transmission Company (KETRACO), also formed in 2009 to develop new transmission lines (Energy Act No. 12 of 2006).

Petroleum fuels constitute the main source of commercial energy in Kenya. Kenya is a net importer of petroleum products and has a refinery owned and managed by the Kenya Petroleum Refineries Ltd (KPRL), an 800 km cross country oil pipeline from Mombasa to Nairobi and Western Kenya with terminals in Nairobi, Nakuru, Eldoret and Kisumu, run by the Kenya Pipeline Company (KPC). The sector also boasts of over 30 oil importing and marketing companies comprising of five major companies namely Shell, Total, Kenol/Kobil, Oil Libya, and other emerging oil companies which include the government owned National Oil Corporation of Kenya (NOCK). The sector, which was liberalized in 1994, has since seen a lot of growth and improvements in quality and level of service. However, without an appropriate regulatory environment being in place at the time of liberalization (the existing legislation at the time was the Petroleum Act Cap 116 of 1948 with latest revision of 1972), several challenges face the sector which include proliferation of sub-standard petroleum dispensing and storage sites which pose environment health and safety risks; diversion of petroleum products destined for export into the local market by unscrupulous business people to evade tax and a dominance of the market by a few companies among others (Sessional Paper No. 4 on Energy of 2004). The Government noted these challenges in its energy policy contained in Session Paper No. 4 of 2004 on Energy and recommended review of the Petroleum Act Cap 116 and other energy sector statutes and the introduction of a new energy sector legislation to cover petroleum, electricity and renewable energy. It also recommended the formation of

a single energy sector regulator to regulate electricity, downstream petroleum, renewable energy and other forms of energy.

Renewable energy sources can be replenished in a short period of time. The five renewable sources used most often are; Biomass - including wood and wood waste, municipal solid waste, landfill and biogas, ethanol, and biodiesel, Water (hydropower), Geothermal, Wind, Solar. "To encourage the wider adoption and use of renewable energy technologies and thereby enhance their role in the country's energy supply matrix, Government will design incentive packages to promote private sector investments in renewable energy and other off-grid generation. Government will also provide requisite support for research and development in emerging technologies like cogeneration and wind energy generation. Cogeneration in the country's sugar belt will be promoted through an attractive bulk tariff regime that recognizes the need to reduce oil based thermal generation to tap the current potential estimated at 300 MW of electricity" (Sessional Paper No. 4 on Energy of 2004).

Regulation is said to be a substitute for competition. The energy sector worldwide is characterized by monopolistic market structures which are an impediment to the economic efficiency that is associated with a competitive market. In other words, monopolies have a propensity to use their market power to the detriment of the customer. Most of these are natural monopolies brought about by several factors including; ownership of a scarce resource, prohibitive costs of putting up infrastructure and economies of scale. The role of regulation is therefore to deal with this market failure and administratively promote; efficiency, competition, investment and private sector participation and protect consumer interests in terms of affordability, quality of service and service sustainability (Green et al, 2006).

2.2.4. Resource allocation and utilization by ERC

The functions of Energy Regulatory Commission (ERC) are funded mainly through electricity levy changed currently at Kenya 3 cents/Kilowatt-hour (KWH) of electricity sales by Kenya Power and Lighting Company to electricity consumers and petroleum levy changed currently at Kenya 5 cents/litre of petroleum products sold to consumers by

petroleum marketers. The net cash generated from the two levies has been insufficient to fund operational and development needs at ERC which has led to its slow growth since inception with sometimes development partners giving a helping hand to fund core activities like training needs and sector improvement studies among others. The idea of increasing the levies has been a difficult one to make as it will directly impact on the tariffs changed to the consumers who are already financially overburden and find the current retail tariffs unaffordable. This explains the low usage of electricity among the already connected customers and annual customer growth at only around 16% per annual on average (ERC Budget Reports, FY 2009/2010 –FY 2011/12). Although ERC charges minimal fees for licence application, grant of licence and annual licence renewal to its licensees, the funds are paid to Rural Electrification Authority (REA) to fund electrification of projects in the rural areas which are far behind in connectivity at around 13%.

2.2.5. Regulatory Knowledge within the Energy sector in Kenya

There is a near consensus on the main responsibilities of regulators. For example, Smith (1997) identifies three: to protect consumers from abuse of market power, to support investment by protecting investors from arbitrary action by government, and to promote efficiency. In their survey of electricity regulators in the EU, Johannsen et al. (2004) finds that promoting competition, market transparency and protecting customers as most common objectives of regulators. However, many regulators have numerous objectives, balancing of which can be difficult. For example, achieving efficiency of supply and developing regulations or mechanisms for security of supply can be contradictory. Adding environmental and social considerations may complicate decision making on efficiency and/or security even further (Smith, 1997).

Multiplicity of objectives may also make it more difficult to decipher on which grounds the decision is reached. Even when the reasons are made public, they may be difficult to defend as one objective may be used as an excuse for another. For the purposes of this paper, we focus on the following four responsibilities; development and implementation of regulations for establishing and sustaining a fair investment environment (based on the restructuring legislation), promotion of competition and least-cost investments, protection

of consumers against abuses by market players and education of consumers about competition.

2.2.5.1. Functions of regulators

Performance of regulators in carrying out their functions is evaluated based on how well they meet their responsibilities. These functions are difficult to evaluate as they are often qualitative and subjective; issuing licenses to market participants operating in the regulated marketplace, setting tariffs for non-competitive segments, developing performance standards for various segments (in particular, for those indirect contact with customers), monitoring the market (e.g., against exercise of market power), auditing accounts of regulated firms (a uniform accounting system makes auditing easier), and resolving disputes among stakeholders. Often newly established regulators have been charged with managing transition from the regulated (or state-owned) to restructured environment. These inexperienced regulators face uniquely challenging problems (Smith, 1997).

According to Navarro (1996) the most important challenge is judging whether the generation market can be competitive. In many jurisdictions, legislators tried to impose divestiture and market share limits (20% being a favourite benchmark) but implementation was left to regulators. Designing independent system operators, supervising the governance of these entities, preventing abuse of market power, and having a flexible balancing market all contribute to competitiveness of generation. Also high on Navarro's list are end-user prices and allocation of stranded costs. Clearly most politically sensitive issue, end-user prices cover a wide range of issues including ratemaking methodology (cost of service or incentive), sector pricing, programs for the poor, demand side management goals, and distributed generation. Stranded costs are often a contentious issue in U.S. jurisdictions where previously regulated utilities complain about not getting their promised rate of return in a competitive environment; but state entities elsewhere can also be entitled to stranded cost recovery. In Texas, for example, low operating cost of nuclear and coal units allowed their operators to collect large revenues when natural gas prices caused electricity prices to stay high, leading to 'negative' stranded costs. This raises the question of which methodology to us to

calculate these costs (e.g., market-based versus book value). In an early stage when an agency is trying to establish its competence and independence, these problems can be detrimental (Navarro, 1996).

2.2.5.2. Jurisdiction of regulators

In order for the regulator to play its role as effectively as possible, the industry coverage of the regulator, the jurisdictional boundaries between the regulator and the ministry, and relations with other regulators are of interest. There is general (but not unanimous) support for multi-industry instead of industry specific agencies, at least within each sector (such as the energy sector) if not across sectors. Given the similarities across network utilities, resources can be leveraged and learning can be enhanced across sectors. Capture by either regulated entities or politicians are also more difficult as a larger number of stakeholders with different interests create a system of checks and balances. A multi-industry regulator may have a better chance to survey capital markets and hence help improve efficient investment across sectors (Navarro, 1996).

The role of the regulator with respect to the ministry is more difficult to assess. In general, there is agreement that the ministry will remain in charge of policymaking while the regulator will administer licenses and set tariffs. But clearly, regulators are likely to have valuable input in policy debates and the ministry (or the government) has great interest in tariffs paid by the "voters." Unfortunately, too often governments undermine the regulator on the issue. For new regulators trying to establish their legitimacy, this interference can have a lasting negative effect (Navarro, 1996).

2.2.5.3. Desired characteristics of Regulators

Energy sector regulation is technically complex, contentious, and politically intricate even for experienced regulators let alone newly established ones in developing countries. To function effectively and achieve goals in such an environment, certain characteristics are desirable for a regulatory agency. We consider the following four as most important and mostly inclusive of other aspects considered by others; independence, enforcement powers, or authority, transparency and accountability and competency (Navarro, 1996).

Independence, albeit with minor qualification, is unanimously desired. It is surprising that the authority to enforce rules and regulations without undue influence is not unanimously considered as necessary. Perhaps, in countries where the rule of law is established and administrative agencies created by law have a history, authority is taken for granted. But, we like to emphasize it because legal mandate is not sufficient in practice for regulatory agencies to have enforcement powers, especially in countries where these kinds of agencies are new and incumbent political interests are strong and oppose the change. Transparency and accountability also appear to be unanimously desired characteristics. Some provide further qualities such as communication, consultation, consistency (of treatment of participants across service sectors, over time and across jurisdictions), predictability, impartiality and flexibility that feed into transparency and improve accountability. The skill and knowledge level and competency of staff can be equally, if not more, important for the success of the agency. Effectiveness and efficiency can be interpreted to imply competency (Lamech & Saeed, 2003).

Clearly, the regulator should not be influenced by the entities that are subject to its regulation. EU Directives on gas and electricity require that regulators shall be wholly independent of the electricity/gas industry. Perhaps also obvious but harder to achieve is the requirement that the regulator should be independent from government as well. "It is a generally accepted principle that the regulators should enjoy appropriate independence in their day-to-day work from regional or national government. This is to guarantee regulatory stability and to avoid situations in which the decisions of the regulator are constantly modified." Note, however, that independence is qualified with "appropriate," leaving room for interpretation. Smith (1997a) mostly confirms these expectations defining independence with following requirements; an arm's-length relationship with regulated firms, consumers, and other private interests and an arm's-length relationship with political authorities. The attributes of organizational autonomy, such as earmarked funding and exemption from restrictive civil service salary rules are necessary to foster the requisite expertise and to underpin those arm's-length relationships (Smith, 1997). The list from Johannsen et al. (2004) is similar; independence from government, independence from stakeholders, independence in decision-making (substantial

competencies and actual decision making powers) and organizational autonomy (in charge of their own budget and personnel policy). Berg (2000) describes independence as the balancing role a regulatory agency should play with respect to interests of three main stakeholder groups: government, suppliers and customers. Government includes not only the current leaders but also a group of politicians, ministries, courts, and state agencies among others. Suppliers include private and public entities that generate, transmit, distribute, market and trade energy as well as members (for example cooperatives, shareholders, financiers and managers). Even the group of customers is complex, encompassing a wide range of different size users from smallest residential to largest industrial. Especially within residential users, policy makers are most concerned about low-income consumers, underserved (or in some places no service) areas, and rural users. Others are more prescriptive in defining independence. According to Council of European Energy Regulators (CEER), in order to be independent a regulator should have; independence from the interests of the regulated industry, legal personality, separate from the ministries, clear and sufficient competences, financial independence from the state (revenues preferably from participant fees), Board members on; meritocratic and impartial appointment process, fixed mandate, removal for cause only, no direct or indirect financial interests in the energy sector, no conflicts of interest, sufficient, highly qualified personnel and own management policy and sufficient equipment (budget, buildings, IT technology, among others.). But, these are not sufficient; regulators must resist improper pressures and influence and must win the respect of key stakeholders, enhance the legitimacy of their role and decisions, and build a constituency for their independence. As such, training in media skills and negotiation, and spending time and resources in public education and outreach become highly desirable. As Stern (1997) puts it, "In the end, the government is the ultimate guarantor of regulatory reputation; however independent the law may specify the regulator to be." Distinguishing between formal and informal independence, Stern suggests that in such countries, agencies with an advisory role but without decision-making authority may be more appropriate.

2.2.5.4. Enforcement powers of regulators

The authority to enforce regulations is crucial for regulators to be effective in achieving their responsibilities. Specifically, regulators should have full and exclusive authority

over tariff setting; issuing licenses to market participants; monitoring licensed entities and penalizing them in case of non-compliance; and establishing quality of service standards. Exclusive tariff setting authority is particularly challenging to establish; it is simply too tempting for politicians to offer free or cheap electricity regardless of market and industry conditions, especially during election times. Unfortunately, the "customer = voter" equation continues to dominate electricity sector policy and regulation all over the world to the detriment of the overall economy in the long-run (Stern, 1997).

2.2.5.5. Staff competency of regulators

Recruiting competent staff and establishing institutional competency can be a challenge, especially in the early years of regulation. In most countries, there is no history of economic regulation by independent agencies. Moreover, there is no history of competition and private investment in the electricity sector. Although there are very good engineers in almost every utility around the world, their expertise with economics, finance and public administration would be limited. As such, it may be difficult to find sufficient number of employees to form the staff of the regulator from the country's own work force. In order to attract and keep qualified personnel, salaries compatible with private sector (usually much higher than civil service salaries) should be provided (Jamison and Berg, 2008).

It is also important that the staffs are empowered to innovate, take initiative and make decisions; else, they would become unproductive bureaucrats or seek employment in the private sector. Unfortunately, in many countries, the inability of the regulator to establish its autonomy curtails staff's creativity. It is also possible to achieve competency through hiring outside experts as needed. This way, core staff of the regulator (and hence the fixed costs) can be kept to a minimum, which helps with the credibility and independence of the agency (Jamison and Berg, 2008).

2.2.5.6. Benchmarking of regulators

There have been a limited number of studies that attempted to benchmark performance of regulators in a rigorous manner. Mustafa (2002) focuses on telecom regulators in the Middle East. The first criterion concerns the establishment of the regulator; those based

on enabling laws are preferred over those based on decrees. The nature of the regulator with respect to number of sectors, number of commissioners and the like is also a significant criterion. In studying the energy regulators in the EU, Nwajagu (2004) concludes that regulators were not effective when evaluated based on criteria such as market opening, unbundling and prices. The author attributes the shortcomings of the regulators to their inexperience.

2.3. Summary and Gaps to be filled by the Study

Regulatory reforms in Kenya's energy sector involved vertical integration 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. The study therefore through the analysis of the challenges facing utility regulators in Kenya, tried to come up with what more can be done to improve the energy sector rather than vertical integration and segregation of policy role from regulation and service provision. 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 respectively. 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 (ICBE-RF Research Report No. 19/11). The study therefore tried to see what more needs to be done by the ERC to spur more growth in the energy sector with an aim of enriching our energy mix. Lastly, the

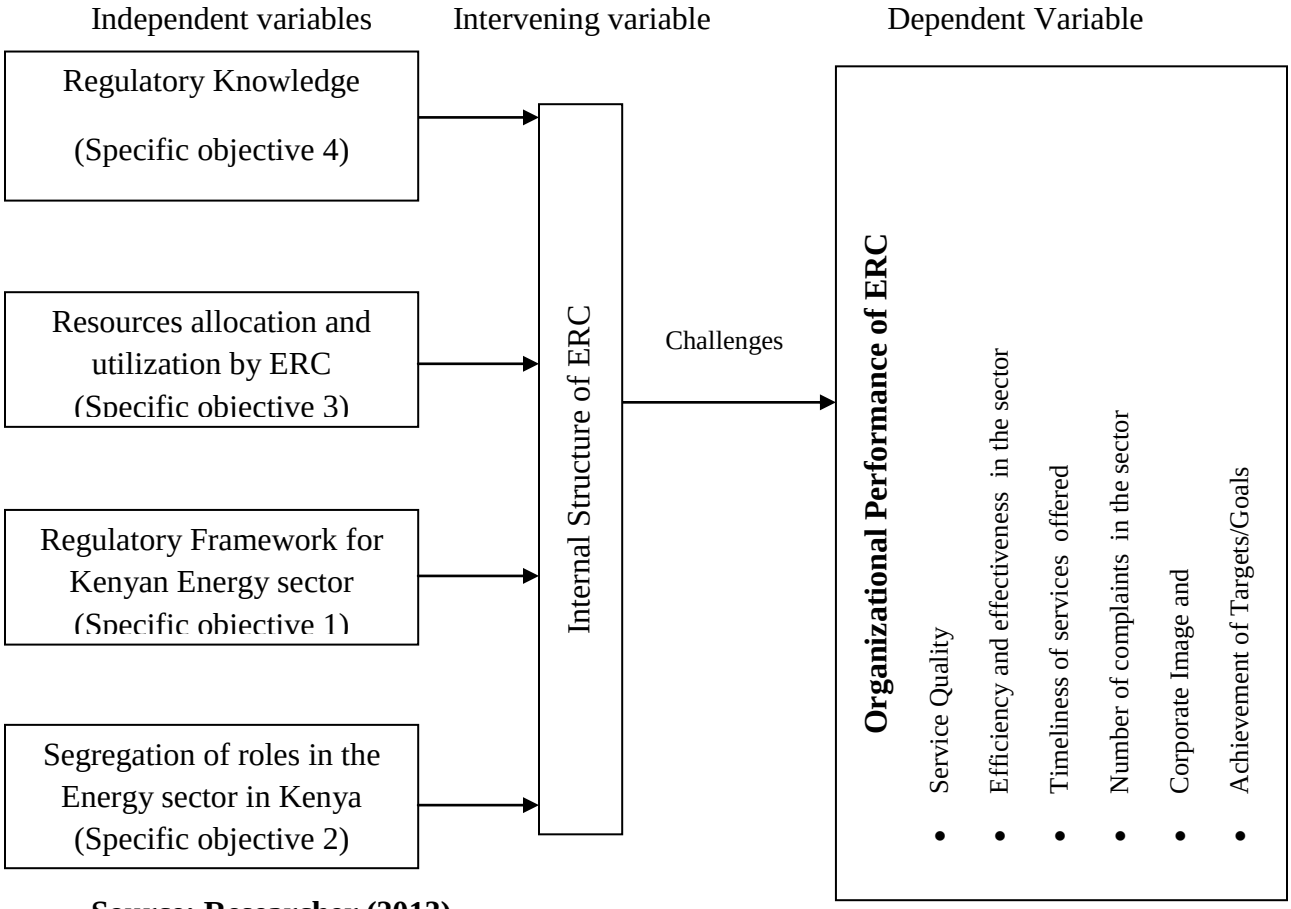
petroleum market in Kenya is largely oligopolistic despite the incorporation of numerous small independent oil companies. Prior to liberalization, multinational firms accounted for over 90% of all petroleum products imported into the country and virtually all retail businesses. By the year 2005, activities 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 (ICBE-RF Research Report No. 19/11). This then leads to the big question; what are the challenges the utility sector regulator is facing which has hindered it from causing anticipated impact in the energy sector? This study tried therefore to identify these factors and made proposals on possible remedies which may see a change in performance of utility regulators in their sectors in Kenya.

2.4. Conceptual Framework

Conceptual frameworks, according to Kothari (2008), are structured from a set of broad ideas and theories that help a researcher to properly identify the problem they are looking at, frame their questions and find suitable literature. Most academic research uses a conceptual framework at the outset because it helps the researcher to clarify the research questions and aims. Researchers use conceptual framework to guide their data collection and analysis. According to sociologists Haralambos and Holborn (2008), a conceptual framework enables the researcher to find the link between the existing literature and his own research goals. The Energy Regulatory Commission as a utility regulator was founded to spur private sector investment in energy projects in Kenya which in the long term was intended to achieve adequate, reliable and affordable energy to the Kenyan citizens (Sessional Paper No. 4 on Energy of 2004). This was followed by the Energy Act No. 12 of 2006 which gave the regulator is mandate, the resources and regulatory framework. The Energy sector has also seen reforms which culminated into the separation of roles of policy formulation, policy implementation and sector regulation. The performance of the sector hence depends on the three segments so created and how they relate with the other energy sector stakeholders. There is therefore imminent need for all the players to understand the context of the sector, their roles and to interact with the other players in a manner that promotes achievement of sector goals and objectives. In trying to analyse the challenges that affect the performance of ERC which is the sector

regulator, the study therefore employed a conceptual framework depicted in figure 1 below;

Figure 1: Distribution of Length of Service of the Respondents with ERC



Source: Researcher (2013)

The study tried to analyse the challenges the existing regulatory framework, segregation of roles, regulatory knowledge and, resource allocation and utilization pose to the performance of Energy Regulatory Commission within the prevailing ERC's internal organizational structure.

The regulatory frameworks are the Laws and regulations that outline the legal requirements to be met and which must be complemented by policies, standards, directives and guidelines. They give the regulatory agency its mandate, recognition and authority to exercise its functions in the sector it is regulating (Jamison and Berg, 2008).

These have an impact in the performance of the Energy Regulatory Commission because they define what has to be done? How to do it? And what tools to employ?
Resources that the Commission deals with include financial, material, human capital and enabling environment available to the regulatory agency to consume in carrying out its day today activities (Stern, 1997). Resources hence define how much Energy Regulatory Commission can do in achieving its goals and thus has an impact on its performance. While dealing with resources, the study focused on sources of funds and utilization of the funds in relation to achievement of set regulatory targets,

Normative theories of regulation generally conclude that regulators should encourage competition where feasible, minimize the costs of information asymmetries by obtaining information and providing operators with incentives to improve their performance, provide for price structures that improve economic efficiency, and establish regulatory processes that provide for regulation under the law and independence, transparency, predictability, legitimacy, and credibility for the regulatory system. Regulatory knowledge therefore requires that each and every stakeholder understand the sector, know their roles and play their parts effectively so that the sector as a whole meets its objectives. Regulatory knowledge within the sector thus will reflect in the performance of the sector as a whole and that of the regulator (Jamison and Berg, 2008).

Regulation is performed in a network of relationships among persons and institutions that differ in their objectives, incentives, and sets of information. For regulation to result in effective and efficient sector performance, there should be proper segregation of roles among the various stakeholders and good understanding so that there are no conflict of interests nor competing forces which will hinder general sector performance and more so that of the regulator (Jamison and Berg, 2008). The study thus analysed how the segregation of roles of policy formulation, policy implementation and regulatory function affects the performance of the Energy Regulatory Commission.

Performance is the accomplishment of given tasks measured against pre-set known standards of accuracy, completeness, cost, and speed. According to Jamison and Berg

(2008), performance of a regulatory agency is reflected in the sector stability, protection of consumers from the abuse of market power, guarding consumers and operators against political opportunism, incentives to service providers to operate efficiently and make needed investments which reflect in good quality of service. The study thus sought to find out how performance of ERC is affected from the perspective of effectiveness and efficiency of the Commission, the quality of service they offer to the clientele, the time they take to offer given services to the clients as well as the number and frequency of complaints that they receive from the customers. The performance is also affected by the corporate image that the Commission has with the public as well as the achievement of the targets or goals set by the Commission.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1. Introduction

This chapter provides the research design utilized for the study and why, the target population from which data was obtained to answer to the research questions, sampling and sampling procedures that were employed in the study, data sources and instruments, data collection procedures, data analysis and presentation and lastly the expected output of the study.

3.2. Research Design

A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with the economy in procedure. A research design is thus the conceptual structure within which research is conducted which constitutes the blue print for the collection, measurement and analysis of data (Kothari, 2008). This particular research aimed at bringing out the real life issues at ERC as it regulates the energy sector in Kenya through interactions with the various stakeholders of the sector so that any existing challenges to its performance and that of the sector could be identified and analysed. It involved an in depth analysis of all the departments and functions within ERC and their role in trying to achieve the organizational objectives.

The research design thus utilized for the study was a case study. Case study research excels at bringing us to an understanding of a complex issue or object and can extend experience or add strength to what is already known through previous research. Case studies emphasize detailed contextual analysis of a limited number of events or conditions and their relationships. Case Study was the preferred research design because social scientists, in particular, have made wide use of this qualitative research method to examine contemporary real-life situations and provide the basis for the application of ideas and extension of methods. Case study research method is defined by Yin (1984) as an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident;

and in which multiple sources of evidence are used. A case study seeks to describe a unit in detail, in context and holistically. It is a way of organizing educational data and looking at the object to be studied as a whole. In a case study, a great deal can be learned from a few examples of the phenomena under study (Kombo and Tromp, 2006).

It is therefore the case study design which could bring out the real life issues of what ERC as an energy sector regulator does and highlight the challenges it experiences in its day to day operations in a manner which could be generalized for the other utility sector regulators in Kenya.

3.3. Target Population

Target population in statistics is the specific population about which information is desired. According to Kothari (2008), a population is a well-defined or set of people, services, elements, and events, group of things or households that are being investigated. This definition ensures that population of interest is homogeneous. Population studies are more representative because everyone has equal chance to be included in the final sample that is drawn (Mugenda et.al. 2003).

ERC has 11 departments each having distinct roles but highly interdependent on each other in the regulation of the energy sector in Kenya. This meant that there could be some unique challenges experienced by each department, some cross cutting challenges and organizational wide challenges. This then pointed out that the views from all the 11 departments had to be taken into consideration in the research. The target population utilized for the study was therefore all the 65 members of staff of the Energy Regulatory Commission based at Eagle Africa Centre, Upperhill and as such, the study conducted a census rather than sampling. Mugenda et al (2003) explains that the target population should have some observable characteristics, to which the researcher intends to generalize the results of the study. This definition assumes that the population is homogeneous which may not be the case; hence a census ensures that every member of the population is considered in the research. The population characteristics are summarized in table below;

Table 1: Distribution of Target Population

Department	Population (Frequency)	Percentage %
Director General Office	2	3.2
Petroleum	7	10.8
Electricity	8	12.3
Finance and Strategic Planning	8	12.3
Economic Regulation	5	7.7
Renewable Energy	4	6.2
Procurement	3	4.6
Human Resource and Administration	19	29.2
Legal Affairs	3	4.6
Communication and Public Affairs	4	6.2
Internal Audit	2	3.1
Total	**65**	**100**

Source: ERC HR Department, (2013)

3.4. Data Sources and Instruments

The study examined the relevant secondary data, 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. Policy documents, annual reports, departmental data and clients reports were obtained from the Ministry of Energy, Energy Regulatory Commission, Kenya Power and Lighting Company, Kenya Electricity Generating Company, Independent Power Producers, Kenya Pipeline Company, Kenya Petroleum Refineries as well as other agencies involved in production, distribution or sale of energy products. Other secondary sources of data included various economic surveys, statistical abstracts, annual reports of various market players and previous study reports and publications. According to Mugenda at el (2003), questionnaires are commonly used to obtain important information about the population. Each item in the questionnaire is developed to address a specific objective, research question or hypothesis of the study. The researcher must also know

how information obtained from each questionnaire item will be analyzed. The study therefore utilized a questionnaire to collect primary data to supplement the secondary data received from the documentary review. The questionnaire used in the study was semi-structured so that respondents were given a chance to give their views or explain their answers to the structured questions. This was intended to bring the respondents perspectives to the research which was to help bring out some pertinent issues which the researcher could have overlooked. The semi-structured questionnaire was prepared to capture relevant information based on the study objectives and anticipated type of respondents. Reliability is a measure of the degree to which a research instrument yields consistent results or data after repeated trials while validity is about how accurately the data obtained in the study represents the variables of the study (Mugenda et al, 2003). The questionnaire was therefore tested for validity by giving it out to sampled friends and classmates who were not within ERC to find out whether each question was indeed looking for the intended information from the respondents and was clearly understood. Vague questions and deficiencies in the questionnaire were identified and addressed, and suggestions as well as comments aimed at enhancement of the questionnaire incorporated. The issue of reliability was addressed by subjecting the questionnaire to same group of friends and classmates to find out if they had the same views on the questions. This proved that the study findings can be replicated.

3.5. Data Collection Procedures

The researcher made prior appointments with each of the respondents and explained the objectives of the study. The questionnaire was then left with the respondent to fill on their own and either collected by the researcher at an agreed time or dropped off at an agreed collection point, whichever was convenient for the respondent. This was meant to eliminate bias which could arise due to pressure from the responded when filling the questionnaire in the presence of the researcher. To ensure a high percentage of responses were received, the researcher gave ample time for receiving the questionnaires back and a register was used to confirm receipt of the responses. The researcher also followed up each respondent to encourage them to participate.

3.6. Data Analysis and Presentation

Data obtained from the field in raw form is difficult to interpret. Such data must be cleaned, coded, key- punched into a computer and analysed. It is from the results of such analysis that researchers are able to make sense of the data (Mugenda et al, 2003). Before processing the responses, the completed questionnaires were edited for completeness and consistency. The data was then coded to enable the responses to be grouped into various categories. Data collected was both quantitative and qualitative hence was analysed by descriptive statistics and content analysis which helped in describing the data and determining the extent used. Data analysis was done by available statistical analysis software; Statistical Package for the Social Sciences (SPSS) which generated quantitative reports through tabulations, percentages, and measures of central tendency. The results have then been presented in charts, tables and summaries from where conclusions have been drawn and recommendations put forward.

3.7. Study Output

The study analysed the key challenges affecting performance of Energy Regulatory Commission which could also be applicable to other utility sector regulators in Kenya and made recommendations presented in this project report which can assist management of the utility sector regulators and policy makers to institute corrective actions so as to enhance the performance of the utility regulators as well as to improve the sectors' performance to be in line with the aspirations of Kenya's Vision 2030 development agenda.

CHAPTER FOUR

RESEARCH FINDINGS

4.1 Introduction

The chapter provides the analysis of the data collected from the respondents. The analysis was based on the objectives of the study where personal data of the respondents were analysed as well as statistics from their responses with a view to establishing the effects of, regulatory framework, segregation of policy formulation, policy implementation and sector regulatory roles, resource allocation and utilization and regulatory knowledge on the work of Energy Regulatory Commission. The analysis provided the descriptive statistics, mean and standard deviation and the outcomes presented in form of frequency tables, percentages and charts.

4.2 Data Analysis

4.2.1 Analysis of Response Rate and Descriptive Statistics

Survey questionnaires were handed out to fifty six (56) members of staff of ERC. ERC had a staff count of sixty five (65) as at the time of the study, out of which six (6) were on their annual leaves while three (3) were away on out of the office training hence could not participate in the study. The response rate of forty six (46)) thus represent 71% of total staff at ERC and 82% of the staff who were available during the time the study was conducted. The respondents were from all organizational levels namely; top management, senior management, middle management, lower management, operative staff and interns of the Commission. The above response rate was achieved by the researcher discussing with each of the respondent the basis of the study, assuring them on the confidentiality of the data given and allowing them ample time to fill in the questionnaire and hand in. After the lapse of the agreed times, all the respondents were followed up and reminded to hand in the filled questionnaires. Ten (10) or 18% of the respondents did not return their questionnaires even after several reminders and encouragement hence were left out of the study.

4.2.2 Personal Data of the Respondents

Table 2: Distribution of Gender of the Respondents

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	Male	29	63.0	63.0	63.0
	Female	17	37.0	37.0	100.0
	Total	46	100.0	100.0	

Source: Research Data (2013)

From the data that was collected, majority of the respondents were male at 63% while female were 37% as tabulated above.

Table 3: Distribution of Highest Academic Level of the Respondents

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	O Level	1	2.2	2.2	2.2
	Diploma	5	10.9	11.1	13.3
	Bachelors	23	50.0	51.1	64.4
	Masters	14	30.4	31.1	95.6
	Doctorate	1	2.2	2.2	97.8
	Others	1	2.2	2.2	100.0
	Total	45	97.8	100.0	
Missing	System	1	2.2		
Overall	Total	46	100.0		

Source: Research Data (2013)

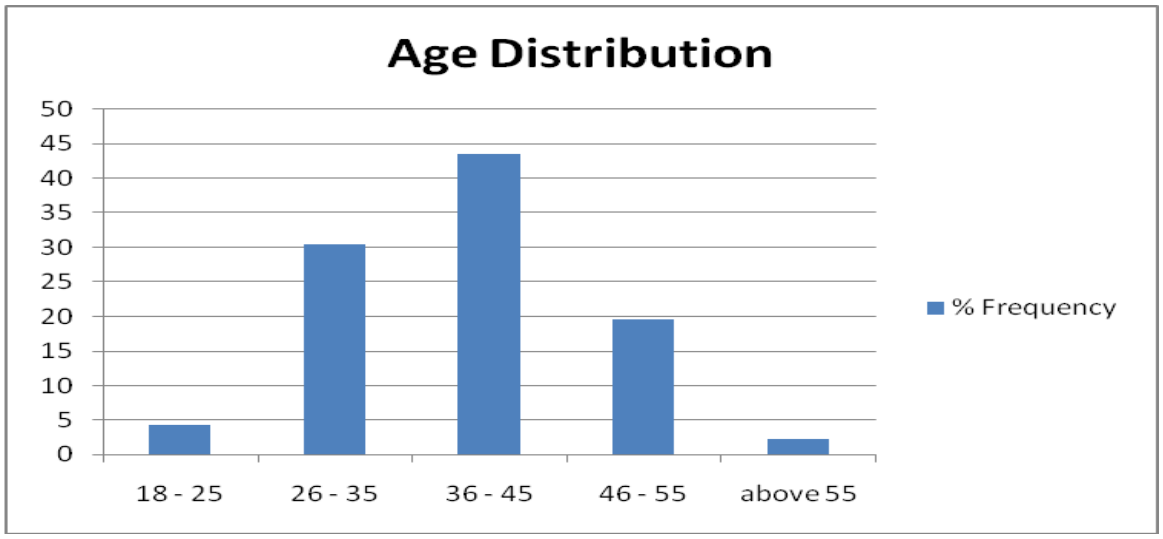
When the respondents were asked about their highest academic qualifications, the majority of them at twenty three (23) or 50% said they had bachelor's degree, fourteen (14) or 30.4% of them had a master's degree, five (5) or 10.9% said they had a Diploma while one (1) each or 2.2% had O level, a doctorate degree and others qualifications which was not stated (Table 3).

Table 4: Distribution of Age of the Respondents

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	18 - 25	2	4.3	4.3	4.3
	26 - 35	14	30.4	30.4	34.8
	36 - 45	20	43.5	43.5	78.3
	46 - 55	9	19.6	19.6	97.8
	above 55	1	2.2	2.2	100.0
	Total	46	100.0	100.0	

Source: Research Data (2013)

Figure 2: Distribution of Length of Service of the Respondents with ERC



Source: Research Data (2013)

On the ages of the respondents, majority of them, twenty (20) representing 43.5% were aged between thirty six (36) and forty five (45) years, fourteen (14) or 30.4% of the

respondents were aged between twenty six (26) and thirty five (35) years while nine (9) of them or 19.6% were aged between forty six (46) and fifty five (55) years. Only two (2) respondents or 4.3% were aged between eighteen (18) and twenty five (25) and one (1) respondent or 2.2% was aged above 55 years (Table 4 & Figure 2).

Table 5: Distribution of Department of the Respondents

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	Electricity	8	17.4	17.8	17.8
	Petroleum	5	10.9	11.1	28.9
	Economic Regulation	4	8.7	8.9	37.8
	Renewable Energy	3	6.5	6.7	44.4
	Legal Affairs	4	8.7	8.9	53.3
	Finance and Strategic Planning	8	17.4	17.8	71.1
	Procurement	6	13.0	13.3	84.4
	Communications and Public Affairs	3	6.5	6.7	91.1
	Director General's Office	4	8.7	8.9	100.0
	Total	45	97.8	100.0	
Missing	System	1	2.2		
Total		46	100.0		

Source: Research Data (2013)

The respondents were also asked about their departments. The distribution was even, with Electricity department and Finance and Strategic Planning departments having eight (8)

respondents representing 17.4% each. Procurement department had six (6) respondents or 13%, Petroleum department had five (5) or 10.9%, Economic Regulation had four (4) or 8.7% and so were Legal Affairs, and the Director General's office. Both Renewable Energy and, Communications and Public Affairs departments had the least number of respondents at three (3) or 6.5% while one (1) or 2.2% of the respondents did not respond to this question (Table 5).

Table 6: Distribution of Level of the respondents within ERC's establishment

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	Top Management	4	8.7	9.3	9.3
	Senior Management	8	17.4	18.6	27.9
	Middle Management	14	30.4	32.6	60.5
	Lower Management	8	17.4	18.6	79.1
	Operative Staff	8	17.4	18.6	97.7
	Others	1	2.2	2.3	100.0
	Total	43	93.5	100.0	
Missing	System	3	6.5		
Total		46	100.0		

Source: Research Data (2013)

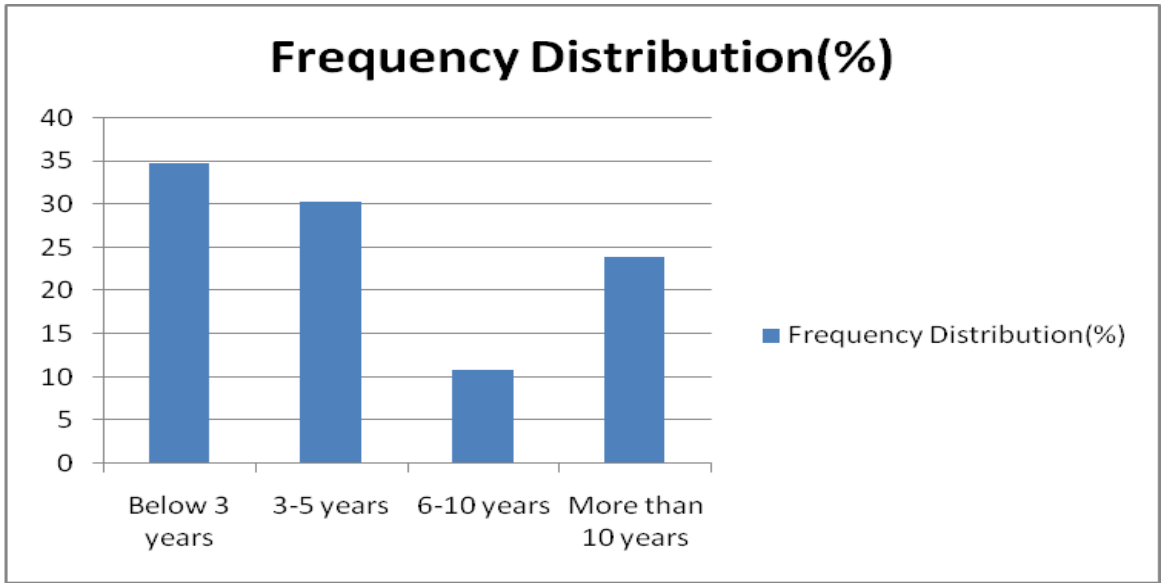
Majority of the respondents were in the Middle level management at fourteen (14) or 30.4% of respondents, eight (8) of them or 17.4% were in senior management, lower management and Operative staff each while four (4) or 8.7% of the respondents were at the Top management. Only one (1) respondent was not in any of these categories who indicated others and specified that he was a casual/temporary staff while three (3) respondents or 6.5% did not respond to the question (Table 6).

Table 7: Distribution of Length of Service of the Respondents with ERC

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	Below 3 years	16	34.8	34.8	34.8
	3-5 years	14	30.4	30.4	65.2
	6-10 years	5	10.9	10.9	76.1
	More than 10 years	11	23.9	23.9	100.0
	Total	46	100.0	100.0	

Source: Research Data (2013)

Figure 1: Distribution of Length of Service of the Respondents with ERC



Source: Research Data (2013)

The length of service of the respondents was also queried to which sixteen (16) respondents; representing 34.8% had worked for less than 3 years while another fourteen (14) or 30.4% had worked for between 3 and 5 years. Eleven (11) others or 23.9% had worked at the Commission for more than 10 years. The remaining five (5) representing 10.9% had worked for between 6 and 10 years with the Commission. This could be

because ERC is still in its formative stage and new departments continue to be established and enhanced with the necessary human resource (Table 7 & Figure 3).

4.3 Descriptive Analysis

4.3.1 Performance of ERC

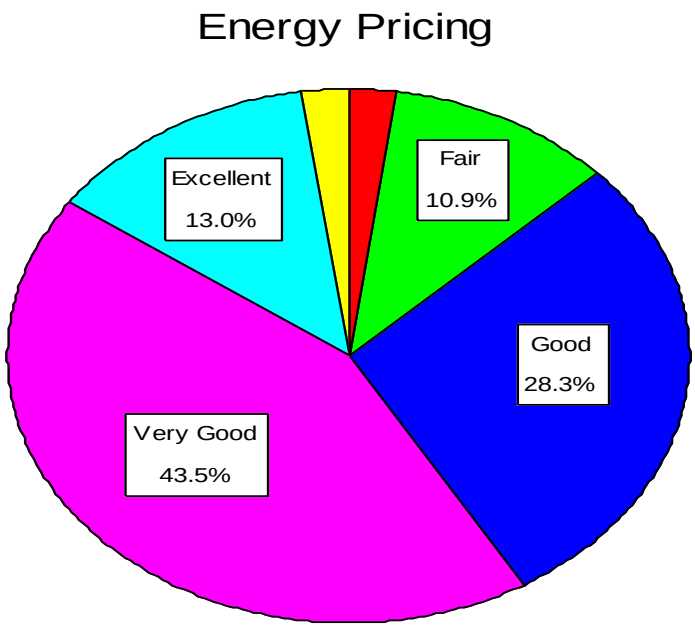
Table 8: Performance of ERC on Selected Indicators

	Energy Pricing	Review of EIA Reports	Licensing Process	Issuance of Construction Permits	Complaints Handling	Approval of Power Purchase Agreements	Drafting of Regulations	Energy Planning
Valid	45	43	44	38	44	44	44	43
Missing	1	3	2	8	2	2	2	3
Mean	3.5556	3.7674	3.9318	3.7632	2.9773	3.9091	3.5682	3.3953
Std. Deviation	.94281	.78185	.87332	.94252	.90190	.88444	.89955	1.02677
Skewness	-.508	-.812	-.961	-.925	-.353	-.662	-.214	-.742
Std. Error of Skewness	.354	.361	.357	.383	.357	.357	.357	.361

Source: Research Data (2013)

The respondents were asked to comment on various aspects as regards the performance of the Commission namely; energy pricing, review of EIA reports, licensing processes, issuance of construction permits, sector complaints handling, approval of power purchase agreements and drafting of sector regulations, to which various responses were received as tabulated above. Energy pricing had the highest number of respondents at 97.8% while licensing processes, complaints handling, power purchase agreements and drafting of regulations tied at 95.7% with EIA reports and energy planning with similar responses at 93.5%, and issuance of construction permits with least responses at 82.6% (Table 8).

Figure 2: Performance of ERC on Energy Pricing



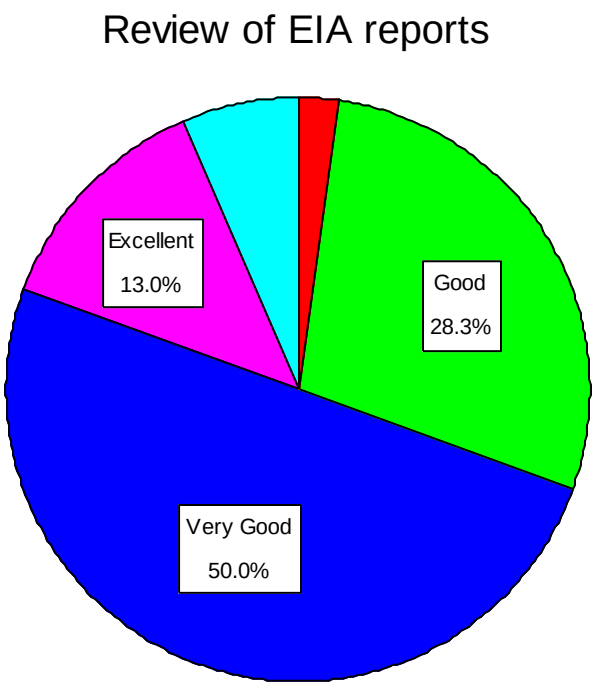
Source: Research Data (2013)

The respondents were asked their opinion if energy pricing had affected the performance of the Commission. The majority of the respondents at twenty (20) representing 43.5% said that the Energy pricing affected the performance of ERC to a very good extent, thirteen (13) or 28.3% said the effect was to a good extent, five (5) or 10.9% said the effect was to a fair extent, six (6) or 13.0% said the extent was excellent while only one (1) respondents or 2.2% said the effect was poor. On the average, the respondents said the effect was to a very good extent at a mean of 3.55 with the standard deviation of 0.94 indicating that the responses were quite uniform (Figure 4).

When asked to explain their views on energy pricing, some of the respondents said that not all the stakeholders understood what constitutes energy prices and ended up blaming energy for under-performing on the issue on factors beyond the control of the Commission. Like when ERC announces an increase in prices of petroleum product, most

consumers blame the Commission for the upward trends without considering what the prices could have been without ERC's intervention.

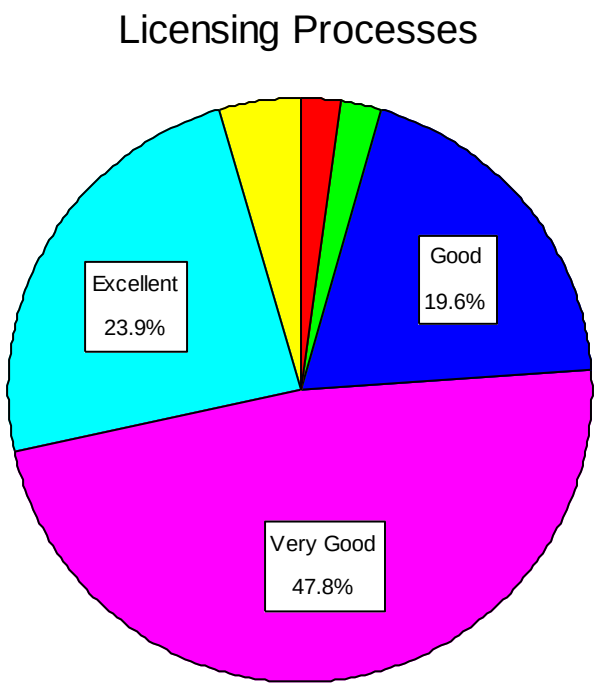
Figure 3: Performance of ERC in Review of EIA Reports



Source: Research Data (2013)

On the extent to which the review of EIA reports had affected the performance of ERC, 50% of the respondents said that the effect was to a very good extent while another 28.3% said that the effect was to a good extent. Another 13% said that the effect was to an excellent extent which means that the effect was there and to a very good extent evidenced by a mean response rate of 3.7 and a standard deviation of 0.7 indicating that the responses were fairly uniform on the question (Figure 5).

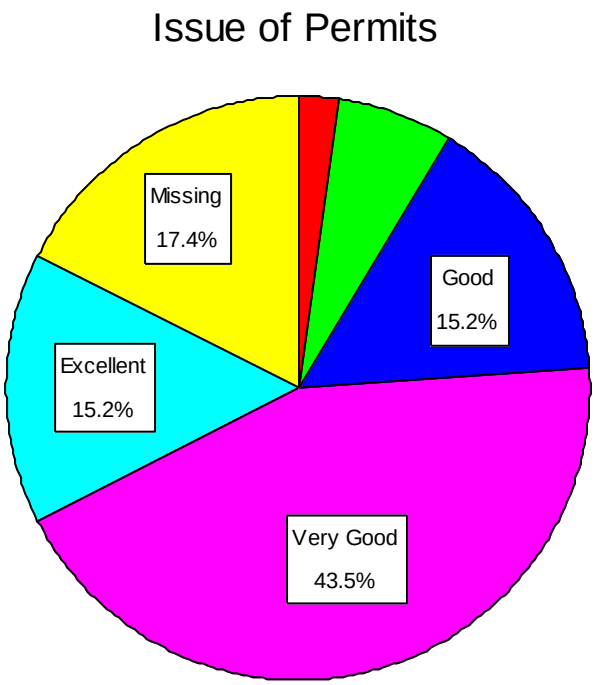
Figure 4: Performance of ERC in Licensing Processes



Source: Research Data (2013)

The respondents were also asked about the effect of licensing processes on the performance of the regulator to which the majority at 47.8% said that the effect was to a very good extent while another 23.9% of the respondents said that the effect was to an excellent extent. The other 19.6% said that the effect was to a good extent. A mean response of 3.9 indicates that the respondents in general said that the effect was to a very good extent and were more uniform in the response as depicted in the standard deviation of 0.8 (Figure 6).

Figure 5: Performance of ERC in Issuance of Construction Permits

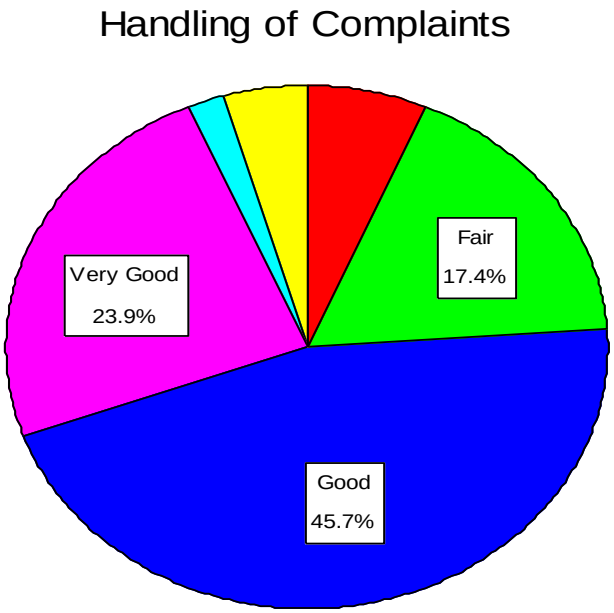


Source: Research Data (2013)

On the effect of issue of construction permits on the performance of ERC as a regulator, the majority of the respondents, 43.5%, said that the effect was to a very good extent whereas 15.2% of the respondents said that the effect was to an excellent extent. An equal percentage (15.2%) said that the effect was to a good extent. Some eight (8) respondents representing 17.4% did not respond to this question, the highest number of respondents who did not respond to any particular question in the entire questionnaire. The mean response was 3.7 (very good extent) and the standard deviation was 0.9 indicating uniformity of those who responded (Figure 7).

When ask to explain their views, some of the respondents said that EIA reports reviews should shift from being desk exercises to more of field visits and scrutiny so as to make them more thorough and improve ERC's visibility in them.

Figure 6: Performance of ERC in Handling of Sector Complaints



Source: Research Data (2013)

On whether the performance of the regulator was affected by the way the organization handled sector complaints, the majority of the respondents at 45.7% said that the effect was to a good extent, 23.9% said that the effect was to a very good extent, 17.4% said that the effect was only to a fair extent. Only one (1) respondent representing 2.2% thought that the effect was to an excellent extent. However the mean response rate of 2.9 indicates that in general the respondents said that the effect was to a good extent and a standard deviation of 0.9 shows that the responses were rather uniform (Figure 8).

When ask to explain their views on the performance of ERC on handling sector complaints, some of the respondents expressed lack of enforcement powers of ERC's decisions as a weak link to its performance in the indicator as the Commission cannot make awards and sanctions.

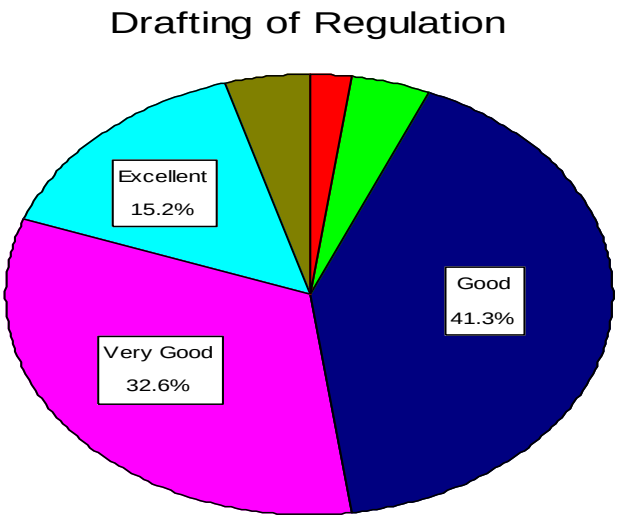
Figure 7: Performance of ERC in Approval of Power Purchase Agreements

Source: Research Data (2013)

When asked the extent to which the performance was affected by the approval of power purchase agreements, the majority of the respondents (18) representing 39.1% said that the effect was to a very good extent, 13 said the effect was to a good extent while 12 of them said that the effect was to an excellent extent. Only one (1) respondent said that the effect was poor. The mean response was 3.9 indicating to a very good extent and the standard deviation was 0.8 which translates to a uniform response (Figure 9).

Some of the respondents who explained reasons for their views on performance of ERC on approval of power purchase agreements (PPA) felt that the existing feed- in- tariffs and investors guide provide good information for negotiating the PPA's between the parties such that when they come for Commission approval there are little contentious issues that require longer periods to resolve hence the very good performance of the Commission on the indicator.

Figure 8: Performance of ERC in Drafting Sector Regulations

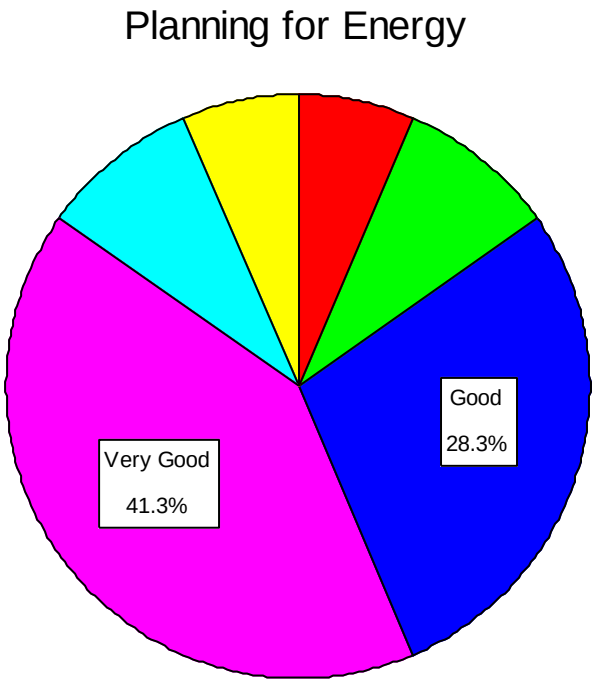


Source: Research Data (2013)

The effect of sector regulation drafting on the performance of the Energy Regulatory Commission (ERC) was also asked, to which majority of the respondents at 41.3%, said that the effect was to a good extent while another 32.6% said that the effect was to a very good extent. Seven (7) respondents representing 15.2% said that the effect was to an excellent extent (Figure 10).

When ask to explain their answers on the issue of drafting sector regulations, some of those who responded said that stakeholder consultations has reduced divergent views on the regulations hence improving ERC's performance on the indicator. A few of those who responded however felt that the stakeholder consultations although positive made the process take longer durations. They particularly hinted at the time taken by Attorney General's office to do legal drafting as a major impediment to the Commission's performance on the indicator.

Figure 9: Performance of ERC in Energy Planning Issues



Source: Research Data (2013)

On whether the performance of the Commission is affected by energy planning process, the majority of the respondents (41.3%) said that the effect was there to a very good extent while 28.3% said that the effect was to a good extent. Four (4) respondents said that the effect was to an excellent extent and an equal number (4) said the effect was to a fair extent. On the average, the respondents said that the effect was to a good extent (3.3) and a standard deviation of 0.899 indicates that the respondents were more uniform in their response (Figure 11).

When the respondents were asked about other factors that affect the performance of the Commission, lack of motivation for employees featured prominently while others said that staffing levels were not optimum hence most of them were overloaded.

Table 9: Effect of Regulatory Framework on the Performance of ERC

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	Strongly Disagree	1	2.2	2.2	2.2
	Disagree	1	2.2	2.2	4.4
	Neutral	7	15.2	15.6	20.0
	Agree	19	41.3	42.2	62.2
	Strongly Agree	17	37.0	37.8	100.0
	Total	45	97.8	100.0	
Missing	System	1	2.2		
Total		46	100.0		

Source: Research Data (2013)

The study also sought to find out the other various factors that affected the performance of the organization. The respondents were asked if the regulatory framework within which the Commission worked affected the performance positively to which the majority of them at 41.3% agreed, 37% of them strongly agreed, seven (7) representing 15.2% were neutral, meaning they did not know the effect. One respondent each disagreed and strongly disagreed (Table 9).

When asked to explain their answers to the effect of regulatory framework, some of those who responded said that the Energy Act was a good starting point for the Commission but should be review to give the Commission powers to enforce the penalties provided for non- compliance and include financial wards for aggrieved parties.

Table 10: Effects of Segregation of Roles within the Sector on Performance of ERC

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	Strongly Disagree	2	4.3	4.4	4.4
	Disagree	2	4.3	4.4	8.9
	Neutral	8	17.4	17.8	26.7
	Agree	19	41.3	42.2	68.9
	Strongly Agree	14	30.4	31.1	100.0
	Total	45	97.8	100.0	
Missing	System	1	2.2		
Total		46	100.0		

Source: Research Data (2013)

On whether the segregation of roles (Policy formulation, implementation and regulation) affects ERC's performance positively, nineteen (19) respondents representing 41.3% agreed that it affected performance positively, fourteen (14) of them representing 30.4% strongly agreed while eight (8) respondents representing 17.4% were neutral. Only two (2) respondents each or 4.3% disagreed and strongly disagreed on this (Table 10).

Some of those who explained their answers said that the separation of policy; which is done by the ministry in-charge of energy and regulatory role performed by ERC has created stakeholder confidence in the sector but highlighted that the accounting officer of the ministry in-charge of energy should not be a commissioner at ERC as this could impact negatively on the separation of the two functions. On the side of the utilities, some were of the view that there is no clarity in the functions of transmission where both KPLC and KETRACO are players.

Table 11: Effects of Resource Allocation on ERC's Performance

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	Strongly Disagree	5	10.9	10.9	10.9
	Disagree	6	13.0	13.0	23.9
	Neutral	10	21.7	21.7	45.7
	Agree	8	17.4	17.4	63.0
	Strongly Agree	17	37.0	37.0	100.0
	Total	46	100.0	100.0	

Source: Research Data (2013)

The respondents were also asked if resource allocation to ERC affects ERC's performance positively, to which majority of them at seventeen (17) or 37% strongly agreed that it had affected performance positively while another eight (8) of the respondents or 17.4% agreed that it had affected performance positively. Ten (10) respondents or 21.7% however did not know whether resources allocation had affected performance hence was neutral on the question but six (6) of them or 13% disagreed and another five (5) or 10.9% strongly disagreed that the resource allocation had affected performance of ERC (Table 11).

Table 12: Effects of Resource Utilization on the Performance of ERC

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	Strongly Disagree	3	6.5	6.5	6.5
	Disagree	6	13.0	13.0	19.6
	Neutral	10	21.7	21.7	41.3
	Agree	10	21.7	21.7	63.0
	Strongly Agree	17	37.0	37.0	100.0
	Total	46	100.0	100.0	

Source: Research Data (2013)

The study also sought to know if the resource utilization by ERC affects performance of the organization positively to which 37% of them strongly agreed that the effect was there and was positive while 21.7% of the respondents agreed that the effect was there and was positive. Another 21.7% of the respondents were neutral while 6 of them or 13% disagreed with that fact and yet another 6.5% of the respondents strongly disagreed that the resource utilization at the ERC had affected its performance positively (Table 12).

Table 13: Effect of Regulatory Knowledge by ERC's staff on its performance

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	Strongly Disagree	2	4.3	4.3	4.3
	Disagree	3	6.5	6.5	10.9
	Neutral	3	6.5	6.5	17.4
	Agree	12	26.1	26.1	43.5
	Strongly Agree	26	56.5	56.5	100.0
	Total	46	100.0	100.0	

Source: Research Data (2013)

The study also sought to know if the knowledge of regulation by ERC staff affected ERC's performance positively to which the majority of the respondents at 56.5% strongly agreed that the effect was there and was positive while 26.1% of them agreed. Only 6.5% of them were neutral while another 6.5% disagreed and the remaining 4.3% strongly disagreed with the statement (Table 13).

Those who explained their views said that ERC had put in place staff policy to recruit competent and experienced staff which impacted positively in its performance. They otherwise highlighted the need for structured training on regulation which in fair new in Kenya and improvement of remuneration so as to retain the staff.

Table 14: Effect of Regulatory Knowledge by Regulated Utilities on ERC's Performance

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	Strongly Disagree	3	6.5	6.5	6.5
	Disagree	6	13.0	13.0	19.6
	Neutral	10	21.7	21.7	41.3
	Agree	10	21.7	21.7	63.0
	Strongly Agree	17	37.0	37.0	100.0
	Total	46	100.0	100.0	

Source: Research Data (2013)

On whether the regulatory knowledge by regulated utilities affects ERC's performance positively, the majority of the respondents at 37% strongly agreed that the effect was there and positive while another 21.7% said that they agreed. Yet 21.7% of the respondents were however neutral while 13% of them disagreed and half that number at 6.5% strongly disagreed that there was an effect of regulatory knowledge of regulated utilities on the performance of Energy Regulatory Commission (ERC) (Table 14).

Table 15: Energy Act's influence on ERC's Performance

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	Yes	28	60.9	63.6	63.6
	No	16	34.8	36.4	100.0
	Total	44	95.7	100.0	
Missing	System	2	4.3		
Total		46	100.0		

Source: Research Data (2013)

When asked whether the performance of ERC has been challenged by the Energy Act, twenty eight (28) of respondents representing 60.9% agreed that there had been an effect. The remaining eighteen (18) respondents representing 34.8% said that the performance had not been challenged by the Act. In explaining their responses, majority of the respondents who agreed said that the Commission does not have powers to fully regulate the industry despite the Act (Table 15).

Table 16: Statistics on views of the respondents on Energy Act

		Clear mandate	Enforcement powers	Understood by all the sector players	Acceptable to all the sector players
N	Valid	46	46	46	45
	Missing	0	0	0	1
Mean		4.1957	3.0435	2.4130	2.9333
Std. Deviation		1.04604	1.28161	1.12696	1.13618
Skewness		-1.507	.048	.762	-.156
Std. Error of Skewness		.350	.350	.350	.354

Source: Research Data (2013)

The study also sought to find out the various aspects of the Act. The mean response when they were asked if the Energy Act sets out clear mandate for ERC was 4.1 which meant the respondents on average agreed that the Act sets out clear mandate for ERC. The standard deviations of 1.04 mean that the respondents were not very uniform in their responses. However the skewness was to the left at a rate of 1.5 meaning the responses were more inclined to the left of the data, which means there were more respondents who agreed and more who strongly agreed and fewer respondents who were neutral, disagreed and strongly disagreed to the statement (Table 16).

On whether the Energy Act gives ERC the required enforcement powers for it to regulate the energy sector, the average response was neutral or do not know at 3.04 and a more varied standard deviation of 1.2 which can be lead to the conclusion that the respondents

were not in agreement as regards this statement. This is evidenced by a skeweness index of 0.048 which is quite low to the level of near symmetry of responses and ultimate opinions (Table 16).

When asked if the Energy Act is well understood by all the players in the energy sector, the respondents on averaged said that they disagreed at 2.41 but the standard deviation of 1.12 means that the respondents were not very uniform in their responses. The skewness index of 0.762 shows a positive skewness (to the right), indicating a more symmetric view. But when asked if the Energy Act is acceptable to all the players in the energy sector as their primary regulatory framework, the respondents were neutral in their answers on average at 2.93, with a standard deviation of 1.13. The skewness index is negative meaning the responses inclined to the left but the value of 0.156 shows that the data is also more symmetrical of a normal curve (Table 16).

Table 17: Statistics on Respondents views on Segregation of Roles in the Sector

		Segregation of roles is clear in the Sector	Key players are Aware of their roles	Stakeholders are aware of Roles and Mandates of the sector players	Autonomy of ERC
N	Valid	46	46	46	45
	Missing	0	0	0	1
Mean		3.6522	3.5652	3.1304	2.8889
Std. Deviation		1.11987	1.10860	1.02434	1.24722
Skewness		-.847	-.683	-.142	-.002
Std. Error of Skewness		.350	.350	.350	.354

Source: Research Data (2013)

On whether the segregation of roles in the energy sector affected the performance of the Commission, majority of the respondents at thirty four (34) representing 73.9% agreed that that the segregation of roles in the sector affects the performance of ERC while the remaining eleven (11) or 23.9% of the respondents did not agree with the statement (Table 17).

When the respondents were asked if the segregation of roles of policy formulation, policy implementation and regulation is clear in the energy sector, on average the respondents agreed with the statements at a mean response rate of 3.65 and a standard deviation of 1.1 meaning that the responses from different respondents were not that different and were more uniform. However, the response was negatively skewed meaning that the respondents inclined more to the agreement side with a skew index of 0.847 (Table 17).

On whether all the key energy sector players were aware of their roles and mandates following the segregation of roles in the energy sector, the respondents averagely said that they agreed at a mean of 3.56 and a standard deviation of 1.10 which shows that there was uniformity. The skewness index of -0.683 indicates that the data was negatively skewed towards the agreement perspective but again the value of 0.683 is minimal and tends towards symmetry (Table 17).

The respondents were also asked whether the other energy sector stakeholders were aware of the roles and mandates of the various key players in the energy sector to which in uniformity, they said that they did not know at a mean of 3.13 with a lower standard deviation of 1.02, meaning they were more uniform in this response. The skewness index too is more telling, with a negative skewness of 0.142 which literally means the data was symmetrical (Table 17).

The study also sought to know if ERC had been given the required autonomy by the segregation of roles and mandates in the energy sector to act as an independent energy sector regulator to which the respondents gave symmetrical data with about half of them

in the agreement perspective and the other half in the disagreement side depicted by a skewness index of 0.002 though negatively skewed. The average response rate though of 2.889 indicates that the respondents did not know if the Commission had been given the required autonomy by the segregation of roles and mandates in the energy sector to act as an independent energy sector regulator though the standard deviation of 1.24 indicates a more varied opinion among the respondents (Table 17).

Table 18: Reporting Structure and Coordination of Energy Sector Corporations

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	Very Effective	4	8.7	8.7	8.7
	Moderately Effective	29	63.0	63.0	71.7
	Slightly Effective	11	23.9	23.9	95.7
	Slightly Ineffective	1	2.2	2.2	97.8
	Very Ineffective	1	2.2	2.2	100.0
	Total	46	100.0	100.0	

Source: Research Data (2013)

The respondents were also asked on how they rated the reporting structure and coordination of energy sector corporations in Kenya. The majority of them at twenty nine (29), representing 63% rated the reporting structure and coordination as moderately effective, whereas eleven (11) respondents or 23.9% rated it as slightly effective. Only four (4) of them representing 8.7% rated the reporting structure and coordination as very effective whereas one (1) each rated it as either slightly ineffective or very ineffective. This means that on average, the respondents were in agreement that the reporting structure and coordination was effective, the difference only coming in terms of how effective they thought it was. When asked to explain their responses, the majority of the respondents said that the segregation of roles had not been fully understood by the players in the industry and that there was a lot of interference from the stakeholders in the energy sector (Table 18).

Table 19: Resource Allocation and Achievement of ERC's Performance

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	Effective	11	23.9	24.4	24.4
	Challenging	31	67.4	68.9	93.3
	Result Oriented	1	2.2	2.2	95.6
	Others	2	4.3	4.4	100.0
	Total	45	97.8	100.0	
Missing	System	1	2.2		
Total		46	100.0		

Source: Research Data (2013)

When the respondents were asked to describe how resources had been allocated to the Commission in view of the mandate of the Commission, the majority of the respondents at thirty one (31) representing 67.4% said that the allocation was challenging while another eleven (11) of them, representing 23.9% said that the allocation was effective. Only two (2) representing 4.3% of the respondents mentioned other perspectives other than those mentioned and only one (1) or 2.2% of them mentioned that the allocation was results oriented (Table 19).

Table 20: Resource utilization and Achievement of Goals of ERC

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	Yes	41	89.1	91.1	91.1
	No	4	8.7	8.9	100.0
	Total	45	97.8	100.0	
Missing	System	1	2.2		
Total		46	100.0		

Source: Research Data (2013)

The study also sought to find out the relationship between utilization of resources and the achievement of goals by the Commission to which the majority at forty one (41) representing 89.1% affirmed that there existed a relationship between the two. The remaining four (4) respondents, representing 8.7% thought no relationship between resource utilization and achievement of goals by the Commission existed (Table 20).

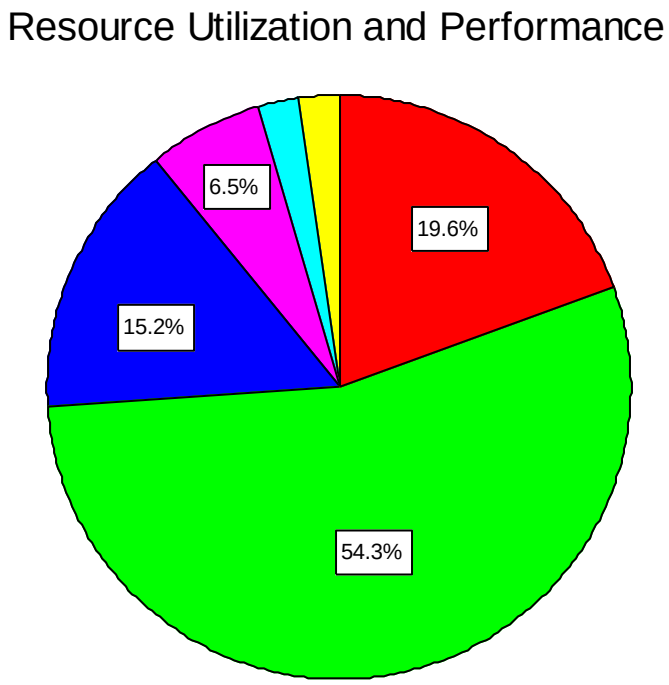
Table 21: Resource Utilization and Performance of ERC

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	Very Effective	9	19.6	20.0	20.0
	Moderately Effective	25	54.3	55.6	75.6
	Slightly Effective	7	15.2	15.6	91.1
	Slightly Ineffective	3	6.5	6.7	97.8
	Very Ineffective	1	2.2	2.2	100.0
	Total	45	97.8	100.0	
Missing	System	1	2.2		
Total		46	100.0		

Source: Research Data (2013)

The same data is presented in form of pie chart in figure 12 below;

Figure 10: Resource Utilization and Performance of ERC



Source: Research Data (2013)

The respondents were also asked to describe the relationship between resource utilization and the performance of the Commission to which the majority at twenty five (25) said that the relationship was moderately effective, nine (9) respondents said it was very effective and another seven (7) said that the relationship was slightly effective. Only three (3) respondents thought that the relationship was slightly ineffective and the remaining one (1) said that the relationship was very ineffective (Table 21 & Figure 10).

Table 22: Statistics on Relationship between ERC's Resources and Organizational Performance

		Reach and Serve all its Customers	Enable it continually Improve	Sufficient in enhancing its performance
Number	Valid	46	46	46
	Missing	0	0	0
Mean		3.0217	3.5217	2.3261
Std. Deviation		1.02174	.96007	1.11663
Skewness		-.176	-.773	.810
Std. Error of Skewness		.350	.350	.350

Source: Research Data (2013)

The study also sought to find out the relationship between the performance of ERC and the resources that they have been allocated. When asked whether the ERC's resource allocation has enabled it to reach and serve all its stakeholders effectively, fifteen (15) of the respondents agreed that they had enabled it while fourteen (14) respondents were neutral. Twelve (12) other respondents disagreed that the resources had enabled the Commission to serve all its stakeholders effectively. The mean response of 3.02 and a standard deviation of 1.02 indicate that the respondents on average were neutral and did not know if the resources had enhanced its service to the stakeholders. The skewness index of -0.176 also indicates that the responses were more or less symmetrical though to the negative perspective (Table 22).

Asked whether ERC'S resource utilization has enabled it continually improve in its service delivery to the stakeholders, majority of the respondents at twenty two (22) representing 47.8% said that they agreed that the resource utilization had improved the service delivery whereas thirteen (13) or (28.3% were neutral of the statement. Five (5) respondents strongly agreed, four (4) of them disagreed and two (2) strongly disagreed.

The mean response rate of 3.5 means that the respondents on average agreed that the resources utilization had improved service delivery while the standard deviation of 0.9600 indicates that the response was more uniform. The skewness index of -0.773, indicates that the responses were negatively skewed though not so much (Table 22).

On whether the resource allocation to ERC is sufficient in enhancing its performance as the sector regulator, 39.1% of the respondents disagreed, 23.9% strongly disagreed and an equal proportion (23.9%) of them was neutral on this statement. The mean response rate of 2.3 (disagreed) indicates that the majority of the respondents or at least on average, all respondents disagreed that the resource allocation was sufficient to enhance its performance as a sector regulator. The standard deviation of 1.11 also shows that the respondents were more or less uniform as regards this while the skewness index of 0.81 also indicates that the data was not so much skewed though slightly towards the positive side (Table 22).

Table 23: Statistics on ways of Improving ERC's Resource Base

		Increase Fund Allocation from Exchequer	Increase Tariff	Increase levies
N	Valid	40	41	43
	Missing	6	5	3
Mean		3.7750	3.3659	4.0000
Std. Deviation		1.40489	1.49593	1.36277
Skewness		-.979	-.481	-1.184
Std. Error of Skewness		.374	.369	.361

Source: Research Data (2013)

The study also sought to know the views of the respondents as regards what measure would help in improving the resources base of the Commission.

Table 24: More Funds from Increased Allocation from the Exchequer

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	No Extent	5	10.9	12.5	12.5
	Little Extent	4	8.7	10.0	22.5
	Don't Know	2	4.3	5.0	27.5
	Some Extent	13	28.3	32.5	60.0
	Great Extent	16	34.8	40.0	100.0
	Total	40	87.0	100.0	
Missing	System	6	13.0		
Total		46	100.0		

Source: Research Data (2013)

On whether allocation of more funds from the exchequer should be used to boost the Commission's resource base, the respondents on average (3.775) said that it would indeed help to boost the resources of the Commission to some extent but the standard deviation of 1.4 was worrying in that the respondents were not so much uniformly in agreement with that. They were varied at the response. The skewness index (-0.979) also indicated that the responses were negatively skewed and that the majority of the

respondents at sixteen (16) said that the allocation of more funds would boost the resource base to a great extent (Tables 23 & 24).

Table 25: More Funds from Tariff Increase of Various Services to Sector Customers

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	No Extent	8	17.4	19.5	19.5
	Little Extent	4	8.7	9.8	29.3
	Don't Know	6	13.0	14.6	43.9
	Some Extent	11	23.9	26.8	70.7
	Great Extent	12	26.1	29.3	100.0
	Total	41	89.1	100.0	
Missing	System	5	10.9		
Total		46	100.0		

Source: Research Data (2013)

On whether the increase of the tariffs for various services should be used to boost the resource base at the Commission, the respondents on average said they did not know, at a mean response of 3.36 while the standard deviation of 1.49 indicated that the response were quite varied. However in terms of skewness, the data was negatively skewed at 0.481 though tending towards being symmetrical. The majority of the respondents (12) said that the effect was to a great extent while 11 of them said that the effect was to some extent. However, 8 respondents said that there was no effect at all while another 4 said that the effect was to a little extent while 6 respondents did not know if there was any effect (Table 25).

Table 26: Increased Levies Charged to Licensees to Boost Resource Base

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	No Extent	4	8.7	9.3	9.3
	Little Extent	4	8.7	9.3	18.6
	Don't Know	3	6.5	7.0	25.6
	Some Extent	9	19.6	20.9	46.5
	Great Extent	23	50.0	53.5	100.0
	Total	43	93.5	100.0	
Missing	System	3	6.5		
Total		46	100.0		

Source: Research Data (2013)

On whether the increase of levies charged to the licensees should be used to increase the resource base for the Commission, majority of the respondents at twenty three (23) said that the effect would be to a great extent while another nine (9) of them said that the effect was to some extent. Four (4) of them said that the effect was no there (no extent) while another 4 said that the effect was there but to a little extent. Only 3 of the respondents said that they did not know whether increasing the levies to the licensees would increase the resource base of the Commission or not. This meant that the effect on average was 4.00 which meant to some extent while the standard deviation of 1.36 indicates a better uniform view by the respondents unlike the previous two ways of increasing the resource base for the Commission. The skewness index of -1.184 however paints a different picture that the respondents were not very uniform but rather more inclined to the negative perspective of the measure (Table 26).

The respondents when asked to explain their answers above, most of them said that the exchequer funding would be sizeable but the challenge would be reliability as it is highly

politically influenced. The tariffs and levies would be good sources of resource boost but the frequency of collection of such levies and tariffs would highly affect the utilization of the same. Majority felt that the levies should be channelled to the Commission unlike the current practice where the levies are benefiting other organizations within government.

Table 27: Rating of ERC's Regulatory Knowledge

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	Very Effective	19	41.3	41.3	41.3
	Moderately Effective	25	54.3	54.3	95.7
	Slightly Ineffective	1	2.2	2.2	97.8
	Very Ineffective	1	2.2	2.2	100.0
	Total	46	100.0	100.0	

Source: Research Data (2013)

The study also sought to find out how the respondents would rate the regulatory knowledge of ERC in relation to the competencies of its human resources in achieving its organizational objectives. Majority of the respondents (25) representing 54.3% said that it was moderately effective while another 19 of them (41.3%) said that it was very effective. Only 1 respondent said that it was slightly ineffective and another 1 said it was very ineffective. The mean response, it can be noted is that the respondents were all in agreement that it was effective but only the majority thought that the effectiveness was moderate rather than being high. The respondents explained that the competency of the staff was adequate but that there was need for more exposure and widen experience including benchmarking with other established regulators, but that for enforcement and compliance by industry players, there was need for capacity building for the staff so as to effectively carry out the enforcement and ensure higher levels of compliance of industry or sector regulations and policies (Table 27).

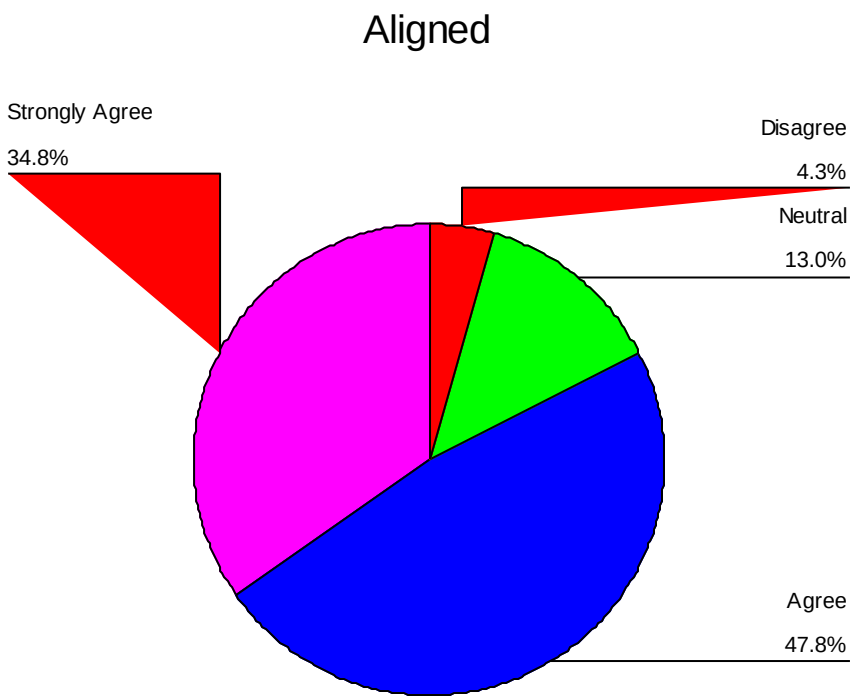
Table 28: Alignment of Regulatory Knowledge to Organizational Goals

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	Disagree	2	4.3	4.3	4.3
	Neutral	6	13.0	13.0	17.4
	Agree	22	47.8	47.8	65.2
	Strongly Agree	16	34.8	34.8	100.0
	Total	46	100.0	100.0	

Source: Research Data (2013)

The same data can also be illustrated in a pie chart as below;

Figure 11: Alignment of Regulatory Knowledge to organizational goals



Source: Research Data (2013)

The respondents were also asked if ERC's regulatory knowledge were aligned to organization goals to which the majority of the respondents (22) agreed that they were aligned while another 16 of them strongly agreed that the knowledge was aligned to the goals of the Commission. Only six (6) respondents were neutral on this while another small group of respondents (2) disagreed that the knowledge was aligned to the Commission's goals. No respondent strongly disagreed that the goals and the knowledge were aligned (Table 28 & Figure 13).

Table 29: Regulatory Knowledge and ERC's Organizational Performance

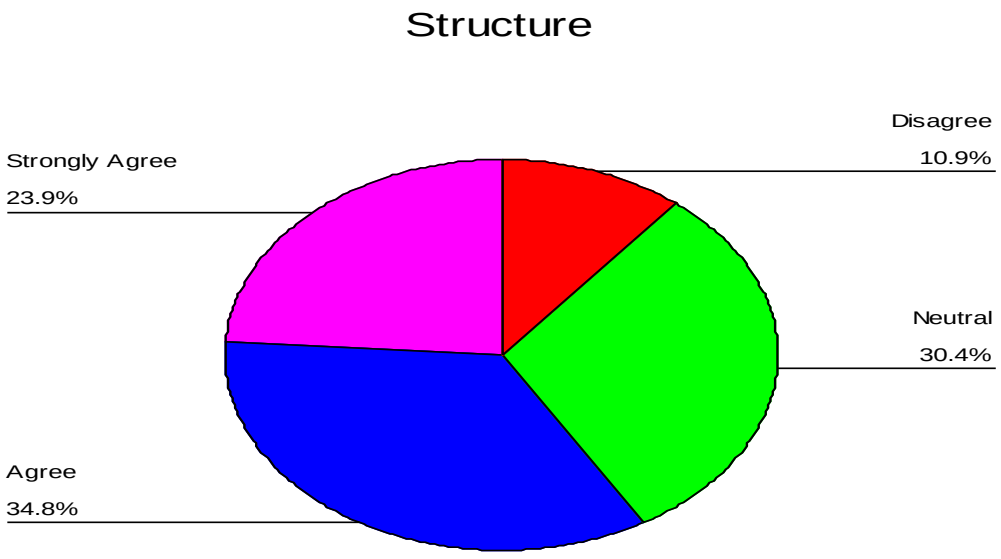
		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	Disagree	5	10.9	10.9	10.9
	Neutral	14	30.4	30.4	41.3
	Agree	16	34.8	34.8	76.1
	Strongly Agree	11	23.9	23.9	100.0
	Total	46	100.0	100.0	

Source: Research Data (2013)

However, when asked whether the regulatory knowledge was structured around organization performance, the majority of them (16) agreed that regulatory knowledge was structured around the organizational performance while fourteen (14) of them were neutral on this. Eleven (11) others strongly agreed that the regulatory knowledge was structure around the performance yet the remaining five (5) said that they disagreed that the knowledge was structured around the regulatory knowledge (Table 29 & Figure 14).

The same data can be presented in a pie chart as below;

Figure 12: Regulatory Knowledge and ERC's Overall performance



Source: Research Data (2013)

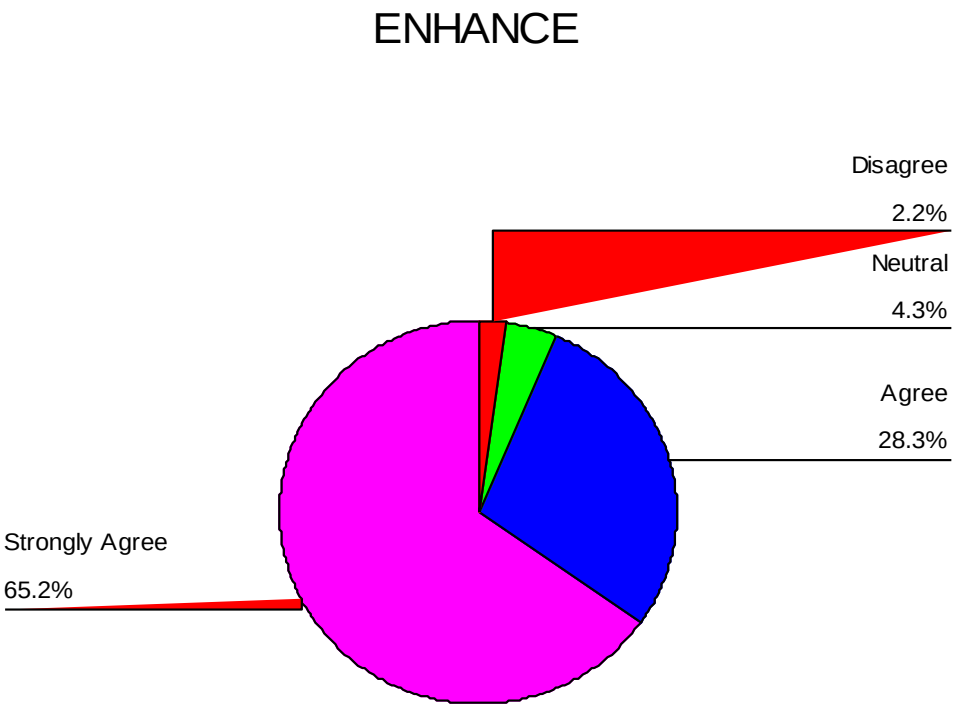
Table 30: Alignment of Regulatory Knowledge with to Organizational Performance

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	Disagree	1	2.2	2.2	2.2
	Neutral	2	4.3	4.3	6.5
	Agree	13	28.3	28.3	34.8
	Strongly Agree	30	65.2	65.2	100.0
	Total	46	100.0	100.0	

Source: Research Data (2013)

The same can be represented in pie chart as below;

Figure 13: Alignment of Regulatory Knowledge with to Organizational Performance



Source: Research Data (2013)

On whether aligning regulatory knowledge with ERC's mandate and function will enhance overall performance, thirty (30) respondents strongly agreed, thirty (13) agreed, two (2) were neutral and only one (1) was in disagreement that the alignment of regulatory knowledge with the mandate and function of the Commission would enhance the overall performance of the Commission (Table 30 & Figure 15).

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The chapter provides the summary of the findings, the conclusion as well as the recommendations that are put forward as a result of the study. The chapter is based on the objectives of the study where personal data of the respondents, the effects of regulatory framework on performance of Energy Regulatory Commission, how segregation of policy formulation, policy implementation and sector regulatory roles affect the performance of Energy Regulatory Commission., how resource allocation and utilization affects the performance of Energy Regulatory Commission and the effect of regulatory knowledge on the work of Energy Regulatory Commission are summarized, concluded and recommendations thereof presented. Finally, the chapter provides suggestions of areas that other researchers can explore more at a later stage.

5.2 Summary of Findings

5.2.1 Effects of the Existing Regulatory Framework on the Performance of ERC

On the effects of the existing regulatory framework on performance of the Commission, 37% strongly agreed, 41.3% agreed, 15.2% were neutral while 2.2% each disagreed and strongly disagreed that regulatory framework within which the Commission worked affected the performance positively (Table 9). On whether the performance of ERC had been challenged by the Energy Act, 60.9% agreed while 34.8% disagreed (Table 15).

5.2.2 Effect of Segregation of Policy Formulation, Policy Implementation and Regulation on Performance of ERC

On whether segregation of roles in the energy sector had affected performance of ERC, 73.9% agreed while 22.1% did not agree. When asked to rank their answers on issue of segregation of roles, 30.4% of them strongly agreed, 41.3% agreed, 17.4% were neutral while 4.3% each disagreed and strongly disagreed that segregation of roles (Policy formulation, implementation and regulation) affected ERC's performance positively (Table 10).

5.2.3 Effect of Resource Allocation and Resource Utilization on Performance of ERC

On issue of resource allocation to ERC, 67.4% of the respondents said that resource allocation was challenging while 23.9% said that the allocation was effective. When asked to rank their answers on issue of resource allocation, 37% strongly agreed, 17.4% agreed, 21.7% were neutral, 13% disagreed while 10.9% strongly disagreed that resource allocation to ERC affected performance positively (Table 11). On if resource utilization by ERC affected performance of the organization positively, 37% strongly agreed, 21.7% agreed with similar percentage being neutral, 13% disagreed while 6.5% strongly disagreed (Tables 11 &12). On the relationship between utilization of resources and the achievement of goals, 89.1% affirmed that there existed a relationship but 8.7% thought no relationship existed. Fifteen (15) representing 32.6% of the respondents agreed that ERC's resource allocation has enabled it to reach and serve all its stakeholders effectively, fourteen (14) respondents or 30.4% were neutral and twelve (12) or 26.1% disagreed that the resources had enabled the Commission to serve all its stakeholders effectively but on whether resource utilization has enabled it continually improve in its service delivery to the stakeholders, 47.8% agreed, 28.3% were neutral, 10.9% of the respondents strongly agreed, 8.7% of them disagreed and 4.3% of them strongly disagreed. On whether resource allocation to ERC is sufficient in enhancing its performance as the sector regulator, 39.1% disagreed, 23.9% strongly disagreed and another 23.9% were neutral.

5.2.4 Effect of Regulatory Knowledge on the Performance of ERC

On the issue regulatory knowledge of staff, 56.5% strongly agreed, 26.1% agreed, 6.5% each were neutral and disagreed while 4.3% strongly disagreed that regulatory knowledge by ERC staff affected ERC's performance positively (Table 13). On if regulatory knowledge by regulated utilities affected ERC's performance positively, 37% strongly agreed, 21.7% agreed with similar percentage being neutral while 13% and 6.5% respectively disagreed and strongly disagreed that the effect was there and positive (Table 14).

5.2.4 Other Findings

The study found out that the majority of the respondents were male at 63% while female were 37%, majority of them (50%) said they had bachelor's degree, 30.4% of them had a master's degree whereas another 10.9% said they had a Diploma while 2.2% had 0-level or doctorate. In terms of the ages of the respondents, 43.5% were aged between 36 and 45 years, 30.4% were aged between 26 and 35 years, 19.6% of them were aged between 46 and 55 years, 4.3% were between 18 and 25 years, and only 2.2% were above 55 years. As regards the length of service of the employees at ERC, 34.8% had worked for less than 3 years, 30.4% had worked for between 3 and 5 years, 10.9% hard served for between 6 and 10 years while 23.9% had worked at the Commission for more than 10 years.

On the factors affecting the performance of ERC, 43.5% said that the pricing of energy affected the performance of ERC to a very good extent, 50% of the respondents said review of EIA reports had affected performance to a very good extent while another 28.3% said that the effect was to a good extent. On the effect of licensing processes on the performance of the regulator, 47.8% said that the effect was to a very good extent while another 23.9% of the respondents said that the effect was to an excellent extent and on whether the issue of construction permits had an effect on performance of ERC as a regulator, 43.5%, said that the effect was to a very good extent and 15.2% of the respondents said that the effect was to an excellent extent. On whether the performance of the regulator was affected by the way the organization handled sector complaints, 45.7% said that the effect was to a good extent while 23.9% said that the effect was to a very good extent. On effect of approval of power purchase agreements on the performance of the Commission, 39.1% of the respondents said that performance was affected to a very good extent and another 28.3% said the effect was to a good extent. On effect of drafting of sector regulation on the performance of the Energy Regulatory Commission (ERC), 41.3% said that the effect was to a good extent while another 32.6% said that the effect was to a very good extent while on the effect of energy planning,

41.3% said that the effect was to a very good extent while 28.3% said that the effect was to a good extent.

On the measures that would help in improving the resources base of the Commission, respondents on average (3.775) said that it would indeed help by allocation of more funds from the exchequer, the respondents on average said they did not know (3.36) whether increase of the tariffs for various services would help boost the resource base, while on whether increase of levies charged to the licensees would help increase the resource base for the Commission, 50% said that the effect would be to a great extent while 19.6% said that the effect was to some extent. 54.3% of the respondents said that the regulatory knowledge of ERC in relation to the competencies of its human resources in achieving its organizational objectives was moderately effective while another 41.3% rated it very effective

5.3 Conclusions

5.3.1 Effects of the Existing Regulatory Framework on the Performance of ERC

From the research findings, 78.3% of the respondents either strongly agree or agree that the existing regulatory framework affects the performance of ERC. This confirms the view that it is the regulatory framework which sets out the mandate, functions and powers of the regulator as well as separation of the various roles of policy formulation, implementation and regulation for the sector (Energy Act No. 12, 2006). This is also supported by Green et al (2006), who stated that, two aspects of best practices have been identified in regulatory frameworks, namely; the form of regulation, which relates to the ways the agency carries out its responsibilities and the outcome of regulation, which is the measurement of success of the regulatory agency. It is the regulatory framework which gives the regulatory agency its independence which is paramount in its fairness in carrying out its mandate so as to win the confidence of the varied sector stakeholders which is supported by Berg (2000), who describes independence as the balancing role of regulatory agency with respect to interests of three main stakeholders groups; government, suppliers and customers.

5.3.2 Effect of Segregation of Policy Formulation, Policy Implementation and Regulation on Performance of ERC

From the research findings, 71.7% of the respondents either strongly agreed or agreed that segregation of policy formulation, policy implementation and regulation affected the performance of ERC. This is because unless there is clear understanding on the roles of the various players in the sector and how they interact, then there will be duplication of functions hence power struggles between the various sector players which will impact negatively on overall sector performance. This is supported by Navarro (1996), who stated that, in order for the regulator to play its role effectively as possible, the industry coverage of the regulator, the jurisdictional boundaries between the regulator and the ministry, the relation between the regulator and the regulated entities, and relation with other regulators should be carefully crafted.

5.3.3 Effect of Resource Allocation and Resource Utilization on Performance of ERC

From the research findings, 54.4% of the respondents either strongly agreed or agreed that resource allocation to ERC affected its performance while 58.7% either strongly agreed or agreed that how ERC utilizes the resources allocated to it affected its performance. Most of the respondents who gave explanations to their responses on these issues highlighted the need of the regulator being financial independent and autonomous as paramount in achieving desired level of performance. Smith (1997) supports this by defining independence with the following requirements, an arm's length relationship with regulated firms, consumers, and other private interests as well as the political authorities and organizational autonomy as earmarked funding and exemption from restrictive civil service salary rules. The regulator's resource base should be adequate for it to discharge its functions to all the sector stakeholders and to attract and keep qualified staff by offering salaries compatible with the private sector (usually much higher than civil service salaries) (Jamison and Berg, 2008)

5.3.4 Effect of Regulatory Knowledge on the Performance of ERC

From the research findings, 82.6% of the respondents either strongly agree or agree that regulatory knowledge of the staff of ERC affects its performance while 58.7% of the

respondents either strongly agree or agree that regulatory knowledge of the regulated entities affects the performance of ERC. This is supported by Lamech & Seed (2003) who stated that, "The skill and knowledge level, and competency of staff can be equally, if not more important for the success of an agency. Effectiveness and efficiency can be interpreted to imply competency".

5.3.5 Other conclusions

Majority of the employees at the Commission are male (63%) but ERC has met the a third gender rule required by the government of Kenya, majority have at least a bachelor's degree and more than half of the employees (73.9%) are aged between 26 and 45 years which means the Commission will not have to replace this staff due to retirement until after 15 years reflecting good continuity.

Allocation of more funds from the exchequer was favoured as a means to increase the resource base of the Commission more than increase of the tariffs for various services. The findings also favoured a policy shift so that monies paid for levies should be to the Commission to enrich its resource base so as to serve its stakeholders better than the current situation where the monies from the levies go to rural electrification programme.

5.4 Recommendations

5.4.1 Effects of the Existing Regulatory Framework on the Performance of ERC

The Energy Act requires to be reviewed so as to facilitate the performance of ERC rather than inhibiting the achievement of its organizational goals. The issues of more autonomy, enforcement powers, and independence of ERC should be carefully crafted in the revised Energy Act if it has to overcome the regulatory challenges it is experiencing currently.

5.4.2 Effect of Segregation of Policy Formulation, Policy Implementation and Regulation on Performance of ERC

The current segregation of roles in the sector should be re-organized so as to give ERC more independence in its decision making which will boost confidence of other stakeholders in the regulatory process. The permanent secretary (principal secretary) in-charge of energy being a Commissioner of ERC could be interpreted to mean the

government is influencing the decision of the Commission. The Director General of ERC being answerable to the permanent secretary (principal secretary) in-charge of energy could also be interpreted to mean that the Commission is getting instruction on its day to day operation from the key stakeholder which is the government, hence curtailing its autonomy and independence.

I. The study therefore recommends the creation of Regulatory Oversight Authority which should co-ordinate all the sector regulators in Kenya.

II. The regulated entities should also sign a performance contract with the regulator unlike the current practice where they sign the performance contractors with government ministries. This will make the regulator hold them more accountable on regulatory targets.

5.4.3 Effect of Resource Allocation and Resource Utilization on Performance of ERC

That ERC be allocated more funds from the consolidated account or exchequer so as to increase its resource base to be able to serve its customers effectively. The licence fees paid by the regulated entities should also be directly to ERC to strengthen its financial resource. This will enable ERC extend its services to all its stakeholders and where necessary to county levels.

5.4.4 Effect of Regulatory Knowledge on the Performance of ERC

There is need for capacity building within ERC and the regulated entities in so far as regulatory knowledge is concerned. This will create better understanding of regulatory roles, functions and mandate so that the regulator and the regulated entities can work better together and reduce information asymmetry which has been a key problem in the regulatory process in Kenya.

5.4.5: Performance of ERC

The Commission should allocated more resources to the factors its performance including energy pricing, review of EIA reports, licensing processes, issue of construction permits, the way the organization handled complaints as well as approval of power purchase agreements so as to enhance overall organizational performance.

5.5 Suggestions for Further Research

The study on realizing the challenges that ERC undergoes in the implementation of the various assignments and mandate from ERC's staff perspective, there is need to look into the perspectives of other stakeholders like energy consumers, regulated utilities and the Kenya government.

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APPENDICES

Appendix 1: Letter to Respondents

Joseph Oketch

Kenyatta University – City Campus

P.O. Box 43844-00100

Nairobi

Kenya.

Date: 11th April 2013

Dear Respondent,

SUBJECT: REQUEST FOR RESEARCH DATA

I am an MBA student at Kenyatta University and has been permitted by the university to kindly request you to fill in this questionnaire, with an assurance that all information collected will be treated confidentially. The information you give is intended for this study and will be analysed with responses from other respondents without particular references to your responses, to satisfy the objective of this study. There is no right or wrong answers. You have been chosen because; you are better placed to give us an opinion on what challenges Energy Regulatory Commission face in its regulatory work of the energy sector in Kenya.

The research on "**An Analysis of Challenges Affecting Performance of utility Regulators in Kenya: A Case Study of Energy Regulatory Commission"** is purely for academic purpose and the findings will not be published. However, as a participant, you are free to request a soft copy of the final report which can be sent to you via email.

Thanks for your time and effort.

Yours faithfully

Joseph Oketch

Appendix 2: Questionnaire

Ref. No			
Date:	11th	April	2013
Please take a few minutes to complete this questionnaire. Your response and identity will be treated with confidentiality. Your views in combination with those of others are extremely important in identifying the challenges affecting the performance of Energy Regulatory Commission as a utility regulator in Kenya.			

Respondent's Characteristics

1. What is your gender? (tick as appropriate) Male [ ] Female [ ]
2. What is your highest level of education achieved? (Tick where appropriate)

   O- Level [ ] Higher Diploma/Diploma [ ] Bachelors [ ] Masters [ ] Doctorate [ ]

   others [ ] (specify)……
3. Under which age bracket do you fall? (Tick where appropriate)

Age (yrs)	18 – 25	26 – 35	36 – 45	46 – 55	Above 55
Response					

4. Which department are you in? (tick where appropriate)

Electricity	[ ]	Renewable Energy	[ ]	Finance and Strategic Planning	**[ ]**
Petroleum	[ ]	Legal Affairs	[ ]	Procurement	**[ ]**
Economic Regulation	[ ]	Human Resources and Administration	[ ]	Communications and Public Affairs	**[ ]**
Director General's Office					[ ]

5. What is your current job category? Top management [ ] Senior Management [ ] Middle Management [ ] Lower Management [ ] Operative staff [ ] Others [ ] (specify)……

6. For how long have you been in ERC? (Tick as appropriate)

Length (yrs)	**Tick(√)**	**Length**	**Tick(√)**
Below 3 years	[ ]	6 - 10 years	[ ]
3 - 5 years	[ ]	More than 10 years	[ ]

ERC's Performance

7. To what extent, in your opinion, has been the performance of ERC as regards the indicators listed? (Tick as appropriate)

Indicator	**5**	**4**	**3**	**2**	**1**
Energy pricing					
Review of EIA Reports					
Licensing Processes					
Issue of Construction permits					
Complaints handling					
Approval of Power purchase agreements					
Drafting of regulation					
Energy Planning					

Where; 5 – Excellent, 4 – Very good, 3 – Good, 2 – Fair, 1 – Poor

8. Brief explain your responses in seven (7) above

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9. In your opinion, what are some of the factors that affect performance of ERC?
    a. ……
    b. ……..
    c. ……..
    d. …….
    e. …….
10. To what extent do you agree that the following statement affects organization performance at ERC?

Statement	**5**	**4**	**3**	**2**	**1**
Regulatory framework affects ERC's performance positively					
Segregation of roles (Policy formulation, implementation and regulation) affects ERC's performance positively					
Resource allocation to ERC affects ERC's performance positively					
Resource utilization by ERC affects ERC's performance positively					
Regulatory knowledge by ERC staff affects ERC's performance positively					
Regulatory knowledge by Regulated utilities affects ERC's performance positively					

Where; 5 – Strongly Agree, 4 – Agree, 3 – Neutral, 2 –Disagree and 1 – Strongly Disagree

Effect of the existing Regulatory Framework in the performance of ERC

11. Do you think the performance of ERC has been challenged by the Energy Act?

    Yes [ ] No [ ]

12. Briefly explain your answer in 11 above

    ……..**.....**

    ……..

13. To what extent do you agree with the following statements about the regulatory framework challenges to the performance of ERC?

Statement	5	4	3	2	1
Energy Act sets out clear mandate for ERC	[ ]	[ ]	[ ]	[ ]	[ ]
Energy Act gives ERC the required enforcement powers for it to regulate the energy sector.	[ ]	[ ]	[ ]	[ ]	[ ]
Energy Act is well understood by all the players in the energy sector.	[ ]	[ ]	[ ]	[ ]	[ ]
Energy Act is acceptable to all the players in the energy sector as their primary regulatory framework	[ ]	[ ]	[ ]	[ ]	[ ]

Where; 5 – Strongly Agree, 4 – Agree, 3 – Neutral, 2 –Disagree and 1 – Strongly Disagree

14. Briefly explain your answers in 13 above

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Segregation of Policy Formulation, Policy Implementation and Regulation in the energy sector on ERC's performance

15. Do you think the segregation of roles in the energy sector affects the performance of ERC? Yes [ ] No [ ]

16. Do you agree with the following statements regarding separation of roles in the energy sector and how it has affected the performance of ERC?

Statement	5	4	3	2	1
The segregation of roles of policy formulation, policy implementation and regulation is clear in the energy sector.	[ ]	[ ]	[ ]	[ ]	[ ]
All the key energy sector players are aware of their roles and mandates following the segregation of roles in the energy sector	[ ]	[ ]	[ ]	[ ]	[ ]
Other energy sector stakeholders are aware of the roles and mandates of the various key players in the energy sector.	[ ]	[ ]	[ ]	[ ]	[ ]
ERC is given the required autonomy by the segregation of roles and mandates in the energy sector to act as an independent energy sector regulator	[ ]	[ ]	[ ]	[ ]	[ ]

Where; 5 – Strongly Agree, 4 – Agree, 3 – Neutral, 2 –Disagree and 1 – Strongly Disagree

17. Briefly explain your answers in 16 above

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18. How do you rate the reporting structure and coordination of energy sector corporations in Kenya? (Tick as appropriate)

	Tick(√)		Tick(√)
Very Effective	[ ]	Slightly Ineffective	[ ]
Moderately Effective	[ ]	Very Ineffective	[ ]
Slightly Effective	[ ]		

Briefly explain your answer in 18 above

……

……

Effect of Resource allocation to ERC and Resource utilization in ERC to ERC's performance.

19. How would you describe resource allocation to ERC with respect to its mandate?
    Effective [ ] Challenging[ ] Result Oriented [ ]
    Others [ ] (Specify) _____
20. Does resource utilization in ERC have a relation with the achievement of the overall organization goals? Yes [ ] No [ ]
21. How can you describe the relation between resource utilization and ERC performance?

	Tick(√)		**Tick(√)**
Very Effective	[ ]	Slightly Ineffective	[ ]
Moderately Effective	[ ]	Very Ineffective	[ ]
Slightly Effective	[ ]		

22. The following statements relate to the relationship between ERC's resources and organization performance. To what extent do you agree with them?

Statement	**5**	**4**	**3**	**2**	**1**
ERC's resource allocation has enabled it to reach and serve all its stakeholders effectively.	[ ]	[ ]	[ ]	[ ]	[ ]
ERC'S resource utilization has enable it continually improve in its service delivery to the stakeholders	[ ]	[ ]	[ ]	[ ]	[ ]
Resource allocation to ERC is sufficient in enhancing its performance as the sector regulator.	[ ]	[ ]	[ ]	[ ]	[ ]

Where; 5 – Strongly Agree, 4 – Agree, 3 – Neutral, 2 –Disagree and 1 – Strongly Disagree

23. To what extent can the following be used to improve ERC's resource base?

Process	5	4	3	2	1
Allocation of more funds from the exchequer					
Tariff increase of the various services					
Increase of levies charged to the licensees					
Others (Specify)					

Where; 5 – Great Extent, 4 – Some Extent, 3 – Don't Know, 2 – Little Extent and 1 – No Extent

24. Briefly explain your answers in 23 above

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Effect of Regulatory Knowledge on the performance of ERC as an energy sector regulator.

25. How do you rate ERC's regulatory knowledge in relation to competencies of its staff in achieving organization goals?

	Tick(√)		**Tick(√)**
Very Effective	[ ]	Slightly Ineffective	[ ]
Moderately Effective	[ ]	Very Ineffective	[ ]
Slightly Effective	[ ]		

26. Briefly explain your answers in 25 above

…….....

.....……

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27. The following statements relate to regulatory knowledge and ERC's performance. Rate them as per your experience at ERC.

Statement	5	4	3	2	1
ERC's regulatory knowledge are aligned to organization goals	[ ]	[ ]	[ ]	[ ]	[ ]
Regulatory knowledge are structured around organization performance	[ ]	[ ]	[ ]	[ ]	[ ]
Aligning regulatory knowledge with ERC's mandate and function will enhance overall performance.	[ ]	[ ]	[ ]	[ ]	[ ]

Where; 5 – Strongly Agree, 4 – Agree, 3 – Neutral, 2 –Disagree and 1 – Strongly Disagree

Comments

28. Kindly provide any additional comments or observations on the topic under study

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Thank you for your time and input