AN ANALYSIS OF THE REGULATORY CHALLENGES TOWARD ADOPTING A LOW-CARBON DEVELOPMENT PATH IN KENYA

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A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTERS DEGREE IN LAW
DECLARATION

I, MONAH KATHOMI GICHUYIA do hereby declare that this is my original work and no portion of this work has been submitted or is being submitted for a similar or any other degree in this or any other University.

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DEDICATION

This thesis is dedicated to my parents

Dr. and Mrs. Gichuyia M’Riara

who taught me that;

“Knowledge is happiness, because to have knowledge - broad deep knowledge - is to know true ends from false, and lofty things from low. To know the thoughts and deeds that have marked man's progress is to feel the great heart-throbs of humanity through the centuries; and if one does not feel in these pulsations a heavenward striving, one just indeed is deaf to the harmonies of life.”

Hellen Keller
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To Nkatha, Cianjoka and Kanini, for your constant encouragement, love and prayers.

Finally, saving the best for last, I attribute all my achievements to God, “…Lord, you have given me so much, I ask for one thing more; A grateful heart.”
ABBREVIATIONS AND ACRONYMS

ASAL - Arid and Semi-Arid Land

AWP-KP - Ad-hoc Working Group on Further Commitment for Annex I Parties under the Kyoto Protocol

BEE - India’s Bureau of Energy Efficiency

COP - Conference of the Parties

CCCU - Climate Change Co-ordination Unit

CCS - Carbon Capture and Storage

CDM - Clean Development Mechanism

CER - Certified Emission Reduction

CFC - Chlorofluorocarbon

CFL - Compact Fluorescent Lamps

CMP - Meeting of Parties to the Kyoto Protocol

CO2 - Carbon Dioxide

DC - Designated Consumers

DNA - Designated National Authority

DOE - Directorate of Environment

ECBC - Energy Conservation Building Code

DSM - Demand Side Management

ECCU - Environment and Climate Change Unit

EMCA - the Environmental Management and Co-ordination Act

ERC - Energy Regulatory Commission

ERU - Emission Reduction Unit

EU ETS - European Union Emission Trading Scheme

FiT - Feed in Tarrif

GDP - Gross Domestic Product

GHG - Greenhouse Gas

IPCC - the United Nations Intergovernmental Panel on Climate Change

JI - Joint Implementation
KMD - Kenya Meteorological Department
KARI - Kenya Agricultural Research Institute
LCPDP - Least Cost Power Development Plan
MDG - Millennium Development Goals
MRV - Monitoring, Reporting, Verification
MTOE - Metric Tonne of Oil Equivalent
N2O - Nitrous Oxide
NAPCC - India’s National Action Plan on Climate Change
NAMA - National Appropriate Mitigation Action
NCCACC - National Climate Activities Coordinating Committee
NCCRS - Kenya’s National Climate Change Response Strategy
NEMA - National Environmental Management Authority
REDD - Reducing Emissions from Deforestation and forest Degradation
OPM - Office of the Prime Minister
SO2 - Sulfur Dioxide
UN - the United Nations
UNFCCC - the United Nations Framework Convention on Climate Change
WSSD - World Summit on Sustainable Development
WTO - World Trade Organisation
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1.0 INTRODUCTION

It is universally accepted that climate change is one of the greatest challenges facing humanity this century.\(^1\) The reality that human activity is changing the earth’s climate is now accepted by almost all. Rapid economic growth has been accompanied by significant increase in energy demand.\(^2\) Continual rapid increase in energy demand and consumption, and a large share of the energy consumption being in the form of fossil fuel has led to an increase in Green House Gas (GHG) emissions.\(^3\) Atmospheric levels of carbon dioxide (CO2) have increased steadily since the beginning of the industrial revolution and these levels are projected to increase even more rapidly as the global economy grows.\(^4\)

Evidence shows that ignoring climate change will eventually damage economic growth\(^5\). Our actions over the coming few decades could create risks of major disruption to economic and social activity on a scale similar to those associated with the great wars and the economic depression of the first half of the 20th century.\(^6\) Tackling climate change is the pro-growth strategy for the longer term, and it can be done in a way that does not cap the aspirations for growth of poor countries.

Notwithstanding the above, to many developing countries, climate change and carbon emission reduction policy goals are not a major priority area since other development goals such as

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2 According to the International Energy Agency, between now and 2050, the global economy is expected to grow by a factor of four and as much as a factor of 10 in developing countries like China and India. Such growth will inevitably require increased energy use. The International Energy Agency forecast a 70 percent increase in oil demand and a 130 percent increase in CO2 emissions by 2050.
3 According to the International Energy Agency, Approximately 65 percent of global anthropogenic GHG comes from energy-related activities and the remaining 35 percent comes primarily from agricultural and land-use practices. For most industrial countries, the most significant anthropogenic GHG is CO2. Most CO2 is emitted as a result of using fossil fuels. Globally, 89 percent of primary energy consumed comes from fossil fuels.
4 The evidence is ‘unequivocal’ according to the 2007 Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC), an assessment that synthesizes the research of 2500 scientists. The period from 1997 to 2008 includes the 10 warmest years since global records began in 1850, while average sea levels are accelerating.
5 Supra note 5 at p viii.
6 Ibid note 5 at p. ii.
poverty alleviation energy provision are more important immediate concerns. Policy makers in developing countries often perceive a trade-off between economic growth and environmental sustainability. However there is growing evidence to show that environmental conservation for sustainability of natural resources is not a luxury but a necessity when considering long-term economic growth and development. Infrastructure and society changes that might be required to suitably and economically limit the consequences of climate change will require long implementations times. Therefore early identification of likely climate change effects and the potential responses to minimize the impact is essential. These measures include technological, institutional, financial and regulatory responses.

Kenya currently has no policies or laws that deal directly and explicitly with climate change. In April 2010, the Ministry for Environment and Mineral Resources published the National Climate Change Response Strategy (NCCRS), whose purpose is to put in place robust measures needed to address most, if not all, of the challenges posed by climate variability and change. The objectives of this strategy are to:

1. Enhance understanding of the global climate change regime;
2. Assess the evidence and impacts of climate change in Kenya;
3. Recommend robust adaptation and mitigation measures needed to minimize risk associated with climate change while maximizing opportunities;
4. Enhance understanding of climate change and its impacts nationally and in local regions;
5. Recommend vulnerability assessment, impact monitoring and capacity building framework needs as a response to climate change;
6. Recommend research and technology needs to respond to climate change impacts and avenues for transferring existing technologies;

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9 Supra note 1 at p 5-6.
7. Recommend a conducive and enabling policy, legal and institutional framework to combat climate change; and
8. Provide a concerted action plan coupled with resource mobilisation plan and robust monitoring and evaluation plan to combat climate change.

Looking at Kenya’s development plans, the vision 2030 – which is Kenya’s development blueprint that seeks to project the country as a middle income economy by the year 2030 - does not address climate change adequately. Its only reference to climate change is adaptation in the context of achieving its environmental goals.\(^{10}\) There is no mention of climate change adaptation and mitigation, or any initiative in controlling carbon emissions in the government’s plans to achieving economic growth. One of the specific aims stated under environmental management (to be delivered by 2012) is the goal to attract at least five Clean Development Mechanism (CDM) projects per year in the next 5 years. It is evident that this goal has not been achieved and is likely not to be achieved.

This research therefore seeks to analyse the current legal and regulatory framework that addresses climate change and specifically on emission reduction initiatives. The study further proposes appropriate legal reforms that seek to guide Kenya’s development agenda towards a more sustainable low carbon development path. It is important to note that all countries will have to find low carbon paths to development.\(^{11}\) Currently our development plans are not adequately guided in terms of taking a low carbon route towards development; and thereby helping us avoid the same development path that developed countries have walked to get to where they are. An analysis of existing environmental policy and legal framework has revealed that Kenya currently has no policies or laws that deal directly and explicitly with climate change.\(^{12}\) Further, policies that drive Kenya’s economic development agenda do not factor in carbon emission reduction initiatives in achieving their objectives. Apart from this, benefits accruing from the ever growing

\(^{10}\) These environmental goals, identified to be achieved by 2012, focus on conservation, pollution and waste management, ASAL and high-risk disaster zones and environmental planning and governance.


\(^{12}\) Supra note 1 at p 10.
international emissions trading market are lost to the country due to lack of clear clean-
development guidelines. By developing clear policy on climate change and carbon emission
reductions, the country is better placed to benefit from the carbon market that has become a
multi- billion dollar industry worth USD 144 billion in 2009 according to the World Bank’s
carbon finance unit. It is estimated that the country can earn up to 100 billion shillings from
carbon trading and clear its public debt in six year should it harness the trading scheme.

2.0 BACKGROUND

Since the 1850s, with the advent of industrialization, there has been a reliance on fossil fuel as a
source of energy. Fossil fuels have become the mainstay of present day economies. When fossil
fuels are burnt to release energy the carbon content of the fossil fuels are released in the form of
carbon dioxide. This has resulted in an increase in emission of carbon dioxide in a scale that was
not witnessed before the 1850s. Carbon dioxide accounts for 60% of the human-induced global
warming, the other 40% being due to methane, nitrous oxide, and hydrofluorocarbons. The
increase of all these gases over the last two centuries are due to human activities. While it is
important to reduce all the greenhouse emissions, carbon dioxide has the largest effect and
therefore reducing global warming requires reducing carbon dioxide emissions.

Climate change emerged on the political agenda in the mid 1980s with the increasing scientific
evidence of human interference in the global climate system and with growing public concern
about the environment. This saw the release of the Brundtland Report (also known as ‘Our
Common Future’). The report alluded to various environmental concerns including climate
change and associated the change with increasing atmospheric concentrations of GHGs. Climate
change was considered one of the undesirable consequences of man’s unsustainable development
practices.

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The rise in temperature is leading into significant ecosystem changes. Some of the effects include: \(^{17}\)

a) In many regions of the world, water is a scarce and precious commodity. For populations in such areas climate change would likely exacerbate existing water shortage and quality problems.

b) For tens of millions of people in low-lying coastal areas, climate change presents the risk of losing their homes and livelihood. This is due to the risk of increased sea levels, severe and chaotic weather events, flooding and erosion.

c) Climate change is also expected to adversely impact the biodiversity of ecological systems by increasing the extinction rate of vulnerable species.

The Kenya Meteorological Department (KMD) has provided data of temperature and rainfall changes in Kenya over the last fifty years. From the early 1960s, Kenya has generally experienced increased temperatures over vast areas. \(^{18}\) The temperatures depict a general warming through time. Further, annual highest rainfall events indicate that the 24-hour intense rainfall amounts observed in the recent years are relatively lower than those in the early 1960s. \(^{19}\) These values have been reducing over time. These changing temperature and rainfall patterns have a profound impact on Kenya’s socio-economic sectors, most of which are climate-sensitive.

Rapid unplanned urbanization in Kenya has resulted in pollution, waste, health hazards; traffic congestion and urban air pollution all of which are affecting the economy, health and quality of life negatively. The projected growth in demand for food, water, housing and energy over the next decades will only amplify these harmful environmental trends, unless Kenya fundamentally changes its production and consumption patterns. In addition, climate change impacts are expected to increase the severity of droughts and floods with their associated negative effects in agriculture, hydropower generation, infrastructure and human and animal lives. \(^{20}\)


\(^{18}\) Supra note 1 at p 6

\(^{19}\) Supra note 1 at p 6

\(^{20}\) Supra note 5, part II.
In 1992, 192 countries worldwide signed the United Nations Framework Convention on Climate Change (UNFCCC), the first ever treaty aimed at stabilizing GHG emissions and avoiding runaway climate change. It includes a number of principles, including ‘polluter pays’ and common but differentiated responsibility’ which recognises issues of historical responsibility and fairness in addressing climate change. Flowing from the treaty, the Kyoto Protocol – an international and legally binding agreement to reduce GHG emissions worldwide – was adopted in 1997 and brought into force in 2005.

The Protocol has two main goals: to set legally binding emission targets for industrialized countries, historically the biggest emitters of GHG; and to create a mechanism for achieving those targets. The cornerstone of Kyoto is carbon trading, a market based mechanism for trading pollution credits among countries. Despite certain shortcomings of the carbon market, it continues to expand and is becoming increasingly entrenched as a way of reducing GHG emissions. It has also been seen as an opportunity for developing countries in need of funds to spur their development.

Kenya is a member to both the UNFCCC and the Kyoto Protocol. In line with the principle of common but differentiated responsibility, all members of the UNFCCC are required to contribute to solving the problem of climate change. Despite the Kyoto Protocol imposing reduction obligations only on industrialized countries (as listed in Annex I), developing countries too have a responsibility to stabilize GHGs concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.

From the foregoing, it is clear that the economic development environment that Kenya finds itself has significantly changed from that which existed when developed countries were developing. We find ourselves forced to acknowledge that economic development cannot be achieved without acknowledging environmental concerns that arise as a consequence of our development activities. There is now a general realization that we need to develop in a sustainable manner. Sustainable development ensures that producers and consumers face up to

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21 Kenya ratified the UNFCCC on 30th August 1994 and the Kyoto Protocol on 18th February 2005
the real social cost of their actions.\textsuperscript{22} This would therefore mean a change in consumption patterns towards environmentally benign products and a change in investment patterns towards patterns that augment environmental capital.

3.0 PROBLEM STATEMENT

Accelerating climate-changing emissions indicate a mounting threat of runaway climate change, with potentially disastrous human consequences. Climate change is also considered one of the most serious threats to sustainable development globally.

In Kenya, climate-driven changes affect resources critical for economic development of Kenya. Kenya’s key economic sectors including agriculture, tourism, livestock, horticulture, fisheries and forestry are all affected.\textsuperscript{23} The integration of climate information in government policies is therefore important because climate is a major driving factor for most of the economic activities in Kenya. Despite this, climate change has not been adequately factored into most of the sectors of the country’s economy including government development policies and plans. The vision 2030 is no exception. If Kenya continues to take no action, the cost of potential damage to the economy could be enormous.\textsuperscript{24}

It is important to appreciate that the characteristics of these underlying development paths both determine the type and level of greenhouse gas emissions, and also strongly condition the type and level of expected impacts and adaptive capacity of society.\textsuperscript{25} Kenya therefore urgently needs to integrate climate change policies and specifically, emission reduction initiatives in its economic development agenda. This way capital is invested in more sustainable development initiatives over economic activities that are predominantly dependent on fossil fuels.


\textsuperscript{23} The Ministry of Agriculture’s “Economic Review of 2009” indicated that the production of other major crops like team sugarcane and wheat had declined. The NCCRS indicates that frequent and severe droughts that have hit the country since the 1990s, have reduced forage in rangelands, as well as dried up and tremendously reduced the volume of rivers which consequently affects wildlife. There have been increased cases of wildlife deaths reported by the Kenya Wildlife Services.

\textsuperscript{24} Supra note 1 at p 5.

In order to achieve this shift in focus, key issues become changes in rules, policies and laws that govern development choices. Kenya’s regulatory regime therefore needs to be analyzed and necessary reforms undertaken in a bid to guide Kenya’s economic growth plans away from a carbon-intensive development path; towards adopting a low carbon path to development.

4.0 RESEARCH QUESTIONS

1. Does Kenya’s current regulatory framework adequately address the effect of carbon emissions in its economic development agenda and is this framework adequate in guiding the country towards a low carbon development path?
2. What reforms can be made to our regulatory framework to adequately address carbon emissions in a manner that guides our economy towards a low carbon development path?

5.0 HYPOTHESIS

It is clear that climate change can adversely affect Kenya’s economic growth plans and activities. Kenya is a developing country looking to being a newly industrializing, “middle-income country providing a high quality life to all its citizens by the year 2030. Secondly, Kenya is a party to the UNFCCC and the Kyoto Protocol; thereby having a responsibility to reduce carbon emissions. Responses to the challenges posed by climate change on Kenya’s economy and its economic growth plans, therefore, will not come from slowing growth, but rather from promoting the right kind of growth. What is needed is an economy that can secure growth and development while at the same time improving human well-being and preserving the natural capital upon which we all depend. Moving towards a green economy necessitates preserving and investing in the assets of key natural resources. This is essential for all economies, but applies in particular to developing countries, which have the opportunity to grow their economies, by building on the sustainable management of their natural capital. It also means making use of low-carbon and resource efficient solutions and stepping up efforts to promote sustainable consumption and production patterns.

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All this calls for establishment of the right regulatory framework. Legal and regulatory instruments are useful tools in informing Kenya’s economic development plans and shall present an opportunity to create a new development regime that amounts to steering the country along a sustainable low carbon path to economic development.

6.0 JUSTIFICATION

The earth is getting warmer and it will continue to do so well into the future, creating a wide range of impacts that include sea-level rise, droughts, and heat waves. Climatologists reporting for the United Nations Intergovernmental Panel on Climate Change (IPCC) see human activities as almost certainly the major contributor to current global warming and express growing fears that such warming will accelerate in the coming years with potentially devastating impacts. Scientists believe that the effects of human induced global warming cannot be eliminated because of the volume of greenhouse gases (GHG) already emitted into the atmosphere. 27

Further evidence shows that ignoring climate change will eventually damage economic growth. Tackling climate change is therefore the pro-growth strategy for the longer term, and it can be done in a way that does not cap the aspirations for growth of rich or poor countries. 28 The earlier effective action is taken, the less costly it will be. Some developing countries are already taking significant action to decouple their economic growth from the growth in greenhouse gas emissions. 29 There are opportunities now to build trust and to pilot new approaches to creating large-scale flows for investment in low-carbon development paths. 30 Early signals from existing emissions trading schemes, including the EU ETS, about the extent to which they will accept carbon credits from developing countries, would help to maintain continuity during this important stage of building markets and demonstrating what is possible.

Kenya therefore needs a legal and regulatory regime that directs the country’s economic development plans towards a low carbon route. This way the country is better placed to tackle

28 Supra note 5 at p vii.
29 For example, China has adopted very ambitious domestic goals to reduce energy used for each unit of GDP by 20% from 2006-2010 and to promote the use of renewable energy.
30 Supra note 5 at p xxiv.
climate change challenges brought about by its development processes and secondly it will enable the country take advantage of the ever growing global carbon emissions trading market. For this reason, a critical analysis of Kenya’s legal and regulatory system is required to establish the legal and regulatory system’s adequacy or lack of it in guiding the country towards a low carbon path of economic development. This way the country is able to take necessary measures that enable sustainability of its economic growth plans in light of the threat climate change poses on the same.

7.0 THEORETICAL FRAMEWORK

“There can be no sound environmental policy – unless there is progress on the economic and social fronts - there can be no lasting economic and social progress unless environmental considerations are taken into account and indeed seen as essential part of economic and social development”.  

7.1 Sustainable Development

The concept of sustainable development may be viewed as part of the modern trend of economics of development. It is for this reason that the 1897 Brundtland Commission – Commission on Environmental and Development, required that people in all countries and from all walks of life work urgently towards restructured national and international policies and institutions that can be described as environmentally compliant. These policies and institutions support the argument for strategies that would allow the economic and social needs of the current generation to be met without compromising the welfare of the future generations. Accordingly, both goals towards environmental quality and economic growth would no longer be viewed as incompatible but rather as complementary targets achieved through reconciling the concerns for ecology and the needs of economics.

Although sustainable development is susceptible to somewhat different definitions, that of the Brundtland Commission on Environment and Development defined the concept in its 1987

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Report, Our Common Future, as “Development that meets the needs if the present generations without compromising the ability of future generations to meet their own needs”\textsuperscript{32}. The concept has been used in two distinct forms or modes, namely:\textsuperscript{33}

a) **Sustainable growth mode**

The relationship between the environment and society under this mode is considered purely utilitarian. Conservation is one of the several policy goals. Technological, administrative and economic tools are employed to gradually shift the economic development path towards one which maintains the regenerative capacity of renewable resources and switches from use of non-renewable to renewable resources.

b) **Sustainable development mode**

Under this mode, environmental conservation and/or preservation become the sole basis for defining a criterion with which to judge development policy. This mode envisages fundamental changes to the status quo through a shift in the way economic progress is pursued. Suitable development would mean a change in consumption patterns towards environmentally benign products and a change in investment patterns towards patterns that augment environmental capital. By shifting the development path, it is argued that it will be possible to leave intact the stock of assets available for future generations.

Sustainable development ensures that producers and consumers face up to the real social cost of their action. In cases where use or depletion of a particular environmental asset (e.g. the ozone layer) affects the sustainability of the total global system, then it is clear that individual choices need to be constrained so that they operate within ‘safe’ limits. Further the Rio Declaration provides that “in order to achieve sustainable development, environmental protection shall constitute an integral part of development process and cannot be considered in isolation from it”.\textsuperscript{34} The concept of sustainable development therefore encompasses an aim that seeks to have society live within self-perpetuating limits of the environment. Such society recognizes the limits


\textsuperscript{33} Supra note 22, p 29-31.

\textsuperscript{34} Principle 4 of the Rio Declaration
of its sustainable growth by seeking the best means to achieve the desired growth while avoiding aimless growth.\textsuperscript{35}

One basic element of sustainable development is the entrenchment of environmental considerations in policy formulation.\textsuperscript{36} At the national level the concept of integration of environmental concerns with all other policy areas is usually formulated as a procedural rule to be applied by legislative and administrative bodies. In the past the connection between environmental and economic policies was barely acknowledged. It is today common knowledge that sustainable development demands the integration of these policies both in theory and in practice. Societies in both developed and under-developed countries have to address their respective environmental issues as they seek to undertake their developmental activities without harming the environment.

Sustainable development also incorporated an invariable commitment to equity. Equity is central to attainment of sustainable development.\textsuperscript{37} This is evident from many international instruments.\textsuperscript{38}

Sustainable development contains within it two concepts: \textsuperscript{39}

1. The concept of needs: in particular the needs of the world’s poor, to which overriding priority should be given; and

2. The idea of limitations imposed by the state of technology and social organization, on the environment’s ability to meet present and future needs.

The right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations.\textsuperscript{40} Equity thus includes both “inter-generational equity” (i.e. the right of future generations to enjoy a fair level of the common patrimony) and “intra-generational equity” (i.e. the right of all people within the current

\textsuperscript{35} Supra note 31, P 20-47
\textsuperscript{36} Supra note 31, p 40
\textsuperscript{37} According to Principle 1 of the 1972 Stockholm Declaration man bears a solemn responsibility to protect and improve the environment for present and future generations.
\textsuperscript{38} Article 3 (1) of the UNFCCC, for example, refers to intergenerational equity.
\textsuperscript{40} Principle 3 of the 1992 Rio Declaration
The present generation has a right to use and enjoy the resources of the earth but is under an obligation to take into account the long-term impact of its activities and to sustain the resource base and the global environment for the benefit of future generations of humankind. Some national courts have referred to the right of future generations in cases before then. For example, the supreme court of the Republic of Philippines decided, in the Minors Oposa case that the petitioners could file a class suit for others of their generation and for the succeeding generations. The court, in considering the concept of intergenerational responsibility, further stated that every generation has a responsibility to the next to preserve that rhythm and harmony necessary for the full enjoyment of a balanced and healthful ecology.

Sustainable development also implies something more than economic advancement. The terms ‘economic welfare’ when used within the context of sustainable development would be inclusive of non-financial components. These components include quality of the environment itself, socio-economic status of people (e.g. their health and level of education), the quality of work, the existence of cohesive communities and the vibrancy of cultural life – none of which can be measured by GNP.

The term sustainable development also now appears frequently in instruments relating to international economic law and policy. Under its Articles of Agreement, the European Bank for Reconstruction and Development must promote in the full range of its activities environmentally sound and sustainable development. Further the preamble to the 1994 WTO agreement commits parties to ‘the optimal use of world’s resources in accordance with the objective of sustainable development’.

7.2 The Concept of Regulation

Regulation is based on rules which may give strict directives or be broadly enabling in ways which permit further negotiation. Rules may also be framed in ways which concede discretion

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42 Philippines – Oposa et al. v. Fulgencio S. Factoran, Jr. et al. G.R. No. 101083
43 Supra note 31, p 39
44 Article 2 (1) (viii)
over their detailed application. Regulation can also refer to the sustained and focused control exercised by a public agency, on the basis of a legislative mandate. The latter is a rather narrow description. Regulation should be viewed, not merely by looking at changes in the formal rules which govern relationship between the state and the citizen and between citizens, but also at the wide range of institutional forms and relationships as well as informal processes which determine the operation and outcome of these changes. This imports the notion of public policy which can be identified as an informal regulatory technique that is quite effective. However, designing and implementing regulations in the nature and structure of public policy requires substantial exertion of political will in support of the regulation.

The regulation relating to emission reductions can be viewed in the wider perspective, which includes not only laws and rules but also changes in public policy as well as institutional regulation. Public awareness and education can be used to shape public policy in line with intended changes proposed in the regulations.

Good laws arise from good policies and good policies emanate from philosophy: an understanding of fundamentals. The centrality of state law in regulation cannot be denied. Regulation is a means by which a state directs human behavior to suit the intended purpose or to arrive at an intended end.

In the interest of the public, therefore, Kenya needs to awaken to the realization that economic development and environmental issues – and in particular the effects of climate change - are inseparable and reconciling laws and policies is vital if Kenya is keen on achieving its economic development objectives in a sustainable manner. Clear and effective laws and regulations are needed to support development strategies and policies. Enforcement of these laws and regulations will be crucial for transforming sustainable development strategies and policies into action.

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46 Supra note 31, p 20-47
The Agenda 21 demands that all the countries involved "should develop and enforce integrated, sanction-obliging and effective laws and regulations which are in compliance with well conceived social, ecological, economic and scientific principles." Protection of the atmosphere is a broad and multidimensional endeavour involving various sectors of economic activity. Promoting sustainable development in industry through legislation by enacting laws on cleaner production, clean energy sources and other important industrial legislation; shall enable us fully reflect the principle of sustainable development when formulating such important economic laws and policies.

8.0 LITERATURE REVIEW
Kenya’s environmental policy and legislation are scattered in a multiplicity of resource and sector specific laws and policy papers. The institutions and departments that deal with environmental issues are equally numerous. Sector specific laws are deficient in that they are characterized by fragmented and uncoordinated sectoral legal regimes that are developed to facilitate resource allocation and to deal with environmentally adverse effects of resource exploitation. It is against this backdrop that I shall seek to analyse the environmental legal and regulatory framework touching on climate change and emission reduction efforts applicable to regulation of economic development in Kenya.

The supreme law of the land – the Constitution of Kenya – Has elevated environmental issues to the constitutional level. The significance of this is that one begins to socialize with environmental issues at a higher level than ordinary statute. It has dedicated a chapter on Land and Environment and has effectively infused environmental management principles into Kenya’s legislation.\(^{48}\) It also provides for a right to a clean and healthy environment which in effect creates room for enforcement of environmental management principles for all Kenyans.\(^{49}\) Article 2 of the constitution further makes international law part of Kenyan law.

This means that the United Nations Framework Convention on Climate Change (UNFCCC) and its Kyoto Protocol, to which Kenya is a signatory, become laws applicable in the Kenyan

\(^{48}\) E.g. in Article 2, Article 10, Article 69
\(^{49}\) Philippines – Oposa et al. v. Fulgencio S. Factoran, Jr. et al. G.R. No. 101083
context. In 1992, 192 countries worldwide signed the UNFCCC, the first ever treaty aimed at stabilizing GHG emissions and avoiding runaway climate change. It includes a set of foundational principles, including ‘polluter pays’ and ‘common but differentiated responsibility’ which recognized issues of historical responsibility and fairness in addressing climate change. Flowing from the treaty, the Kyoto Protocol – an international and legally binding agreement to reduce GHG emissions worldwide – was adopted in 1997 and brought into force in 2005.

The Environmental Management and Coordination Act of 1999 (EMCA) is Kenya’s framework legislation that coordinates all environmental management activities in the country. It accentuates the right of every person in Kenya to live in a clean and healthy environment and obligates each and every one to safeguard and enhance the environment. It was enacted to provide an appropriate legal and institutional framework for the management of the environmental and for matters connected therewith and incidental thereto. EMCA does not repeal the sectoral legislation but seeks to coordinate the activities of the various institutions tasked to regulate the various sectors. These institutions are referred to as Lead Agencies in EMCA. Lead Agencies are defined in Section 2 as any government ministry, department, parastatal, and state corporation or local authority in which any law vests functions of control or management of any element of the environment or natural resource.

The Kenyan National Climate Change Response Strategy (NCCRS)\textsuperscript{50} marks the first the first document the country has developed dedicated to addressing the threats posed by climate change as well as taking advantage of opportunities that may arise. The strategy is now the key government climate change agenda guide and is intent on informing national wide climate change programmes and development activities, which include efforts towards the attainment of Vision 2030. The strategy has come up with modalities of dealing with climate change challenges including recommendations on relevant policies, institutional framework, awareness creation and mobilisation of resources among many others.

The Kenya Vision 2030\textsuperscript{51} is the country’s development blueprint covering the period 2008 to 2030. It aims to transform Kenya into a newly industrializing, “middle-income country providing a high quality life to all its citizens by the year 2030”. The vision is implemented through five year medium-term rolling plans, starting with the first one which covers the period 2008-2012. Thus, the performance of the government is gauged on the basis of these medium term benchmarks. The Vision is anchored on three key pillars: Economic; Social; and Political Governance. The economic pillar aims to achieve an economic growth rate of 10 per cent per annum and sustaining the same till 2030 in order to generate more resources to address the Millennium Development Goals (MDGs). On issues relating to the environment Kenya aims to be a nation that has a clean, secure and sustainable environment by 2030. However the Vision 2030 does not address climate change adequately. It only refers to climate change adaptation in the context of building capacity as part of environmental management.

Significant research (data) published in the area of this study include:

1. **Climate Change Adaptation and International Development:**\textsuperscript{52} this book, mainly intended for adaptation and development practitioners, aims at presenting some important aspects of adaptation that are transferable between situations. The book contains a variety of case studies which vary in terms of scope, approach, locations and sectors. Against this backdrop of diversity, there are some important lessons to be learnt for the practice of climate change adaptation and development. The book reminds us that governance is an important facet of adaptation. Governments must consider longer term climate impact in their development policy planning. Policies shaped at national and international levels set objectives to be achieved at local and regional levels. It also points out that the overlap between climate change adaptation and development can be synergetic. The links among adaptation, mitigation and development must also be explored to identify pathways which will provide high resilience to climate change.


2. **Handbook on the Carbon Credits Mechanism**:\(^{53}\) this book gives an overview on Climate Change and the Greenhouse Gas effect which has become a major issue of global concern. It discusses the energy and environment interphase in light of developing countries concerns to achieve economic development. It further discusses in depth the 3 emission reduction flexible mechanisms as provided for under the Kyoto Protocol – i.e. Emissions Trading, Joint Implementation and Clean Development Mechanism. The book also discusses a range of policies and programmes that have been initiated by India to address the problem of climate change in the context of sustainable development.

3. **Carbon Finance: The Financial Implications of Climate Change**:\(^{54}\) the book explores the financial implications of living in a carbon constrained world—a world in which emissions of carbon dioxide and other greenhouse gases carry a price. Putting a price on greenhouse gas emissions will have a significant effect on country and company bottom lines. At the same time, government climate policies can do much to change behavior patterns and encourage markets to mitigate impacts of climate change. Thus, the book defines carbon finance broadly in terms of the financial nature of these impacts and examine actions that have been taken, and markets that have developed, to reduce them. It explores the political context of Climate Change; the Regulatory Risk which assesses carbon policies that are likely to have a material effect on a country’s economic performance; Physical Risks which arise from the direct impacts of climate change, such as droughts, floods, storms, and rising sea levels and Business Risks at the corporate level, where business risks include legal, reputational, and competitive concerns. Legal risks arise when litigation is brought against companies that contribute to climate change.

4. **Environmental Law in Kenya: The making of a framework**:\(^{55}\) the book involves a general analysis on the prevailing situation involving environmental issues in Kenya. It is also concerned with review of macro-policy framework as well as the legal and institutional

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arrangements for the management of Kenya’s environment and natural resources in a manner consistent with Agenda 21.

5. **International Environmental Law and Policy:** the text’s objective is to impart a sophisticated understanding of environmental law as it is and as it could be. It is a collection of articles by various scholars. It moves from the traditional focus on state actors to assess the increasingly critical role of traditional actors—citizens, non-governmental organizations, scientists and business. It is relevant to this study as it points out that International Environmental Law requires study of human activities that lies at the root of each environmental problem and how that problem has expanded due to our expanding population and consumption. It suggests that human economic activity threatens to surpass ecological limits of the biosphere (if it has not already done so in certain instances). This is the challenge of establishing what level of ‘development’ is sustainable.

6. **Stern Review: The Economics of Climate Change** A study of the economics of climate change commissioned by the British government that assesses a wide range of evidence on the impacts of climate change and on the economic costs. It considers how climate change will affect people’s lives, the environment and the prospects for growth and development in different parts of the world. All three dimensions are fundamental to understanding how climate change will affect our future. The report also discusses adaptation as a vital part of a response to the challenge of climate change. It is the only way to deal with the unavoidable impacts of climate change to which the world is already committed, and additionally offers an opportunity to adjust economic activity in vulnerable sectors and support sustainable development.

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7. **Climate Law and Developing Countries: Legal and Policy Challenges for The World Economy**58 Little attention has been devoted to current and future issues concerning climate law in developing countries. Furthermore, there is very little published work on this topic by developing country legal scholars. This book begins to fill that gap. This book is primarily concerned with climate law relating to developing countries. It considers this topic from numerous angles, including domestic climate law within developing countries, regional responses to climate change involving developing countries, developing countries’ strategies in global climate change negotiations, the impacts of developed country laws and policies upon developing countries, and the future of the Clean Development Mechanism (CDM).

8. **Climate Change, Economic Analysis and Sustainable Development**59 this paper explains the uncertainties of the greenhouse effect, its consequences for climate, and the potential impacts of climate change. It studies the problems of the application of Conventional economic analysis to climate change and studies some other biases that have been introduced in the study of climate change mitigation policies. It further highlights the points to be considered for an analysis consistent with sustainable development.

9. **State Greenhouse Gas Reduction Policies: A move in the Right Direction**60 This article proceeds by briefly characterizing the main policies being implemented or considered at the US state and regional level. It then sets out the criteria that would characterize an effective and efficient national policy against which to assess the likely effects of state policies. Next, it analyzes state policies in terms of whether their implementation at a state level presents particular problems.

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10. **China’s Emergence and the Prospects for Global Sustainability**

China’s rapid development is deeply influencing global patterns of resource production and consumption and their associated environmental impacts. China and the rest of the rapidly developing world have so far followed the fossil-fuel based economic development model of the west. This paper therefore highlights several key drivers and constraints that are likely to influence China’s ongoing rise. It offers some observations about China and the future of global sustainability that may serve as a basis for action in the short term to secure long-term future economic prospects.

11. **Climate Change and Sustainable Development: Realizing the Opportunity**

It has been argued elsewhere that part of the difficulty in developing climate change policy lies in the way it has been framed as a scientific problem, and that developing a dialogue between climate change and sustainable development might represent a fruitful way to make a more effective connection to policy. This paper argues that shifting the frame of the climate change issue to one of sustainable development is both a logical development of recent work and also provides the opportunity to make specific progress on climate change and other goals. It points out that one way to approach this is to unpack some of the assumptions underlying low-emission sustainable development scenarios and start to analyze what would be required on the ground to move in the direction described in those futures.

12. **Government Strategies for Sustainable Development**

Overcoming resistance to change requires not only better information and consultation but also incentive and empowerment through the diffusion of responsibilities and resources to local levels, something that higher level governments often find difficult to accept. To move to the business-as-usual path of development to a more sustainable low carbon path will mean overcoming some resistance to change. This paper thus discusses the role of national governments in establishing and

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promoting strategies for sustainable development in a world increasingly dominated by supra-national processes and local responses. The experience of the UK is used to illustrate one particular national response, but before looking at this it briefly reviews what is understood by sustainable development and how approaches to it will be influenced by national political style.

13. **On Development, Demography and Climate Change: The End of the World as We Know it?**

This paper comments on the issue of global warming and climate change, in an attempt to provide fresh perspective. Essentially that the process of modern economic development has been based on the burning of fossil fuels, and that this will continue to apply for the foreseeable future; and that available data on global temperatures suggest strongly that the coming warming will be appreciably faster than anything that humanity has experienced during historical times. There is therefore an urgent need to improve ways of thinking about what could happen and what responses to adopt in this matter.

9.0 **METHODOLOGY**

In order to satisfactorily conduct this research, an aggressive search for relevant material shall be necessary, owing to the fact that not much has been published on Climate Change in the African context, and more so, in the Kenyan context. To this end, the research shall seek to establish the necessity to have adequate policy, law and institutional framework focused on Climate Change in order to guide our development towards a low carbon path.

An introduction into the study shall be presented, in order to set the background on the study, as well as set out the problem statement and research questions that this study shall seek solutions to. A look into Kenya’s economic development plans shall follow. This shall be in a chapter that brings out the ambitious development plans the country currently has. The Energy sector shall serve as a lens by which the magnitude of development plans by the country shall be assessed. The nexus between climate change and development shall also be brought out; with the intention

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of setting the basis for proposing better regulation to guide the country’s economic development on a low carbon path.

A look into the existing international and national laws and policies shall follow. These shall be limited to regulations that affect development – and specifically development in the energy sector. The chapter shall bring out the loopholes that exist in the system; loopholes that expose the weaknesses in the current regulatory framework. Since the study is focused on proposing a new regulatory framework that focuses on promoting reduction in carbon emissions from Kenya’s development activities, this chapter is deemed key. A look into India’s regulatory framework shall follow. India is a developing country; one that has achieved a GDP growth rate averaging 8% during 2004 – 2008. More importantly, a study into India’s sectoral trends of multigas emissions shows that while emissions from India are growing, their growth rates are declining since the year 2000. India is a developing country that has managed to decouple its economic growth with the growth in carbon emissions resulting from its development activities. Since Kenya intends to achieve and maintain a GDP growth of 10% per annum, then a comparative study of the Kenyan regulatory system against that of India is preferred. Lastly, and in conclusion, the study will outline the weaknesses in Kenya’s regulatory framework and propose recommendations based on the study’s findings.

A big part of this research shall involve a descriptive process in order to display the current position with regard to laws and regulations governing environmental and economic development issues in Kenya. It will also be a prescriptive process, as the paper attempts to recommend suggestions for reform.

Data shall be drawn from both primary and secondary documents. Primary sources will include Kenyan Statutes and international Treaties and Conventions. Secondary data will be drawn from books and journal articles. However, due to the fact that climate change and emission reduction mechanisms are a fairly new phenomenon, the internet will be a main source of information as

the study seeks to establish the situation in other countries and how they have chosen to regulate on these issues.

10.0 CHAPTER BREAKDOWN

Chapter One: Introduction.
This chapter presents an introduction and detailed background of the research area. It also sets out the problem statement, research questions, research hypothesis, and justification for the study as well as the theoretical framework upon which the study rests. It finally discusses previous research efforts and published information in this area and gives an outline for the rest of the thesis.

Chapter Two: Re-thinking Economic Development in Kenya: Climate Change and Sustainable Development Considerations.
By discussing this, the chapter seeks to put the study into context. It interrogates Kenya’s economic development plans and brings out the basis for proposing that Kenya requires a change in its economic development plans. The chapter shall interrogate a sector responsible for one of the highest carbon emissions— that is – the energy sector.

This chapter begins by first discussing the ongoing international developments on climate change. It then proceeds to analyse both international and national laws and policies applicable in Kenya that impact on economic development plans. It further points out the gaps existent in our laws that inhibit our ability to guide development agenda along a low- carbon development path.

Chapter Four: India’s Regulatory Framework that promotes Carbon emission Reduction: What can Kenya learn from it?
The choice to study India’s regulatory system is influenced by the fact that it is a developing country that embarked on economic reforms; resulting in faster growth of its economy, leading
to an annual GDP of about 8% since the year 2000.\textsuperscript{67} It is therefore similar to Kenya in this respect, since our intention is to achieve and maintain an annual GDP of 10% over the next 20 years. India has also made significant gains towards guiding development towards a low carbon path and has managed to decouple economic growth from energy use. With the economy growing annually at about 8%, energy use has been growing at less than 4%.\textsuperscript{68} This makes India a good example for Kenya to emulate. This way, we are able to identify some lessons we can learn and processes we can adopt to improve on our current system.

\textbf{Chapter Five: Conclusion}

This chapter shall include conclusions and recommendations in relation to the previous chapters.


CHAPTER TWO
RE-THINKING ECONOMIC DEVELOPMENT IN KENYA:
CLIMATE CHANGE AND SUSTAINABLE DEVELOPMENT CONSIDERATIONS

2.1 INTRODUCTION

After decades of debate, there is now a clear scientific consensus that climate change is occurring and that human activities are a major contributory factor. It is also clear that climate change is not only a major environmental issue but also a major economic issue. Climate change impact will have a devastating effect on the global economy, and the most affected will be the developing nations because climate change effect will limit their long-term economic growth.

Although today most developing countries contribute only a minor share of global greenhouse gas emissions compared to the developed countries, they will increase their emissions if they follow conventional economic growth patterns. It is for this reason that attention has been drawn to developing countries’ economic development plans as there is expected to be a resultant increase in green house gas emissions and more intensive use of natural resources as these economies develop.

Kenya is no exception to these ambitious development plans. Kenya is a developing country looking to being newly industrialised and providing a high quality life to all its citizens by the year 2030. This chapter therefore discusses Kenya’s economic development plans and the nexus between economic growth and climate change; to establish why regulation of economic development activities is necessary in guiding economic development. Focus shall be drawn to the energy sector, which is critical in driving any country’s economic development and which, if

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1 Findings of the IPCC Fourth Assessment Report indicate that emissions of heat-trapping gases from human activities have caused “most of the observed increase in globally averaged temperatures since the mid-20th century.” Evidence that human activities are the major cause of recent climate change is even stronger than in prior assessments.

not effectively regulated, is responsible for the one of the highest carbon emissions compared to other sectors of the economy.\(^3\)

Evidence has shown that ignoring climate change will eventually damage economic growth.\(^4\) The chapter will therefore seek to provide a basis for proposing that Kenya requires regulation to guide its economic development plans inorder for it to achieve sustainable development by adopting a low carbon economic growth path.

### 2.2 THE NEXUS BETWEEN ECONOMIC DEVELOPMENT AND CLIMATE CHANGE

Development can be viewed as a process of social change that involves realizing collectively defined aspirations matched by the capacity to carry out this change.\(^5\) Economic development has traditionally been seen as the first form of development.\(^6\) It has often been defined as an increase in the per capita income of the economic system.\(^7\) The understanding of what constitutes ‘Development’ is varied and incorporates a series of aims.\(^8\)

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\(^3\) The World Resources Institute (WRI), in its report titled *Navigating the Numbers: Greenhouse Gas Data and International Climate Policy* indicates that levels of emissions are highly correlated with levels of energy use because 61 percent of total GHGs (and almost 75 percent of all CO2) stem from energy-related activities such as electricity and heat generation, transport, industry, other fuel combustion, and fugitive emissions (for example, from oil and gas extraction).


\(^7\) Ibid note 6, p 26.

1. general positive social and economic changes (for example, good human life, achieving a certain ‘stage of advancement’, well-being increases in subjectively measured happiness);
2. economic growth (e.g. increase in GDP);
3. socio-cultural empowerment, (e.g. progress in social indicators and income equity and entitlements);
4. political development (e.g. democratization, equality and participation);
5. human development (human capabilities, human security and freedom) and
6. Sustainable development (intergenerational and intragenerational equity), and more recently, resilience.

From the foregoing, it is understood that economic development is intended to contribute to a community’s overall quality of life. In light of this therefore, economic development at any cost or to the benefit of a few is no longer an acceptable option in most communities and regions, particularly if social and environmental values are compromised. The links between climate change and sustainable development are strong. Climate change and a deteriorating environment are key challenges to sustainability. Pollution, deteriorating soil quality, desertification and poor air quality are threatening the lives of the current and future generations. Meeting the ever-increasing appetite for goods and services of the modern age continues to require extensive use of a seemingly infinite natural resource base. The shelter, clothing, nourishment, mobility and other lifestyle components that make up humanity’s basic needs impose a significant impact on the environment, particularly as the Earth’s population increases.

Before the Industrial Revolution all economies everywhere were extremely constrained in what they could produce. Pre-industrial economies were 'organic' in that virtually all of their products were ultimately dependent upon capturing solar energy through the exploitation of wood and

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other vegetative matter that grew on the land.\textsuperscript{11} With the advent of industrialization came an over-reliance on fossil fuels as a source of energy to amplify economic growth. Fossil fuels are an unusual energy efficient form of material.\textsuperscript{12} The energy contained in them is extremely high hence our heavy reliance on the same for industrial and commercial growth; especially in sectors that are deemed energy intensive. When burnt, fossil fuels release energy and the carbon contained in them is released into the atmosphere in the form of CO\textsubscript{2}.\textsuperscript{13} Fossil fuel has therefore become the mainstay of present day economies. With the increase in reliance on this fuel there has been an exponential increase in emissions of CO\textsubscript{2} in a scale that was not witnessed before.\textsuperscript{14}

As at the year 2010 human activities were estimated to cause a discharge of 7.9 billion tons of Carbon Dioxide (CO\textsubscript{2}) and significant quantities of other GHGs such as methane and nitrous oxides.\textsuperscript{15} By the year 2020, CO\textsubscript{2} emissions are expected to reach 9.9 billion tons per year.\textsuperscript{16} This increase in CO\textsubscript{2} emissions alters the natural distribution of atmospheric gases that blanket the earth. Most GHGs remain in the atmosphere for a long period of time. This means that even if emissions from human activities were to stop immediately, the effects of the emissions already accumulated shall persist.

\textsuperscript{12} Oil, coal and natural gas are called fossil fuels because they are formed from the remains of plants and animals that lived millions of years ago. All fossil fuels are made up of hydrocarbons and release carbon dioxide when burned. Currently, fossil fuels are the primary source for almost 80\% of the industrial world’s energy. They are nonrenewable resources that will eventually run out.
\textsuperscript{13} The advocates of industrial progress saw nature as a source of unlimited resources to sustain development, with an infinite reservoir for waste. This extraction-dumping paradigm involves a highly unequal sharing of the benefits of material and energy flows on one hand, and the social and environmental cost incurred at all stages of the commodity chain on the other.
\textsuperscript{14} A report of the working group of the intergovernmental panel on climate change (Summary for policy makers 7 (2001) indicates that since the beginning of the industrial revolution or about 1750, the atmospheric concentration of CO\textsubscript{2} has increased by 31\% - primarily as the result of fossil fuel combustion. Concentrations of other GHGs have also rapidly increased, since 1750 atmospheric CH\textsubscript{4} has increased by 151\% and atmospheric N\textsubscript{2}O by 17\%.
\textsuperscript{16} Ibid note 15, p 55-58.
The atmosphere above the earth contains a mixture of gases of which Nitrogen accounts for approximately 78% by volume, while Oxygen makes up 21%. The remaining 1% is made up of a number of natural greenhouse gases (GHGs) including carbon dioxide, methane, nitrous oxide, ozone gas and chlorofluorocarbons (CFCs).\textsuperscript{17} The energy system from the sun maintains the climate system of the earth within a complex inter-planetary heat exchange. A stable atmosphere requires a balance between incoming and outgoing radiation or heat. The GHGs have the important function of trapping this radiation in the lower layers of the earth’s atmosphere. However, unlike the surface of the earth that radiates energy only upwards, the atmospheric GHGs radiate both away from and towards the earth’s surface. Therefore some of the energy radiated by the earth’s surface into the atmosphere is trapped by the GHGs and redirected back towards the earth’s surface. This process is known as the “greenhouse effect”\textsuperscript{17}; as GHGs operate to increase the atmospheric temperature in much the same way as the glass in a greenhouse operates. It is now understood that increased concentration of GHGs in the atmosphere will increase this greenhouse effect and lead to changes in the earth’s climate.\textsuperscript{18}

Such significant increase in the average world temperature will lead to serious impacts on the environment. Experts predict that this global warming will cause increased rain in some areas, increased desertification in others and loss of ice cover in the Polar Regions. The average sea level is predicted to rise by up to eighty-eight centimetres by the end of the twenty-first century, posing a serious threat to low-lying delta systems and small island states.\textsuperscript{19} Global warming will also have impacts on natural vegetation and fauna. Seasonal patterns will change, leading to longer and hotter summers. Some species will not be able to adapt well to this change in environment and may slowly die out. The most serious impact is likely to be that on agriculture and thus food safety, especially due to increased water shortages.

\textsuperscript{18} The idea that the burning of fossil fuels might lead to a build-up of C02 in the atmosphere, and so prevent heat escaping from the Earth, stems from scientific work in the 19th century. It was Joseph Fourier who first saw that the atmosphere acts to retain heat radiation, and John Tyndall who recognized the important role that C02 plays in this process. However, it was the chemist Svante Arrhenius who in 1896 published a famous piece on how the Earth’s surface temperature might be raised by increased levels of atmospheric CO2 produced from the burning of coal.
\textsuperscript{19} Supra note 17, p 89-104
Economic development activities are expected to increase emissions of greenhouse gases and intensify climate change. Even a development pathway based on low carbon growth would still result in increased emissions, but not on the scale that would be caused by a ‘business as usual’, high carbon pathway. In addition, low carbon economic growth would generate significant development benefits.

Low-carbon growth plans, or green growth plans, integrate a country’s potential to reduce greenhouse gas emissions with its plans for economic growth. The plans are based on in-depth, technical analysis of each nation’s socioeconomic and development priorities. They quantify the CO2 abatement potential in each sector, rank the mitigation options by cost, and consider which changes are politically feasible.

A particular feature of climate change is that the consequences for each country do not depend on its individual contribution, but rather on the global deterioration. Another feature is that its effects are long lasting, if not irreversible. Lastly, the impacts of the alterations are hard to determine since the processes are so complex. Because of these characteristics, together with the free access to an environment shared by all present and future individuals, the necessary incentives for administration that regulates climate change activities are not present. In short, we are dealing with an external problem of uncertain magnitude, which affects a public good on a global scale and at both intra- and inter-generational level. This is the reason why sustainable development has been on the international agenda and now finds itself in various countries’

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development agenda. Promoting sustainable development is seen as one of the ways of dealing the problem of climate change.

Sustainable development is a concept that has been accepted and entrenched in Kenya’s legislative framework. The constitution, being the supreme law of the land, indicates that sustainable development must be considered when making policy decisions and interpreting all national laws.\(^{23}\)

From the foregoing, Kenya needs to adopt green economic development plans that can withstand the “climate change storm” likely to defeat its efforts to becoming a “newly industrializing, middle income country, providing a high quality of life for its citizens”. It is by adopting a low carbon development path that the country is able to embrace and ensure sustainable development. This way we are assured of a climate change resilient economy and an economy that does not contribute to an already existing climate change problem.

2.3 **KENYA’S ECONOMIC DEVELOPMENT PLANS – A FOCUS ON THE ENERGY SECTOR**

*One thing that we’ve really broadly started to appreciate more is that climate is not only an environmental issue. Climate change is a systemic and fundamental issue about the way our economies work and the way we get our energy.*

Robert Bradley, World Resources Institute\(^{24}\)

Kenya’s economic development agenda is anchored on Kenya Vision 2030, which is the long term development blueprint for the country. The Vision is based on three “pillars”: the economic,

\(^{23}\)Article 10

the social and the political pillars.\textsuperscript{25} As the country makes progress to middle-income status through this development plan, it is expected to also meet its Millennium Development Goals (MDGs) whose deadline is 2015.

The economic, social and political pillars are anchored on a foundation that encompasses macroeconomic stability; continuity in governance reforms; enhanced equity and wealth creation opportunities for the poor; infrastructure; energy; science, technology and innovation (STI); land reform; human resources development; security as well as public sector reforms.

Kenya is expected to use more energy in the commercial sector on the road to 2030.\textsuperscript{26} Energy is therefore identified as one of the infrastructural enablers of the three “pillars” to Vision 2030. Delivering the country’s ambitious growth aspirations will increase demand on Kenya’s energy supply. Currently, Kenya’s energy costs are higher than those of her competitors.\textsuperscript{27} Kenya must therefore generate more energy and increase efficiency in energy consumption.

The level and intensity of commercial energy use in a country is a key indicator of economic growth and development.\textsuperscript{28} As economies develop, dependence on energy intensifies and there is a shift from energy harvested naturally to that harnessed artificially. In Kenya, dependence on energy is still at a very basic level as Kenya is mainly an agricultural economy that is not

\textsuperscript{25} The economic pillar aims to improve the prosperity of all Kenyans through an economic development programme, covering all the regions of Kenya, and aiming to achieve an average Gross Domestic Product (GDP) growth rate of 10\% per annum beginning in 2012. The social pillar seeks to build a just and cohesive society with social equity in a clean and secure environment. The political pillar aims to realise a democratic political system founded on issue-based politics that respects the rule of law, and protects the rights and freedoms of every individual in Kenyan society.

\textsuperscript{26} The level and intensity of commercial energy use in a country is a key indicator of the degree of economic growth and development.

\textsuperscript{27} A comprehensive study and analysis on energy consumption patterns in Kenya; carried out by the Kenya Institute for Public Policy Research and Analysis (KIPPRA) indicates that the electricity tariff in Kenya in 2008 was US Cents 9.4 per kWh. This was higher than that of South Africa (US Cents 6.6 per KWh) and Egypt (US Cents 3 per KWh) who are her major competitor in trade and services in East and South Africa. India which has one of the highest populations in the world and is currently experiencing growth rate of about 10\% has very low and competitive tariffs (5.38US cents per kWh) and this is good for the households and industry.

dependent on artificially harnessed forms of energy.\textsuperscript{29} This is in contrast to the level of commercial energy consumption in countries which have witnessed good economic performance such as Egypt and South Africa both of which are Kenya’s trading partners in Eastern and Southern Africa.\textsuperscript{30}

Considering the overall national development objectives of the Government of Kenya which are, inter alia, accelerated economic growth and rising productivity of all sectors and industrialization;\textsuperscript{31} the realisation of these objectives is only feasible if quality energy services are made available in a sustainable, cost effective and affordable manner to all sectors of the economy ranging from manufacturing, services, mining, and agriculture to households. Below is a discussion on the government’s plans in the energy sector.

\subsection{2.3.1 Policy provisions promoting Fossil Fuel use}

The policy direction of the energy sector is governed by the Sessional Paper No. 4 of 2004. However, a number of changes have taken place presenting new challenges and opportunities. The Kenya Vision 2030 was unveiled in 2008 and the Constitution of Kenya was promulgated on 27th August, 2010. In light of these changes, the Ministry of Energy as a result has embarked

\textsuperscript{29}Kenya’s Agricultural Sector Development Strategy (2009-2020) indicates that agriculture is the mainstay of the Kenyan economy, directly contributing 24 percent of the GDP annually valued at Kshs 342 billion and another 27 percent indirectly valued at Kshs 385 billion. The sector accounts for 65 percent of Kenya’s total exports and provides more than 60 percent of informal employment in the rural areas. Therefore, the sector is not only the driver of Kenya’s economy, but also the means of livelihood for the majority of the Kenyan people. Kenya’s agriculture is predominantly small-scale farming mainly in the high-potential areas. This small-scale production accounts for 75 per cent of the total agricultural output and 70 per cent of marketed agricultural produce. Further, Kenya’s agriculture is mainly rain-fed and is entirely dependent on the bimodal rainfall in most parts of the country.

\textsuperscript{30}Statistics, as per Sessional paper No. 4 of 2004, indicate that as at the year 2000, Kenya’s consumption per capita of energy measured by kilowatts (kW) stood at 89.4; compared to 726 in Egypt, 2,514 in South Africa and 809 in Zimbabwe. The Sub-Saharan Africa average stood at 517 while that of high income economies stood at 5,694.

\textsuperscript{31}Supra note 28, p 1.
on an exercise to review its current policy in order to offer quality energy services in a sustainable, cost effective and affordable manner to all sectors of the economy.\textsuperscript{32}

Currently Kenya relies wholly on the importation of all its fossil fuel requirements. However with the discovery of oil in Northern Kenya in January this year and a latter discovery of coal deposits in the Mui Basin located in Kitui County, this trend is likely to change. The Ministry of energy, for example, identified coal as one of the indigenous sources of energy that will drive the development of strategic initiatives for Vision 2030.\textsuperscript{33} These discoveries import the need to develop adequate petroleum production capacity in the country, enhance infrastructure development to maximise exploitation of coal and provide incentives to attract investment in the industry using the best industry practice. With further consideration of the fact that the average consumption of petroleum products in Kenya has been increasing over the years; the government recognises that there is need to develop the infrastructure to meet market requirements to match the increasing demand locally and in the region.\textsuperscript{34} Among the projects set out to achieve these objectives include:\textsuperscript{35}

1) Replacement of the Mombasa-Nairobi Pipeline by 2014.
2) Extension of the oil pipeline from Eldoret to Kampala.
3) Modernization of the refinery by 2016.
4) Commence development of the Lamu Port and Lamu-South Sudan-Ethiopia Transport Corridor (LAPSSET).
5) Investment in the National Oil Corporation of Kenya (NOCK) to develop an offshore Single Buoy Mooring (SBM) facility including additional storage facility linked to the SBM in Mombasa through public private partnership (PPP).
6) Construction of storage facilities by Kenya Pipeline Corporation (KPC) at Mtito Andei and Konza and expand facilities at Nakuru and Eldoret capable of meeting 120 days of demand.

\textsuperscript{32} The Third draft of the National Energy Policy, currently undergoing national stakeholder discussions and review states that its mission is to facilitate provision of clean, sustainable, affordable, reliable and secure energy services at least cost while protecting the environment.


\textsuperscript{34} Ibid note 33, p 16-18

\textsuperscript{35} Ibid note 33, p 42-44
7) Operationalisation of a 90 days strategic stock in the country by construction of the infrastructure and procurement of the stocks as part of the supply security strategy.

The proposed developments are set to increase use of fossil fuel in the country. This will result in an increase in carbon emissions further aggravating the climate change problem.

2.3.2 Policy promoting use of Renewable Energy

A look at Renewable Energy reveals that Kenya is endowed with significant amounts of renewable energy; mainly solar, biomass, hydro, geothermal, and wind. According to the Economic Survey 2011 renewable energy accounts for 69% of the country’s overall energy mix while petroleum accounts for about 22% and electricity 9%. 67.5% of the electricity component is generated using renewable energy sources, and the balance of 32.5% is from fossil fuels. The draft energy policy recognises that renewable energy has the potential to enhance energy security, mitigate climate change, generate income, create employment and enable the country to make substantial foreign exchange savings. Some of the proposals made in the draft policy to enhance renewable energy use include plans to:

1) Identify and reserve land for use in biomass energy production
2) The National and County Governments to allocate land for growing bio-fuel feedstock; as well as entering into Public Private Partnership arrangements with the private sector entities to accelerate the development of bio-fuels.
3) Develop a programme to convert diesel stations to hybrid power generation systems involving solar energy sources.
4) Facilitate generation of at least 5000MW electricity from solar.
5) Facilitate development of at least 3,000MW wind energy generation capacity and Plan transmission lines to facilitate evacuation of power from areas with high wind potential to major load centres.

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36 According to the Economic Survey 2011 renewable energy accounts for 69% of the country’s overall energy mix while petroleum accounts for about 22% and electricity 9%. 67.5% of the electricity component is generated using renewable energy sources, and the balance of 32.5% is from fossil fuels.

37 Supra note 33, p 48.

38 Supra note 33, p 48.
The National and County Governments to promote the utilization of municipal and industrial waste as sources of energy.

7) Feed-in-Tarrifs (FiT) – the government plans to develop an investment guide, set minimum and maximum tariffs to guide the negotiations for Power Purchase Agreements, review the FiT Policy to include operations and maintenance escalation components and provide capacity building and financial assistance to community based projects.

Unlike some jurisdictions that have a specific policy on renewable energy, Kenya lacks such a policy and provides for its renewable energy policy initiatives as part of the country’s overall energy policy.

However, several other policy initiatives have led to enhanced use of renewable energy. These include the Least Cost Power Development Plan (LCPDP). The purpose of the LCPDP is to guide stakeholders with respect to how the electric power sub-sector plans to meet the energy needs of the nation for subsistence and development at least cost to the economy and the environment. Its ranking of projects shows that local energy resources (geothermal, low grand falls hydro and wind) are the most economically attractive. These being renewable energy sources, the LCPDP has had an impact on the choice of projects that developments in the electric power subsector have focused on, leading to a bias for investment in renewable energy sources.

Further, in 2008, the government through the Ministry of Energy published the Feed-in Tarrif Policy. The Feed-in-Tariff (FiT) is an instrument for promoting generation of electricity from renewable energy sources. A FiT allows power producers to sell renewable energy sources generated electricity to a distributor at a pre-determined fixed tariff for a given period of time.

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39 A Feed-in-Tarrif (FiT) is an instrument of promoting electricity generation from renewable energy sources. It enables power producers to generate and sell Renewable Energy Sources Generated Electricity (RES-E) to a distributor at a pre-determined fixed tariff for a given period of time.


The first FiT Policy document applied to wind, biomass and small hydro resources. Later, it was revised to also include geothermal, biogas and solar resources.

The objectives of the FiT system are to facilitate resource mobilization by providing investment security and market stability for investors in electricity generation from renewable energy sources; reduce transaction and administrative costs and delays by eliminating the conventional bidding processes; and encourage private investors to operate their power plants prudently and efficiently so as to maximize returns.\(^\text{42}\)

As discussed in 2.3.1, discovery of oil, natural gas and coal deposits in the country has led the government to re-think its investment strategy by seeking to promote development of its fossil fuel resources. Acknowledging that fossil fuels are responsible for most of the carbon emissions, the recent discovery poses a threat to Kenya’s initiatives in promoting exploitation and use of renewable energy sources. The focus currently accorded by the government in promoting renewable energy may be lost and may lead to ‘shelving’ of climate change considerations in meeting the country’s growing energy demand along its economic development path.

### 2.3.3 Policy promoting development in the Electric Power sub-sector

Electricity is a secondary source of energy generated through the consumption of primary energy sources namely renewable energy, fossil fuels and nuclear energy. By virtue of its versatility in application, electricity is crucial to economic growth and is the most sought after energy service by society. Access to electricity is associated with rising or high quality of life.

In Kenya, it is predominantly used for lighting in the commercial and domestic sectors. Electricity is the principle form of energy in the country’s urban areas. However, the level of access in rural areas stands at less than 10 %, while the overall level of access to electricity is at

\(^{42}\) Ibid note 41, p 3-5.
18%. Kenya therefore has very limited access to electricity compared to other countries such as Egypt where access to electricity is at 96%.

Provision of electricity involves the process of identifying and procuring the fuel or energy source, generation by use of a power plant that converts the fuel into electrical energy and lastly transmission and distribution of the power produced to consumers.

Some of the plans the government proposes in this area, therefore, include:

1) Implementing a High Grand Falls project (700MW) and other viable hydropower projects

2) The Geothermal Development Corporation (GDC) to develop and implement a monitoring and evaluation programme for geothermal development and drilling 100 wells by 2016. In the long-term the plan is to Develop 5530MW of planned Geothermal Energy

3) Establish a liquefied natural gas (LNG) handling and storage facility in Mombasa

4) Undertake development of the coal resource and generate 620MW of electrical power by 2018 and 4,490 MW by 2022

5) Complete a Liquefied Natural Gas (LNG) power plant of 600MW together with a storage and reticulation facility.

6) To commission the first 1,000MW nuclear plant(s) by 2022 and 4,000 by 2030.

7) Provide electricity to all public facilities including trading centres, schools, polytechnics, health centres, community water works and administrative offices by 2012.

8) Expand rural electrification connectivity to 50% by 2022 and penetration to 100% by the year 2030

As explained in 2.3.2 above, there have been various policies that have been put in place to promote electricity generation from renewable energy sources. However, it is important to

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43 Supra note 33, p 73-82.
consider the effect of the discovery of oil and coal deposits in the country. The discovery is likely to lead to a shift in the country’s focus on generation of electricity from renewable energy sources to fossil fuel sources. Considering that currently Kenya is a net importer of all its petroleum and coal requirements, electricity generated from fossil fuels is currently more expensive compared to use of renewable resources. However, a situation where the country is able to provide for all its fossil fuel needs from its internal reserves will mean the cost of fossil fuel will come down. In addition, a reduction in the risks associated with the international oil market, such as constant fluctuation of international oil prices shall make fossil fuels more attractive compared to renewable energy sources for purposes of electricity generation in future.

2.3.4 Considerations in meeting Kenya’s future energy demands

From the above discussion, a shift from Kenya’s focus in meeting its growing energy demands from renewable energy sources to relying on the recently discovered fossil fuels is highly likely. This may be due to Kenya’s lack of policy, laws and institutions that focus solely on promoting renewable energy and emission reduction while still meeting our ambitious economic development plans. In India for example, the Energy Conservation Act has enabled the government implement various energy efficiency measures through the Bureau of Energy Efficiency (BEE). A strong regulatory framework is required so that we exploit our resources, both renewable and non-renewable in a sustainable manner.

2.4 PROMOTING SUSTAINABLE DEVELOPMENT AND ENERGY EFFICIENCY IN PURSUIT OF ECONOMIC DEVELOPMENT

Energy is one of the key building blocks of sustainable development. This is because human development is only possible if energy needs are met to a sufficient extent. In all countries energy is the fundamental requirement for providing other basic life necessities such as food, water, shelter and clothing. Without energy - from its simplest forms, such as biomass, to its more complex counterparts, such as fossil fuels and hydroelectricity - society is unable to maintain or improve living standards, meet the basic needs of citizens or maintain the
socioeconomic infrastructure necessary for political and economic stability. Adequate and affordable energy supplies are therefore key to economic development and the transition from subsistence agricultural economies to modern industrial and service-oriented societies. But however essential it may be for development, energy is only a means to an end. The end is good health, high living standards, a sustainable economy and a clean environment.

Despite the foregoing, many developing countries such as Kenya lack reliable and secure energy supplies. This lack of access to modern energy services severely limits socioeconomic development - an integral part of sustainable development. Energy extraction, production, distribution, use and by-products are central to the interaction between humans and the environment.

In the quest to meet Kenya’s growing energy demands due to the country’s increasing economic development activities, it is clear that the current generation is at risk of extracting energy resources and filling the earth’s atmosphere with the combustion products of fossil fuels faster than the rate of recycling these products by natural processes. Unless we make fundamental changes in our energy infrastructure and consumption patterns, we are likely to leave future generations with fewer energy resources and a more polluted environment than the current generation inherited.

How “unsustainable” is our current system of energy extraction, conversion and use? What will it require to meet future generations’ energy needs sustainably? These are daunting questions, for which our development plans should seek to answer. What is clear is that the countries need to significantly improve the efficiency at which they produce and use energy. By producing energy through renewable sources and by putting in place energy efficiency mechanisms such as a

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44 Energy was discussed at the World Summit on Sustainable Development (WSSD) held in Johannesburg. The international community reconfirmed access to energy as important in the Millennium Development Goal of halving the proportion of people living in poverty by 2015. The WSSD agreed to facilitate access for the poor to reliable and affordable energy in the context of larger national policies to foster sustainable development.
demand side management\textsuperscript{45} policy, we shall be able to build a sustainable economy that does not aggravate the current climate change problem.

While no universally acceptable practical definition of sustainable development exists, the concept has evolved to encompass three major points of view: economic, social and environmental views. The economic view is geared mainly towards improving human welfare, primarily through increases in the consumption of goods and services. The environmental view focuses on protection of the integrity and resilience of ecological systems. The social view emphasizes the enrichment of human relationships, achievement of individual and group aspirations, and strengthening of values and institutions. It is now accepted that development projects must be economically viable, socially acceptable and environmentally sound.\textsuperscript{46}

Current approaches to sustainable development draw on the development experience of the 20\textsuperscript{th} century. The dominant development paradigm during the 1950s was growth, focusing mainly on increasing economic output and consumption. In the 1960s, development thinking shifted towards equitable growth, where social (distributional) objectives, especially poverty alleviation, were recognized to be as important as economic efficiency. Since the 1970s, environment has emerged as the third key element of (sustainable) development.

In this respect therefore, energy policy decisions can have a major influence on the achievement of greater sustainability of the development process, as a result of the following:\textsuperscript{47}

\textsuperscript{45} Demand Side Management (DSM) is the implementation of policies and measures which serve to control, influence and generally reduce electricity demand. DSM aim to improve final electricity use systems and reduce consumption, while preserving the same level of service and comfort.


1. Greater efficiency in energy production and consumption contributes to the objective of achieving steady **economic growth**;

2. Meeting basic energy requirements, in terms of both quantity and quality, are essential for achieving greater **social equity**; and

3. The rational use of natural energy resources, higher efficiency in the use of energy, and the use of renewable sources and clean technologies contribute decisively to mitigating the inevitable **environmental impact** of economic production and consumption activities.

The responsibility of designing and applying the energy policy lies with the State. The Constitution provides that the principles that govern use and management of land (including natural resources) shall be developed and reviewed regularly by the national government through legislation.\(^{48}\) This therefore implies an inevitable responsibility of the State in the supervision of resource management on behalf of society. Likewise, the divergence between private costs and social costs associated with the negative impacts on the environment requires state intervention, which cannot be delegated to any other sector. The formal processes for designing socioeconomic policies are developed in the legal and institutional framework that assigns jurisdictions and attributions to the different branches of government, especially the executive branch.

In order to ensure protection of the public and other public goods, government must have the necessary involvement, capacity and ability to exercise its powers. State law is a central instrument of regulatory governance. The law gives legitimacy to actions taken by the state. In Max Weber’s view, legitimacy was necessary to establish a stable system of domination.\(^{49}\) He defined ‘domination’ as the probability that the commands of those in power will be obeyed.\(^{50}\) Formal law therefore plays a residual role at the apex of pyramids, both of governmental

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48 Article 60 (2)
50 Ibid note 49, p 56.
regulatory enforcement and regulatory techniques.\textsuperscript{51} In addition to state law, regulatory instruments of ‘soft law’ such as guidance and circulars are widely deployed with the intention of shaping the behavior of those to whom they are directed, but without the necessity of using formal law.\textsuperscript{52}

Good laws arise from good policies and good policies emanate from philosophy: an understanding of fundamentals.\textsuperscript{53} Making laws before first agreeing on a policy and trying to formulate a policy before first debating fundamental questions of philosophy is a futile exercise. This is the problem Kenya faces when it comes to environmental and climate change regulation. This situation needs to be addressed.

Another problem involving the inadequacy of our laws lies in their inefficiency in dealing with emerging issues. Laws need to be reviewed from time to time, to enable them attend to developments in their subject matter. Climate change in Kenya is seen as an emerging issue but one that the law has not kept abreast with and one the law has not adequately dealt with. Laws and policies are needed to facilitate the widespread development and adoption of environmentally friendly technologies for energy production and use, including low-carbon technologies. They can significantly mitigate the increase in emissions in Kenya. Priorities should include pricing energy to account for environmental costs, removing subsidies that increase harmful emissions, adopting incentives for beneficial new technologies during their market scale up stage, and promulgating regulatory standards for energy efficiency.\textsuperscript{54} This requires the participation of all stakeholders - government, the private sector, civil society, non-governmental organizations, the donor community and international programmes such as the Global Environment Facility as well as various other carbon funds and environmental financing mechanisms.


\textsuperscript{52} Ibid note 51, p 12-19.

\textsuperscript{53} Dr. I Loefler, Nurturing Nature. In The (Kenya) Standard Newspaper, Wednesday, December 15, 2004

\textsuperscript{54} The Energy Challenge for Achieving the Millennium Development Goals. Available at \url{http://www.unhabitat.org/downloads/docs/920_88725_The%20Energy%20challenge%20for%20achieving%20the%20millenium%20development%20goals.pdf} (Accessed: 20\textsuperscript{th} September 2012)
2.5 CONCLUSION

Economic growth is a means to development – one that will continue to be used in the foreseeable future.\(^{55}\) Economic growth continues to be of primary importance to national governments, whether in developing or developed countries. It is still the metric by which progress is conventionally measured. And as much as policymakers might look for growth with a human face, at the end of the day any growth may be considered better than no growth.\(^{56}\) Further, economic growth of one kind or another will continue for the foreseeable future and will undoubtedly persevere as a key element of national development efforts.

Therefore acknowledging both the economy’s dependence on the ecosphere and ecological limits are the starting points from which we can begin to address the problem brought about by climate change. The interrelationship between climate change and economic development leads us to the conclusion that the achievement of economic development is expected to increase emissions of greenhouse gases and intensify climate change. Even a development path based on low carbon growth will still result in increased emissions, but not in the scale that would be caused by a ‘business as usual’ high carbon path.\(^{57}\) It must be stressed therefore that the whole debate on climate change should be placed within the context of sustainable development, which requires humankind to integrate environmental protection into the development process, not consider it ex post facto or in isolation.\(^{58}\)

Kenya needs to lay down an elaborate road-map that leads our development plans along a sustainable path. This will begin from the point where we distinguish between unsustainable

\(^{55}\) Before the economic slowdown the International Monetary Fund (IMF) was predicting global growth at a rate of 4.7% - a rate that would imply a doubling of global GDP in 15 years.


\(^{57}\) Supra note 20, p 11.

economic development - which refers to becoming quantitatively bigger without necessarily getting better; from sustainable economic development - which refers to becoming qualitatively better without necessarily getting bigger. Unsustainable development mainly focuses on an economy increasing its use of materials, while sustainable economic development occurs when the same quantity of materials is used to achieve more desirable, that is, quality of life goals".\textsuperscript{59} Taking into account global ecological limits, the quality of life increases associated with unsustainable economic development are only short-term and limited to a certain number of people; ultimately sacrificing the global ecosystem services on which human life depends, including clean air, water and land.

A look into Kenya’s energy sector reveals that if development is not well guided, the country is likely to move towards an unsustainable development and lead to significant increase in carbon emissions. Currently, the country is a net importer of all fossil fuels consumed in Kenya. This means that the cost of fossil fuel has been high and subject to many variables – including variations in international oil prices. This is set to change following discovery of oil in Kenya and in its neighbouring countries. The significant reduction in cost of oil and coal as well as the ease in availability of these resources will mean that energy required to fuel economic development shall be easily met by use of fossil fuels. Due to lack of specific policy, legislation and institutions that promote use of renewable energy; and that seek to keep carbon emissions from economic development activities to the minimum, then we expect a shift in Kenya’s focus of meeting its growing energy demands from renewable energy sources to one that relies heavily on unsuitable fuels to maintain it. This will lead to worsening an already bad situation.

Evidence around the world has shown some progress being made by certain countries in the course of pursuing green economic growth and the efficient use of resources for each unit of

economic activity. Energy intensity in the UK, for example, is about 40% lower than in 1980.\textsuperscript{60} A possible option is the ‘redesigning’ of goods and services that can help an economy grow without depleting resources and surpassing ecological limits.

In the short-term, low carbon alternatives may reveal direct business opportunities and cost reductions. Low carbon growth can open up access to international funding through, for example, Reducing Emissions from Deforestation and forest Degradation (REDD). And in the long-term, it could create a more robust economy that is better able to withstand many shocks and stresses. This means less reliance on fossil fuels, higher energy efficiency and increased use of renewable energy which could lead to improved international competitiveness. Energy could be generated from waste, agricultural residues and biomass.

Development can be useful in enabling communities to cope better with existing stresses and hopefully adapt to future stress endogenously, which is critical at a time of rapid environmental and climatic changes.\textsuperscript{61} Equally, failing to adapt could well undermine development and inhibit more inclusive and sustainable human development in the long term. A low carbon economic development path is therefore the only way to develop if Kenya wishes to attain true development.


CHAPTER THREE
INTERNATIONAL AND NATIONAL LAWS AND POLICIES REGULATING CARBON EMISSIONS IN KENYA

3.1 INTRODUCTION

Environmental law – including the pressing considerations of climate change – is an increasingly important area of legal research and practice.¹ This is mainly due to the fact that climate driven changes affect resources critical for economic development. This has therefore led to various regulatory initiatives, both at the national and international level.

This chapter uses the energy sector as the lens through which it analyses the regulatory framework that has been put in place to deal with emission reduction and climate change; both at the international level and within the Kenyan jurisdiction. The chapter shall focus mainly on the UNFCCC and its Kyoto Protocol; both of which form the basis for international regulation of GHG emissions by member states. The chapter shall also look into the post-2012 Kyoto discussions that have been ongoing regarding regulation of greenhouse gas emissions, with an intention of agreeing on a way forward following the expiry of the Kyoto Protocol’s initial commitment period (2008-2012). The analysis shall proceed to interrogate Kenya’s policies, laws and institutions applicable to the regulation of carbon-emissions emanating from economic development activities.

In the end, the chapter shall highlight the loopholes in the current regulatory framework, giving reasons why it is necessary to have new policy, law and institutions that focus on climate change, and specifically regulate carbon emissions with the intention of minimizing these emissions as we seek to develop our economy.

3.2 INTERNATIONAL LAW RELATING TO CLIMATE CHANGE

The evolution of international climate change law, like other fields of international environmental law, has been shaped greatly by the political struggles between the North and South and tensions within these geo-political groupings. The negotiation process for the climate change regime has proved to be one of the most challenging in the history of Multilateral Environmental Agreements. Although developing countries overwhelmingly ratified the United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol, their commitment was secured principally on the basis that the industrialized countries of the North would take primary responsibility for reducing global GHG emissions, as well as furnishing the financial and technological resources to enable the South develop sustainably without heavy reliance on fossil fuels.

As a result, the UNFCCC reflects a compromise between those states which were seeking specific targets and timetables for emissions reductions and those which wanted a skeleton Convention which could serve as the basis for further Protocols.

3.2.1 THE UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE (UNFCCC)

The UNFCCC sets an overall framework for intergovernmental efforts to tackle the challenge posed by climate change. It recognizes that the climate system is a shared resource, whose stability can be affected by industrial and other emissions of carbon dioxide and other

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3 Ibid note 2, pp. 1-34
4 Developed countries, for example, were far from united with the United States publicly opposing the adoption of specific targets and timetables. Developing countries were also divided with oil producing countries like Saudi Arabia strongly opposed to any substantive obligations in the Convention; while developing countries particularly vulnerable to the effects of climate change, such as the forty-two member Alliance of Small Island States (AOSIS) sought a Convention with strong and enforceable commitments and an emphasis on the adverse effects of climate change.
greenhouse gases.\textsuperscript{5} It entered into force on 21 March 1994 and provides the basis for concerted international action to mitigate climate change and to adapt to its impacts.

The Convention establishes its objective in Article 2. The ultimate objective of the Convention is “to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic [originating in human activity] interference with the climate system”. The objective is however qualified in that it “should be achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner”.

The UNFCCC is based on three main principles:

a) common but differentiated responsibility;
b) precautionary principle; and
c) sustainable economic growth and development.

The obligations of the UNFCCC are premised on the principle of \textit{common but differentiated responsibility}.\textsuperscript{6} Article 3 establishes the obligation that “parties should protect the climate system for the benefit of present and future generations of humankind, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities.”\textsuperscript{7} Article 4 further subjects all of its requirements to the specific condition that parties take into account their common but differentiated responsibilities.\textsuperscript{8}

Article 3.2 further provides that the consideration should be given to the different degrees to which parties will be affected by climate change and by measures to implement the Convention.

\textsuperscript{6} Supra note 6, p 625.
\textsuperscript{7} Article 3.1
\textsuperscript{8} Article 4 (1)
It calls for full consideration of specific needs and special circumstances of developing country and parties, especially those that are particularly vulnerable to the adverse effects of climate change.

Article 3.3 refers to the precautionary principle, which is widely reflected in environmental law and environmental agreements. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing such measures. Article 3.3 also stresses the need for cost-effectiveness. Accordingly, the measures undertaken to implement the Convention should avoid unnecessary burdens for the economy. One of ways proposed by this Article is that of minimizing costs by implementing measures jointly, that is, cooperating with interested parties.

Article 3.4 lays down the right, and obligation, to promote sustainable development. This is in line with Principle 3 of the Rio Declaration. Article 3.4 provides that policies and measures to protect the climate system should be appropriate for the specific conditions of each party and should be integrated with national development programmes, taking into account that economic development is essential for adopting measures to address climate change.

There are several institutions and bodies working within the framework of the Convention. These include institutions and bodies established by the Convention like the Conference of the Parties to the Convention (COP), the subsidiary bodies (SBs), the Bureau and the Secretariat. The COP is the supreme body of the Convention, entrusted with keeping the implementation of the Convention under regular review and making decisions to promote its effective implementation. A multidisciplinary Subsidiary Body for Scientific and Technological Advice was established to provide information on scientific and technological matters to the COP. A Subsidiary Body for

9 The Principle simply states that where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing such measures.
Implementation was also established to assist the COP in the assessment and review of the implementation of the Convention.

The Convention recognizes that the largest share of historical and current global emissions of greenhouse gases originate from developed countries and secondly, that the per capita emissions in developing countries will grow to meet their social and development needs. It further recognizes that all countries, especially developing countries, need access to resources required to achieve sustainable social and economic development. All parties to the convention therefore have a responsibility to develop, periodically update, publish and make available to the Conference of the Parties national inventories of anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol. Parties also have a responsibility to promote and cooperate in the development, application and diffusion, including transfer, of technologies, practices and processes that control, reduce or prevent anthropogenic emissions of greenhouse gases not controlled by the Montreal Protocol in all relevant sectors, including the energy, transport, industry, agriculture, forestry and waste management sectors.

3.2.2 THE KYOTO PROTOCOL

The Kyoto Protocol is an international and legally binding agreement to reduce greenhouse gas emissions worldwide and is an addition to the UNFCCC treaty. The Kyoto Protocol was adopted in Kyoto, Japan, on 11 December 1997 and entered into force on 16 February 2005. The major distinction between the Protocol and the Convention is that while the Convention encourages industrialised countries to stabilize GHG emissions, the Protocol commits them to do so, by reducing their emissions.

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10 Preamble
11 Preamble
12 Article 4 (1) (a)
The Kyoto Protocol’s main feature is that it assigns mandatory targets for 37 industrialized nations and the European Community to reduce their emission of the specified 6 greenhouse gases (GHGs). This amounts to an average of five per cent against 1990 levels over a five-year period - 2008-2012. The Protocol distinguishes between two types of countries: Annex I countries – with binding emission targets (developed countries) and Non-Annex – I Countries – with voluntary participation (developing countries).

3.2.2.1 Emission Reduction Targets

The major achievement of the Kyoto Protocol was the commitment of Annex I parties to quantified emission reduction targets and a timetable for their achievement. It provides that Annex I parties shall, individually or jointly, ensure that their aggregate anthropogenic carbon dioxide equivalent emissions of the GHG gases do not exceed their assigned amounts.

The assigned amounts are calculated pursuant to each party’s quantified emissions limitation and reduction commitments set out in Annex B of the Protocol. Annex I parties are required to implement their obligation with a view to reducing their overall emissions of GHGs by at least 5 percent below 1990 levels in the commitment period 2008 to 2012. This is estimated to represent an actual reduction of about 30 percent over ‘business as usual’ emission levels.

Six gases are covered by the emission reduction commitments of the Annex I parties; Carbon dioxide (CO2); Methane (CH4); Nitrous oxide (N2O); Hydrofluorocarbons (HFCs); Perfluorocarbons (PFCs); and Sulphur hexafluoride (SF6).

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13 The targets cover emissions of the six main greenhouse gases, namely: Carbon dioxide (CO2); Methane (CH4); Nitrous oxide (N2O); Hydrofluorocarbons (HFCs); Perfluorocarbons (PFCs); and Sulphur hexafluoride (SF6).
3.2.2.2 Emission Trading, Joint Implementation and the Clean Development Mechanism

A key feature of the Kyoto Protocol is the use of market-based trading mechanisms to reduce GHG emissions. This is by far the most innovative (and controversial) aspect of the Kyoto Protocol as the proposal enables Annex I parties to meet their commitments under the Protocol by purchasing or acquiring credits representing GHG reductions in other countries.\(^\text{14}\) The trading program enables countries that have obligations to reduce greenhouse gas emissions under the Kyoto Protocol, to access cost-effective opportunities to reduce greenhouse gas emissions or, as it is the particular case for reforestation/afforestation activities, to remove carbon from the atmosphere in other countries.

Several different provisions in the Kyoto Protocol provide for these mechanisms, which are Joint Implementation (JI), Clean Development Mechanism (CDM) and International Emissions Trading.

**Joint Implementation** allows a country with an emission reduction or limitation commitment under the Kyoto Protocol (Annex B Party) to earn emission reduction units (ERUs) from an emission-reduction or emission removal project in another Annex B Party, each equivalent to one tonne of CO\(_2\), which can be counted towards meeting its Kyoto target.\(^\text{15}\)

The **Clean Development Mechanism (CDM)** allows a country with an emission-reduction or emission-limitation commitment under the Kyoto Protocol (Annex B Party) to implement an emission-reduction project in developing countries. Such projects can earn saleable certified emission reduction (CER) credits, each equivalent to one tonne of CO\(_2\), which can be counted towards meeting Kyoto targets.

**Emissions Trading** allows countries that have emission units to spare - emissions permitted them but not "used" - to sell this excess capacity to countries that have exceeded their targets.\(^\text{16}\)

A new commodity was thus created in the form of emission reductions or removals. Since carbon


\(^{15}\) Article 6

\(^{16}\) Article 17
dioxide is the principal greenhouse gas, people speak simply of trading in carbon. Carbon is now tracked and traded like any other commodity. This is known as the "carbon market."  

3.2.2.3 Kyoto Protocol Achievements and Challenges

The main strength of the Kyoto Protocol is in quantified objectives and emissions trading. The Protocol constitutes the first international environmental agreement that builds on market based instruments to determine cost-efficient responses to the undisputed need for GHG abatement. Most greenhouse gases have no direct local environmental effects; they rapidly mix in the atmosphere, and where they are emitted does not matter. Emissions' trading, as a result, lowers the costs of emissions reductions and in turn, is good for the environment. The Protocol is therefore the first international environmental agreement that has set absolute levels of reduction of greenhouse gases by building on market based instruments to determine cost-efficient responses. By managing current uncertainties and allowing for future flexibilities, the Convention's objective remains meaningful no matter how science evolves.  

The major challenge for the future Post-Kyoto protocol remains promoting and maintaining international cooperation on the provision of climate protection. This requires an incentive for developing countries to support binding emission abatement responsibilities or emission entitlements. Although many have argued that it would not be viable to require developing nations to meet reduction targets under the Kyoto Protocol, excluding them entirely from the Protocol raises serious questions about the overall effectiveness of the agreement. Many developing countries make use of older, dirtier technologies, such as second- or third-hand

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vehicles or burning dung indoors for cooking; or simply lack the infrastructure and policies to develop greener alternatives. As a result of the exclusion of these countries, developing countries have no incentive at all to stop using these older technologies in order to grow their economies. Their emissions are thus expected to continue to grow, so that any gains made by the nations under the Protocol could be easily offset by the growth of emissions in the developing world. This shortcoming is best shown by the fact that China and India, which together represent one third of the world's population and are growing rapidly in terms of industrial capacity, are completely looked over by the Protocol’s terms of greenhouse gas reduction.

In the second place, there are weak economic and political mechanisms to enforce cooperative behaviour between sovereign countries. A credible system of direct or indirect sanctions is lacking, one that can deter “free-riding”. “Credible” implies that countries carrying out the activities that promote the Protocol’s objectives should not suffer a disadvantage. Currently, no individual government has an incentive to police the agreement. The Kyoto Protocol can only work if it includes an elaborate and expansive international mechanism for monitoring and enforcement.

Another challenge is cost related, where the costs of cutting emissions tend to be immediate and specific and also carry a significant economic burden for businesses, and private consumers. However benefits, such as fewer severe storms, floods, and droughts will occur gradually in the future and will benefit people everywhere, whether they pay for the relevant technology or not. It is therefore hard to price these positive outcomes. The global system for countering global warming thus needs to be adjusted so that the costs as well as the benefits are fairly distributed among nations.

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20 Supra note 19, p 7.
21 Supra note 19, p 14.
There are also competitiveness problems faced, whereby, if laws and regulations around the world aren't equally demanding, businesses in countries that don't require greenhouse-gas reductions will be able to operate more cheaply and sell their products at lower prices (at least in the short term) than businesses in countries that require more climate-friendly behaviour. This means multinational corporations may shift their factories to places where regulations are less restrictive, thereby beating the whole emission-control purpose.

A last controversy concerning the Protocol surrounds the use of 1990 as a base year, as well as not using per capita emissions as a basis. 1990 was used as the beginning or reference year for the Kyoto Protocol against which Annex I (developed) countries agreed to reduce their respective greenhouse gas emissions for the period between 2008-2012. However, countries had different achievements in energy efficiency in 1990. For example, the former Soviet Union and eastern European countries did little to tackle the problem and their energy efficiency was at its worst level in 1990. On the other hand, Japan, as a big importer of natural resources, had to improve its efficiency after the 1973 oil crisis and its emissions level in 1990 was better than most developed countries. However, such efforts were set aside and overlooked.

Despite all these shortcomings, even without any effective emission reductions in the initial commitment period, the Kyoto Protocol is important for further policy process on climate protection. It has established a flexible broad-based international mechanism that provides a valuable starting point for shaping efficient climate policies in the future. The Kyoto Protocol has so far proved only partly successful in controlling worldwide emissions of greenhouse gases. It is therefore imperative that a new global agreement is reached, that will be far more effective for the period after 2012.

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22 Supra note 18, p 7.
23 Supra note 18, p 10.
3.2.3 Post-2012 Kyoto Negotiations

The eleventh Conference of Parties to the UNFCCC serving as the first Meeting of Parties to the Kyoto Protocol (COP11/CMP1) held in Montreal in 2005 was a milestone in the history of the climate change regime. Its significance derived first from its being the First Meeting of the Parties to the Kyoto Protocol after it came into effect in February 2005. Secondly, it set the stage for considerations on the future of both the Convention and the Protocol. The Conference set up a two track process, one under the Convention and the other under the Protocol. A new subsidiary body (AWG-KP) was given a mandate to complete its work and have its results adopted by the Meeting of Parties under the Protocol as early as possible and in time to ensure that there is no gap between the first and second commitment periods. Second, COP11 initiated another track under the Convention to ensure involvement of parties which are not parties to the Protocol. Hence, the parties at COP11 established the “dialogue on long-term cooperative action to address climate change by enhancing implementation of the Convention”.

3.2.3.1 Bali Roadmap:

The thirteenth Conference of Parties to the UNFCCC and the third Meeting of Parties to the Kyoto Protocol (COP13/CMP3) took place in December 2007 in Bali, Indonesia. The Parties adopted the Bali Road Map which consists of a set of forward-looking decisions relating to both the Convention and the Protocol and which were essential to strengthening international action on climate change.

The Bali Roadmap concentrates on four central pillars of future negotiation, which define four different goals and possible actions required for each to come about. These are (1) mitigation, (2) adaptation, (3) innovation and technology transference, and (4) finance and investment. The

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24 Decision 1/CMP.1 indicates that the Conference of the parties serving as the meeting of the Parties to the Kyoto Protocol at its first session decided to initiate a process to consider further commitments for the parties included in Annex I for the period beyond 2012 in accordance with Article 3, paragraph 9 of the Protocol.

25 Decision 1/COP.11
roadmap’s design is intended to be such that activities under each pillar support activities in one or more of the others.\textsuperscript{26}

**Mitigation** is concerned with an anthropogenic intervention to reduce the sources or enhance the sinks of greenhouse gases.\textsuperscript{27} A more nuanced approach to designing mitigation targets was recommended, which will likely go beyond emissions reduction and encompass other commitments such as energy consumption targets, renewables targets, and others. This broadening of targets is especially relevant for the developing countries whose economies are growing rapidly and in transition to industrialization.

The adaptation pillar is largely about adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.\textsuperscript{28} At Bali, the major adaptation concern was for developing countries as many developing countries will be among the most and earliest affected. Country cooperation was emphasized to allow the emerging effects of climate change, both detrimental and otherwise, to be identified and dealt with.

The Bali roadmap also focused on technology and innovation. The development of new and “greener” technology was seen as the long-term solution to climate change. It calls for the creation of incentives to both innovation and technology transfer and also for the removal of obstacles within countries which retard further innovation internationally, giving specific attention to incentives for diffusion to developing countries.


\textsuperscript{28} Ibid note 27, p. 365
Finally, there is the role of **finance and investment**, which is central to the other three pillars, as heavy amounts of investment are required to undertake all the actions outlined above. The primary conclusion at Bali was that, using CDM, JI, the ETS, and other such means, governments must support innovation in the finance and investment sector. Few specifics were agreed to, so most progress in line with these conclusions will be at the discretion of individual countries.

Delegates at Bali further recommended that efforts to reduce emissions from deforestation and forest degradation (REDD) should be "strengthened and supported" but stopping short of calling for anything other than voluntary action on REDD.

### 3.2.3.2 Copenhagen Climate Change Conference:

The United Nations Climate Change Conference in Copenhagen, Denmark took place from 7-19 December 2009. It included the fifteenth Conference of the Parties (COP 15) to the UNFCCC and the fifth Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol (CMP 5).

The Copenhagen Conference marked the culmination of a two-year negotiating process to enhance international climate change cooperation under the Bali Roadmap. The industry expectations were to reach a post-Kyoto Protocol binding international agreement, a view reflected in the unofficial slogan for the conference, “seal the deal.” While a binding agreement was not reached, certain specific elements were agreed upon that help pave the way for a future agreement. A group of states representing the major emitting countries and main negotiating groups agreed on the Copenhagen Accord.

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29 The International Energy Agency (IEA) has estimated that roughly $45 trillion (or 1.1 percent of global GDP annually out to 2050) worth of investment in new green technologies will be needed to reach the long term goal of 50 percent emission reduction by 2050. More recently, this has been amended to include an estimate that this figure will rise by $500 billion for every year beyond 2010 that we do not have a global climate regime in place.
The key points of the Accord are as follows:30

1. **On the politics:** acknowledgement of the seriousness of the problem and need for urgent, collective action in line with existing principles.

2. **On the science:** endorsement of the IPCC’s recommendation that global temperature increase be kept below 2 degrees Celsius.

3. **On adaptation:** agreement that developed countries will provide adequate and predictable financial, technical and capacity-building support to developing countries.

4. **On developed country mitigation:** agreement that Annex I parties will commit to quantified economy-wide emission reductions by 2020 (although with no individual or aggregate targets given), with targets submitted to the UNFCCC by 31 January 2010. These targets, as well as financing to support developing country climate action, are to be monitored, reported and verified.

5. **On developing country mitigation:** agreement that non-Annex I parties will implement mitigation actions that are monitored, reported and verified. These actions are to be submitted to the UNFCCC by 31 January 2010. Action by the poorest and most vulnerable countries is voluntary.

6. **On Monitoring, Reporting, Verification (MRV):** agreement that unilateral developing country mitigation action will be subject to *domestic* MRV with “international consultation and analysis” that respects “national sovereignty”; and agreement that mitigation action supported by developed countries will be subject to *international* MRV. Both developed and developing country MRV will be subject to existing and to-be-agreed UNFCCC guidelines.

7. **On finance levels:** commitment by developed countries to provide US$30 billion in short-term financing between 2010 and 2012 and to mobilize US$100 billion per annum by 2020. This will be from public, private, multilateral and alternative sources. Funding will be used for mitigation, adaptation, technology transfer and capacity-building in developing countries.

8. **On financial architecture:** agreement to establish a ‘Copenhagen Green Climate Fund’ which will receive a significant proportion of the above finance flows. Also the establishment of a ‘High Level Panel’ to study the contribution of potential sources of revenue.

9. **On ‘REDD plus’:** agreement that a mechanism to mobilize funds to reduce emissions from deforestation and degradation (REDD) and support conservation is needed.

10. **On technology:** agreement to establish a ‘technology mechanism’ to accelerate the transfer and development of mitigation and adaptation technologies.

11. **On markets:** acknowledgement that markets enhance the cost-effectiveness of and promote mitigation actions. This is an implicit reference to benefits of emissions crediting or trading mechanisms to support low-carbon development in developing countries.

12. **On review of the Accord:** a “call” to assess implementation of the Accord by 2015, with consideration of a 1.5 degrees Celsius temperature target.\(^{31}\)

### 3.2.3.3 Cancun Climate Change Conference:

The United Nations Climate Change Conference in Cancun, Mexico, took place from 29 November to 11 December 2010. The conference included the sixteenth session of the Conference of the Parties (COP 16) to the UNFCCC and the sixth session of the Meeting of the Parties to the Kyoto Protocol (CMP 6). Expectations for Cancun were modest, with few anticipating a legally-binding outcome or agreement on each outstanding issue. Parties however agreed:

1) to commit to a maximum temperature rise of 2 degrees Celsius above pre-industrial levels, and to consider lowering that maximum to 1.5 degrees in the near future;

2) to make fully operational by 2012 a technology mechanism to boost the innovation, development and spread of new climate-friendly technologies;

3) to establish a Green Climate Fund to provide financing to projects, programmes, policies and other activities in developing countries via thematic funding windows; and

\(^{31}\) Ibid note 30, p 76.
4) on the Cancun Adaptation Framework, which included setting up an Adaptation Committee, to promote the implementation of stronger, cohesive action on adaptation.

On the mitigation front, developed countries submitted economy-wide emission reduction targets and agreed on strengthened reporting frequency and standards and to develop low-carbon national plans and strategies. Developing countries submitted Nationally Appropriate Mitigation Actions (NAMAs), to be implemented subject to financial and technical support. Work also progressed on REDD, boosting capacity-building in developing countries, and how to deal with any consequences of response measures to action on climate change. Governments also agreed to include Carbon Capture and Storage (CCS) in the projects under the CDM, subject to technical and safety standards.

3.2.3.4 Durban Climate Change Conference:

The conference was officially referred to as the 17th session of the Conference of the Parties (COP 17) to the UNFCCC and the 7th session of the Conference of the Parties serving as the meeting of the Parties (CMP 7) to the Kyoto Protocol. A primary focus of the conference was to secure a global climate agreement as the Kyoto Protocol's first commitment period (2008–2012) was about to end. It was also expected to focus on finalising at least some of the Cancun Agreements, reached at the 2010 Conference, such as "co-operation on clean technology", as well as "forest protection, adaptation to climate impacts, and finance – the promised transfer of funds from rich countries to poor in order to help them protect forests, adapt to climate impacts, and “green” their economies”.

The conference is deemed to have made a significant breakthrough in tackling global warming. The outcomes included a decision by Parties to adopt a universal legal agreement on climate change as soon as possible, but not later than 2015. The Durban conference agreed to launch a process to develop a Protocol, another legal instrument or an agreed outcome with legal force. It
agreed that this work would be completed by 2015, so that this new agreement or outcome could be implemented from 2020.

The conference built on the decisions made in Cancun to reduce carbon pollution by 2020 as part of a goal of keeping average temperature increases to 2 degrees Celsius above pre-industrial levels. Countries ensured further progress on this agenda by agreeing to:

1) Improved transparency and better monitoring, reporting and verification of countries' emissions reduction actions;

2) Governance arrangements which will establish a new Green Climate Fund to help developing countries reduce emissions and adapt to climate change;

3) Progress the REDD+ mechanism which will reward developing countries for reducing emissions from deforestation and forest degradation;

4) Develop new market mechanisms to drive opportunities for low cost greenhouse gas abatement;

5) An Adaptation Committee to help developing countries adapt to the impacts of climate change;

6) Rules for a new technology mechanism to speed up transfer of low pollution technologies to developing countries.

The Durban Climate Change Conference however failed to come up with a Kyoto-Protocol successor. The success of the Conference hinged on resolution of three mutually dependent issues: agreement on the continuation of the Kyoto Protocol; agreement on a long-term cooperative plan and shared vision to address climate change; and, agreement on finance - both through the provision of long-term finance to address climate change and through the establishment of the “Green Climate Fund”, a fund intended to become “the main global fund for
climate change finance”.\textsuperscript{32} Since China and India refused to negotiate a new agreement to limit their emissions, USA would not agree to a new round of negotiations and the EU would not agree to a second commitment period under the Kyoto Protocol.\textsuperscript{33}

A major shortcoming in this conference is that the resultant Durban Platform (Decision 1/CP. 17) did not include a reference to the Convention principle of “common but differentiated responsibilities”. This avoids the asymmetry between developed and developing countries reflected in Kyoto and the text is left open to the possibility of differentiation in the form, the content, and even the legal nature of developed and developing country commitments.\textsuperscript{34}

\textbf{3.2.3.5 The Future: Kyoto’s Successor}

One of the features of the Protocol is that it allows a system of periodically negotiated five-year commitment periods and supports a flexible approach that allows policy-makers to adjust their decisions according to better information obtained in the future. However, as the international community engages in efforts to reach a consensus on the post-2012 Kyoto provisions, various key issues need consideration.

Rational decision-making in climate policy requires balancing the cost of greenhouse gas emission abatement and the benefits of avoided undesirable consequences of global warming.\textsuperscript{35} Classical cost–benefit analysis provides the appropriate framework for measuring all negative and positive policy impacts and resource uses in the form of monetary costs and benefits.

\textsuperscript{33} Ibid note 32, p 8-9
\textsuperscript{34} Ibid note 32, p 11.
\textsuperscript{35} Supra note 19, p 2.
The future of the Kyoto Protocol is particularly important for international carbon markets. Despite a common misconception that the Kyoto Protocol will end at the end of 2012, only the first commitment period will end. The other obligations and rules established under the Kyoto Protocol, including the rules for the operation of the CDM and JI, will continue after the end of 2012. GHG emissions reduction targets are established on a commitment period basis and therefore the legal framework for international carbon markets will remain in place after the end of 2012, irrespective of any future commitment periods.

However, in the absence of a second commitment period with binding GHG emissions reduction targets, there has been uncertainty about the future demand for credits and reluctance to invest in projects. The uncertainty has been exacerbated by the perceived failures of international negotiations. The World Bank has reported that in 2011 the market value of the pre-2013 primary CER market fell by 32%.³⁶

The obligations of the UNFCCC are premised on the principle of common but differentiated responsibility. The design of the Kyoto Protocol reflects this principle by excluding developing nations from any obligations. The principle of common but differentiated responsibilities means that only industrialized countries assume reduction obligations under the UNFCCC and subsequent Protocol(s). The rationale appears to have been that GHG reduction obligations would undermine the economic development of non-Annex I countries, which would be unacceptable because it would undermine the global effort towards eradicating poverty.³⁷ The view that developing country parties should not assume emissions reduction obligations even under a post-Kyoto Protocol climate change regime puts developing countries at odds with the developed countries – like the United States, which refuses to participate in the Kyoto Protocol or any other international legal regime unless the major emitters among the developing countries assume reduction obligations. The prevailing developing country view opposing any new developing country obligations jeopardizes the chances of successfully negotiating a post-Kyoto

³⁷ Supra note 6, p 625.
Protocol regime, or, even if one is adopted, of getting the required ratifications to bring it into effect.\textsuperscript{38} The increasing pressure on these States to take on more responsibility for tackling climate change was evident from the discussions and documents emanating from the 2009 Copenhagen and the 2010 Cancun and 2011 Durban Climate Change Conferences.

As per the IPCC estimates, the cutting down of forests is now contributing close to 20 per cent of the overall greenhouse gas emissions to the atmosphere.\textsuperscript{39} Forest degradation and land use change also make a significant contribution to emissions. The concept of REDD was not an issue addressed in the Kyoto Protocol. As such, a REDD project is not eligible as a CDM project under the Kyoto Protocol. However, since Kyoto, it has become one of the more talked about environmental issues. REDD was first introduced at the Conference of the Parties in Montreal in December 2005. The challenge was to establish a functioning international REDD finance mechanism that can be included in an agreed post-2012 global climate change framework. In addition to the concept of REDD, a more expanded idea known as REDD-plus has gained steam. REDD-plus expands upon the concept of REDD to include conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries.

Whereas the Kyoto Protocol addressed carbon emission reductions to countrywide targets, and established the CDM mechanism to allow for trading amongst private entities, a new sectoral style approach outside of a global UN agreement may be incorporated into future multilateral agreements.\textsuperscript{40} Under a sectoral approach, instead of developed countries investing in CDM projects, they would transfer technology to developing countries in order to help them reduce

\textsuperscript{38} Supra note 6 p 627


emissions in various heavily emitting industries. The reductions made in those sectors would then be sold off to as carbon credits. Instead of setting nationwide targets for GHG emissions reductions, a sectoral approach would set reduction targets for specific sectors in developing countries. A sectoral approach would thus enable a more focused effort in technological advancement in industries where opportunity is foreseen. However, there is opposition to this approach among developing countries, namely China and India. They argue that this would reduce foreign investment.

National Appropriate Mitigation Actions (NAMAs) are another response to the changing ways of looking at reducing carbon emissions in developing countries. The 2009 Copenhagen Accord requests Developing countries to submit NAMAs to the UNFCCC with sufficient information for proper Monitoring, Reporting, and Verification (MRV). The opportunity that comes with NAMAs is that developing countries are able to tailor GHG emissions-reducing projects to the needs of the specific State based on State priorities and policies. Countries inherently understand their landscape and their populations. As such, they are often better equipped to know where investment should and can be made in order to maximize usefulness to their people. As a result, NAMAs can be policies, programs or projects implemented at national, regional, or municipal levels.

In order therefore to effectively mitigate climate change the post- Kyoto Protocol climate change regime must do the following:

1) Taking account of the precautionary principle, stipulate an absolute cap on allowable GHG emissions, which the global atmospheric system can tolerate without dangerous climate change;

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41 Ibid note 40, p 14
42 Ibid note 40, p 15
43 Ibid note 40, p 15
44 Supra note 6, p 621.
2) Allocate the allowable GHG emissions to all countries on the basis of a formula that is based on a combination of four factors: the Human Development Index; the efficiency of energy use; historical and present per capita emissions; and projected future per capita emissions;
3) Permit countries’ use of flexible mechanisms in meeting reduction commitments; and
4) Provide for technology transfer and capacity building to enable poor countries to embark on a sustainable development path based on low carbon energy efficient and renewable energy technologies.

3.3 KENYA’S REGULATORY RESPONSE TO CLIMATE CHANGE AND CARBON EMISSIONS

Kenya can attest to the adverse effects of climate change and the country is deemed very vulnerable to climate change. An example of the country’s vulnerability to climate change is the spread of climate-sensitive diseases such as malaria to new, higher altitude zones like Kericho and Nairobi where the disease is not known to be endemic. Other impacts include increasingly intense and frequent drought episodes, successive seasons of crop failure, increased flood episodes, increased climate-induced migrations (e.g. rural-urban migration), diminishing pasturelands due to droughts, and desertification.

A study by the Stockholm Environment Institute on the Economics of Climate Change in Kenya further revealed that the future economic costs of the impacts of climate change on market and

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45 Vulnerability is defined as the extent to which a natural or social system is susceptible to sustaining damage from climate change. Vulnerability is a function of the sensitivity of a system to changes in climate (the degree to which a system will respond to a given change in climate, including beneficial and harmful effects), adaptive capacity (the degree to which adjustments in practices, processes, or structures can moderate or off set the potential for damage or take advantage of opportunities created by a given change in climate), and the degree of exposure of the system to climatic hazards. Under this framework, a highly vulnerable system would be a system that is very sensitive to modest changes in climate, where the sensitivity includes the potential for substantial harmful effects, and for which the ability to adapt is severely constrained.


non-market sectors might be close to 3% of GDP per year by 2030 and potentially much higher than this (more than 5% of GDP per year) by 2050.\textsuperscript{48} The integration of climate information into government policy and law is therefore key. Below is an analysis of laws, policies and institutions that currently touch on climate change issues.

3.3.1 Application of International Law in Kenya

Unlike Kenya’s previous Constitution, the current Constitution expressly recognizes the general rules of International Law as forming part of the law of Kenya and provides that any Treaty or Convention ratified by Kenya shall form part of the laws of Kenya.\textsuperscript{49} This effectively converts Kenya from a dualist state, that is, one in which local legislation is required to domesticate and apply an International Convention; to a monist state, that is, one in which international conventions come into force automatically on ratification without the need for enabling legislation.

As earlier indicated, Kenya is a party to both the UNFCCC and the Kyoto Protocol. This therefore means that the provisions of these two international laws apply to Kenya by virtue of Kenya having ratified them. The implication is that Kenya is deemed to have legislation that imposes a responsibility to stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.\textsuperscript{50} This should however be achieved in a manner that enables economic development to proceed in a sustainable manner.

Despite the fact that Kenya is a developing country and the Kyoto Protocol does not impose mandatory emission targets aimed at reducing GHG emissions, Kenya still has a duty to work


\textsuperscript{49} Article 2

\textsuperscript{50} Article 2 of the UNFCCC
towards stabilising GHG concentrations in the atmosphere. This obligation is applicable within the country, in the same way as a provision in domestic law. The question however remains as to whether the government has effectively applied this law in order to guide economic development activities in a manner that seeks to stabilize GHG concentrations in the atmosphere, while at the same time enabling economic development.

The country should also be alert to the developments in discussions towards a post-2012 Kyoto Protocol. What is clear is that developing countries such as Kenya are finding it difficult to avoid emission reduction targets. It is almost certain that the targets shall be imposed on all countries. Kenya should therefore be ready to deal with this evident outcome by setting systems internally that deal with the problem. The country could start by effecting the provisions of the UNFCCC and Kyoto Protocol by, for example, encouraging energy efficiency and conservation as well as encouraging use of renewable energy. These initiatives will contribute towards stabilizing GHGs in the atmosphere without stifling economic development. This can later be supported by national policies, laws and institutions on climate change and that further encourage carbon emission reduction activities.

3.3.2 The Legislative Framework

3.3.2.1 The Constitution

Even though the Constitution does not directly mention climate change, environmental provisions have been included in the Constitution for the first time since independence. This signifies an important step in elevating the importance of environmental protection to the highest levels, with a number of articles dedicated specifically to the rights of the people and responsibilities of the state on environmental matters. In Part 2, on "Rights and Fundamental Freedoms", the Constitution states that every person has the right to a clean and healthy environment, which includes the right a) to have the environment protected for the benefit of present and future generations through legislative and other measures, particularly those
contemplated in Article 69, and b) to have obligations relating to the environment fulfilled under Article 70.\textsuperscript{51}

It further provides that the State is responsible for maintaining tree cover over at least ten percent of the nation’s land; for encouraging public participation in protecting and managing the environment; for protecting indigenous knowledge of biodiversity; and for establishing systems of environmental impact assessment.\textsuperscript{52}

Article 70 deals with enforcement. It enshrines the right to petition the courts for violations of the right to a healthy and clean environment. The court can order the activity violating that right stopped and assign compensation. An important provision in this respect is that an applicant does not have to demonstrate personal loss or injury. This means that any person who is able to demonstrate that his/her right to a clean and healthy environment is being violated does not need proof of having suffered any personal loss or injury. This provision therefore strengthens to a great extent the environmental law in Kenya and places an onerous task on both the government and private individuals to respect environmental law.

The principle of sustainable development has also been embedded in many provisions of the Constitution. Article 10 provides that the national value of sustainable development must be binding when making policy decisions and interpreting the Constitution and all other National Laws. Article 60 which deals with principles of land policy provides that land in Kenya shall be held, used and managed in a manner that is equitable, efficient, productive and sustainable. This imports a duty to consider sustainable land use in coming up with policy and legislation that deals with land. Article 260 further defines land to include natural resources (contained on or under the surface) and air space above the surface. This therefore means that the Constitution provides for sustainable use of natural resources including the air.

\textsuperscript{51} Article 42
\textsuperscript{52} Article 69
Finally, Article 2 provides that the general rules of International Law shall form part of the Law of Kenya and that any Treaty or Convention ratified by Kenya shall form part of the Law of Kenya. This therefore means that the UNFCCC and the Kyoto Protocol are part of Kenyan Laws and do not need to be domesticated to be deemed part of Kenyan law. All provisions in these two documents that are dedicated to climate change are therefore binding on us by virtue of this provision.

All these Constitutional provisions have a profound on activities that may negatively impact the environment, including issues relating to climate change. By instilling the principle of sustainable development, economic development activities and use of natural resources are now required to be used equitably both for the current and for the future generation. Further, unsustainable development can now be deemed unconstitutional. The Constitution also creates both a right and an obligation on all persons to a clean and healthy environment. Any person that engages in activities that lead to breach of another person’s right to a clean and healthy environment is therefore in breach of the law.

From the foregoing, it is clear that the push to have economic activities that are not harmful to the environment may not be that onerous after all. The current Constitutional provisions can be used as a launch-pad for governmental and non-governmental entities to push for a low carbon development path.

3.3.2.2 The Environmental Management and Coordination Act (EMCA)

The Environmental Management and Coordination Act (EMCA) was enacted in 1999 as the supreme law in environmental management. Before then, several laws existed scattered in various laws and statutes and administered by various line ministries. The enactment of EMCA was a milestone in promoting sustainable environmental management in the country. The Act is
intended to ensure that our activities do not compromise the capacity of the resource base to meet the needs of the present generation as well as those of future generations.\textsuperscript{53}

Section 3 of EMCA, 1999 provides that every person in Kenya is entitled to a clean and healthy environment and has the duty to safeguard and enhance the environment. To this end, the Act contains some relevant provisions that, as a consequence of their enforcement, amount to mitigation against climate change.\textsuperscript{54} These include provisions for the establishment of air quality standards, including emission requirements (Part VIII), environmental impact assessment requirements (Part VI), environmental restoration orders and environmental conservation orders (Part IX). However, EMCA has minimal content relating explicitly to either mitigation or adaptation to climate change.

Whilst there are provisions within EMCA for the Minister for Environment to issue regulations around coastal erosion or mangrove conservation and other activities that lead to climate change adaptation; a comprehensive approach and understanding around adaptation which tackles vulnerable pastoral and agricultural communities, for instance, is lacking entirely.\textsuperscript{55} Although there are opportunities for mitigation through use of incentives/disincentives in section 57 of EMCA, and reduction of emissions through proposed Air Quality Regulations in section 78, there is need to amend the EMCA to make it more responsive to climate change and guide Kenya’s ambitious development plans towards a low-carbon development path.

\textsuperscript{53} Section 3
\textsuperscript{54} Climate Change Mitigation is action to decrease the intensity of radiative forcing in order to reduce the effects of global warming. In contrast, adaptation to global warming involves acting to tolerate the effects of global warming. Most often, climate change mitigation scenarios involve reductions in the concentrations of greenhouse gases, either by reducing their sources or by increasing their sinks.
\textsuperscript{55} Supra note 47, p 89.
3.3.2.3 The Climate Change Authority Bill, 2012

KENYA is set to become the first African country to establish an independent Climate Change Authority through the enactment of the Climate Change Authority Bill this year. The Bill, dated 16th April 2012 was introduced as a private member’s bill that now awaits first reading in parliament.

The Bill principally seeks to provide a framework for mitigating and adapting the effects of changing climate on various sectors of the economy. Its proposed objectives are to provide (a) a framework for mitigating and adapting to the effects of climate change on all sectors of the economy; (b) appropriate response strategies in relation to climate change; and (c) mechanisms for the financing, coordination and governance of matters of climate change. The proposed rights and duties in the Bill are in addition to those conferred by other laws. This means that the Act, once enacted, shall not seek to override provisions in statutes already in existence, for example, those enshrined in the EMCA.

The Bill also proposes establishment of a the Climate Change Authority whose functions shall include advising the national and county governments on mitigation and adaptation measures and legislation; coordinate governmental and non-governmental stakeholders on matters relating to climate change; advise national and county governments on regional and international Conventions, Treaties And Agreements; carry out public education and awareness programmes; establish and manage a national registry for energy and carbon emission reporting by public and private entities and monitor activities being undertaken by public or private entities and where necessary require them to comply with such directions that the Authority may issue.

57 Section 6
The Bill further proposes that, in collaboration with relevant government and non-governmental agencies, the Authority may set targets and coordinate actions for the reduction of GHGs; identify and coordinate the implementation of low carbon and green growth strategies; and set targets relating to and promoting the development of carbon markets.\[^{58}\]

In relation to enforcement of rights relating to climate change, the bill proposes that a person may apply to the Environment and Land Court alleging that a person has acted in a manner that has or is likely to adversely affect efforts towards mitigation and adaptation to the effects of climate change.\[^{59}\] In such a matter, the court may make an order to either stop an act or omission that is harmful to the environment or compel a public officer to take measures to prevent or discontinue an act or omission that is harmful to the environment; or provide compensation to a victim of a violation relating to climate change duties. The Bill further proposes that an applicant does not have to demonstrate injury or loss. Any person shall therefore have locus standi in such a matter.

The Act proposes the establishment of Board to the Authority whose mandate shall include formulation of policies to achieve the mandate of the Authority. The members to this Board are expected to be made up of, inter alia, the Permanent Secretaries of the Ministry responsible for Environment, Finance, Water, Agriculture and Energy respectively. This representation will be useful so that various sectoral interests are taken into consideration when making policy. However, the Bill does not provide for Private Sector representation. A body such as the Kenya Association of Manufacturers would offer good representation of private sector especially as the Board comes up with policies on climate change.

The Bill further proposes establishment of a Climate Change Trust Fund, managed by a Board of Trustees, into which monies received through donations grants, gifts and other sources that the

\[^{58}\] Section 6 (k)  
\[^{59}\] Section 25
Authority uses to raise money for execution of its programmes and projects would be paid. The enactment of the Bill shall however not occasion additional expenditure of public funds. This means that the government has no obligation to fund any activities under this Bill, once it becomes law.

3.3.2.4 The Energy Act

Part V of the Act makes provisions for renewable energy, energy efficiency and conservation. It provides that the Minister shall promote the development and use of renewable energy technologies. To this end, the Minister is empowered to formulate national strategy for coordinating research in renewable energy; provide an enabling framework for the efficient and sustainable production, of biomass, solar, wind, municipal waste and geothermal; harness opportunities offered under clean development mechanism and other mechanisms to promote the development and exploitation of renewable energy sources; as well as promote the utilization of renewable energy sources for either power generation or transportation.

The Act further provides that the Minister shall develop and manage a prudent national energy efficiency and conservation programme. To this end, the Act charges the Energy Regulatory Commission (ERC) with the responsibility to designate factories or buildings and electrical appliances by types, quantities of energy use, or methods of energy utilization for purposes of energy efficiency and conservation. On the basis of this provision the ERC released the draft Energy (Energy management) Regulations, 2011 for public review and comments. If passed and implemented, these regulations shall go a long way in effecting energy conservation and side demand management.

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60 Section 26
61 Section 103
62 Section 104
The proposed regulations apply to the owners or occupiers of industrial, commercial and institutional facilities using any form of energy. They propose that an owner or occupier of the designated facility should have an energy management policy which shall be filed with the ERC for approval before implementation. The draft regulations further propose that every designated facility shall undertake an energy audit at least once every three years. This audit shall be undertaken by a licensed energy auditor or energy audit firm and that the energy audit report submitted to the ERC.

The proposed energy audit report submitted to the ERC is required to, among other things, have an energy investment plan that summarizes the establishment’s recommendations on projected annual energy savings and estimated cost savings. The report shall show the agreed energy investment plan the organisation intends to take in order to improve efficiency and conserve energy as well as time required for completion, and resources to be used, such as labour, materials and finances.

The facility owner or occupier will have the responsibility to take measures to realize a minimum of fifty percent of the recommended energy savings specified in its energy investment plan by the next energy audit reporting date. The ERC or its agent shall play a supervisory role and will have a right to conduct an inspection to verify compliance with the implementation report. The ERC will also issue a compliance certificate on request by firms complying with these regulations.

3.3.3 The Policy Framework:

Kenya lacks a comprehensive environmental and/or climate change policy. There have however been several efforts to come up with a comprehensive policy framework to guide the management of the environment. The first concern about conservation and management of the environment was voiced in the Sessional Paper No. 10 of 1965 on African Socialism and its application to planning in Kenya which recognized the need to conserve natural resources for all
future generations and also expressed concern with the quality of the environment. The National Development Plans which have been prepared from early 1970s to date have also devoted specific sections to the protection and management of the environment. Since 1992, there have also been a number of initiatives related to utilization of natural resources and management of the environment an example being the National Environment Action Plan (NEAP) which was formulated in 1994.

In 1999 both the Sessional Paper on Environment and the Development and Environment Management and Coordination Bill were prepared. While the Bill was enacted by Parliament to become Environment Management and Coordination Act of 1999 (EMCA 1999), the Sessional Paper was approved by the Cabinet but was not presented to Parliament for debate and adoption. Thus there is an environmental law without a policy on environment. Below is a discussion on some of the policies in place or currently under discussion.

3.3.3.1 The Draft National Environmental Policy

The Draft National Environmental Policy 2012 treats climate change and disaster management as an emerging environmental issue and observes that some of the climate change adverse impacts are already being felt. These include intensified natural disasters such as floods, landslides and prolonged droughts. It further recognizes that Kenya is very vulnerable to climate change and that increased frequency and intensity of extreme climate events continue to undermine the country’s sustainable development.

The draft policy acknowledges that managing climate-related disasters remains a significant challenge and the economic impact of these disasters cut across the key sectors of the economy, with agricultural production, industrial processing, manufacturing, tourism, infrastructure and public health being the most impacted.

In order to deal with Climate Change therefore, the draft policy suggests the government will:

1. Implement the National Climate Change Strategy;
2. Identify and raise awareness on the opportunities for adaptation measures through promotion of appropriate technology transfer and capacity building;
3. Develop and implement CDM programmes and projects that encourage significant levels of investment and technology transfer for sustainable development;
4. Develop an integrated, improved early warning and response systems for climate and disaster risks with a clear strategy for dissemination of information to the grassroots; and
5. Build and strengthen research capacity on climate change and related environmental issues.

It rightly admits that climate change impacts are increasing and will affect all sectors of the economy. It is however not clear whether the above measures will climate proof the sectors of the economy against climate change.

3.3.3.2 National Climate Change Response Strategy (NCCSR)\(^{64}\)

Kenya has developed a National Climate Change Response Strategy (2010) whose vision is to have a prosperous and climate change resilient Kenya. The strategy acknowledges that climate driven changes affect resources critical for economic development of Kenya and if Kenya does not take action to reduce or minimize expected impacts of current and future climate change, the cost of potential damage to the economy could be enormous.\(^{65}\)

To be able to realize a climate change resilient Kenya, the NCCRS identifies the following as its key objectives:

\(^{64}\) Supra note 47.

\(^{65}\) The Kenya National Climate Change Response Strategy indicates that a study estimated the direct costs of climate change damage in Kenya will potentially amount to between one and two billion US Dollars annually by the year 2030 and considerably greater if indirect costs are included.
1. enhance understanding of the global climate change regime; including participating in the negotiations process, international agreements, policies and processes and most importantly the positions Kenya needs to take in order to maximize beneficial effects;
2. assess the evidence and impacts of climate change in Kenya;
3. recommend robust adaptation and mitigation measures needed to minimize risks associated with climate change while maximizing opportunities;
4. enhance understanding of climate change and its impacts nationally and in local regions;
5. recommend vulnerability assessment, impact monitoring and capacity building framework needs to respond to climate change;
6. recommend research and technological needs to respond to climate change impacts, and avenues for transferring existing technologies;
7. provide a conducive and enabling policy, legal and institutional framework to combat climate change; and
8. give a concerted action plan, resource mobilization plan, and a robust monitoring and evaluation plan to combat climate change.

The strategy discusses in depth the country’s adaptation and mitigation needs, research and technology development and transfer needs and climate change governance issues. It recommends procedures in an Action Plan, detailing specific sectoral actions, implementing timeframe and indicative costs. It advises that research is needed to develop superior drought-tolerant, fast maturing crop varieties in the agricultural sector and research to further energy efficient innovations and technologies in the energy sector.

It further acknowledges that Kenya currently has no policies or laws that deal directly with climate change and it therefore recommends a comprehensive climate change policy and related legislation.
The Energy Policy

The energy policy plays a great role in climate change especially in mitigation of climate change, through energy efficiency and promotion of renewable energy. The Policy is contained in Sessional paper no. 4 of 2004 and focuses on all forms of energy. The vision of the policy is to ‘promote equitable access to quality energy services at least cost while protecting the environment’. It outlines short, mid and long-term energy strategies proposing to increase renewable energy sources within the energy mix through constructive policy provisions and research requirements. The Policy commits the government to make funding available to undertake geothermal resource assessments, as well as pre-feasibility studies to enhance renewable energy sources.

The Ministry of Energy is currently engaged in an exercise to review its energy policy. The draft, unlike its predecessor, discusses climate change under two main areas; energy efficiency and renewable energy. It acknowledges that energy efficiency and conservation reduces energy demand, improves energy security, improves competitiveness and helps to mitigate climate change by lowering GHG emissions. In light of this, the Government intends to enhance energy efficiency and conservation activities to improve the energy security and mitigate the effects of climate change by lowering GHG emissions.

The Government recognizes that renewable energy has potential to enhance energy security, mitigate climate change, generate income, create employment and generate foreign exchange savings. Consistent with this recognition, the Government proposes to designate a Renewable Energy Lead Agency to promote and accelerate the exploitation of this resource. The Lead Agency shall provide a one stop shop for information and guidance to investors for renewable energy projects. Another proposal to this end includes developing a tariff for net metering for electricity generated from renewable energy sources by electricity consumers and preparing a master plan for renewable energy.

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The draft policy indicated that although Kenya has ratified the Kyoto Protocol, it has not benefited much from CDM since potential projects have not been developed or fully made operational. To address this issue, therefore, the draft policy proposes that the National Government shall ensure that the energy sector is well represented in international climate change negotiations to improve the investment climate for CDM projects; and ensure that the proposed National Energy Institute undertakes research in the energy areas that advance clean energy technologies.

3.3.4 Institutional Framework:

Various government ministries are responsible for regulating various aspects of climate change. However, the Ministry of Environment and Natural Resources is the lead Ministry in matters of environmental regulation. Between 2008 and 2009, it established its Directorate of Environment (DOE) headed by an Environment Secretary. The DOE has 3 directorates covering policy formulation, interpretation and implementation; programmes, projects and strategic initiatives, and multilateral agreements. Within the DOE, the Ministry also established in 2009 its National Climate Change Office. The Office now acts as the secretariat for the National Climate Activities Coordinating Committee (NCCACC) established in 1992 as a requirement under the UNFCCC.

Further under the oversight of the ministry, the National Environment Management Authority (NEMA) hosts the country’s Designated National Authority (DNA), which is responsible for approving the CDM projects under the Kyoto Protocol. In the context of the UNFCCC, the Ministry is the focal policy making entity, responsible for international negotiations, while NEMA hosts the country’s DNA.

Still, under the oversight of the Ministry of Environment and Natural Resources, the Kenya Meteorological Department (KMD) is mandated to provide meteorological and climatological
services to the country for the benefit if all sectors and the public in general. Climate research and monitoring are also some of KMD’s responsibilities.

While the national focal point for the UNFCCC is the Ministry of Environment and Natural Resources; the overarching coordination for climate change policy sits within the Office of the Prime Minister (OPM) there is established a **Climate Change Co-ordination Unit (CCCU)**, whose aim is to provide high-level political support to climate change activities in Kenya. Since 2008 the Prime Minister has taken a strong lead on climate change, particularly around low carbon and green energy agendas. National leadership for climate change has subsequently been anchored in the Office of the Prime Minister (OPM) and is coordinated through an **Environment and Climate Change Unit (ECCU)**, staffed by externally funded technical advisors.\(^{68}\) The unit provides strategic oversight for climate change across government and enforces ministerial coordination and delivery through a **National Climate Change Committee**. However, a lack of reference to climate change in national development policies continues to challenge this oversight function.

The **Ministry of Finance** has also taken steps towards promoting carbon trading in the country. It has established a carbon-trading unit to explore the potential of attracting additional funding through clean development.\(^{69}\) Some of the planned investments are considerable, for example the Lake Turkana Wind Power project, set to be the largest wind energy farm in Africa. Through a circular to all accounting officers (i.e. persons in charge of all government bodies, institutions and agencies), the Ministry of Finance directed that all new carbon eligible projects must be implemented following the CDM to facilitate approval by the CDM Executive Board of the UNFCCC.\(^{70}\) It further directed that these projects must be prepared in consultation with the Treasury and that all CERs will be used for recapitalization of the projects and only be transacted with the direct approval of the Treasury.

\(^{69}\) Ibid note 67, p 8
\(^{70}\) TREASURY CIRCULAR NO. 9/2011
The Kenya Agriculture Research Institute (KARI), a semi-autonomous government institution, also established a climate change research unit in 2010. This unit is expected to increase climate change awareness within the Ministry of Agriculture, particularly in relation to food security and adaptation where some projects have already begun to focus. Other line ministries have been slower to engage. Encouraging them to do so is likely to require a more consistent political commitment than is currently apparent.

Because of its diffuse nature, the existing institutional framework has not supported a coordinated approach to combating climate change. There are therefore calls for a focused and functional climate change governance system – guided by appropriate policies and legislation that will facilitate the implementation of climate change mitigation and adaptation initiatives. The Climate Change Authority proposed under the Climate Change Authority Bill might well be the beginning of coordinated institutional effort to achieve this.

3.4 ASSESSMENT OF KENYA’S CURRENT REGULATORY FRAMEWORK’S ABILITY TO GUIDE KENYA’S ECONOMIC DEVELOPMENT TOWARDS A LOW CARBON PATH

From the foregoing, Kenya’s regulatory system is quite fragmented with no specific policy, law or institution whose sole mandate is dealing with all aspects of climate change. This is to the exception of the National Climate Change Response Strategy. However, the strategy too fails to identify a specific institution that takes the lead in effecting climate change regulations that are currently in diverse pieces of legislation. In addition, part of the recommendations in the strategy is to have specific policy, legislation and institutional framework focused on climate change. In the end it is safe to conclude that the Kenyan regulatory framework is inadequate in guiding economic development in Kenya towards achieving a green economy. This focused approach is necessary as the country embarks on its ambitious development plans.
As also discussed earlier, we have a series of institutions that are set up in an ad-hoc manner and with overlapping mandates to deal with climate change. It is arguable that the focus of these institutions has been on the opportunities that new international financing streams can bring into the country. Despite this, the initiatives by these institutions should not be discouraged. What we however need is an oversight institution that will oversee all climate change related issues and co-ordinate all government initiatives to regulate carbon emissions emanating from human activities, including economic development activities. The proposed Climate Change Authority is one such institution. However, since the government shall not fund any of the Authority’s activities, then the ability to use the proposed Authority as government’s vehicle to effect emission reductions is extremely limited. The proposed Bill should therefore be reviewed to allow greater government participation and supervision.

Lack of awareness in the country has been cited as one of the inhibitions to effective behaviour change in Kenya; considering that human activities are the main cause of increase in GHG’s. There seems to be no institution that is currently tasked with creating awareness on this issue. Awareness is necessary across the population. Those living in low-lying coastal areas, for example, should be educated on the likely loss of homes and livelihoods, while those living in areas that currently experience water shortage should be prepared to deal with more severe water shortages. Further, changes in temperature and rainfall patterns have had profound impacts on Kenya’s socio-economic factors, most of which are climate sensitive. Key sectors including Agriculture, and Rangelands (which are the backbone of Kenya’s pastoralism), Tourism, Forestry and Health are all affected. Spread of disease like malaria, more intense droughts and erratic rainfall patterns are all presenting a worrying situation in the future. This is information that should be passed on Kenyans so that they can start getting more involved in adaptation and mitigation initiatives; either within their respective communities or as part of government driven programmes. We also need to sensitize the business community and private sector players who can take advantage of the carbon market and raise additional revenues from GHG emission reducing projects that also contribute to sustainable development.

71 Supra note 47, pg 7
3.5 CONCLUSION

From the above, Kenya is making some effort towards climate change regulation. However, the implementation of the mitigation and adaptation policies necessary to successfully address the climate change challenge will only be achieved and sustained through involvement and commitment at all stakeholders; including local communities and private sector players. Further, county governments will have a key role to play in actively incorporating climate change considerations in day to day business and introducing climate friendly policies, regulations and investment decisions at their level, as a direct outreach to the public.\textsuperscript{72}

In respect to emission reduction initiatives, there is a need for an extremely efficient intersectoral dialogue to understand and effectively resolve the potential trade-offs. National development plans are normally articulated along sectoral lines. The active participation by all stakeholders, including the public and private sectors, at all levels will be a prerequisite to the successful preparation and implementation of an integrated climate plan; one that can inform our economic development and make it “climate-change proof”. A sustainable economy fueled by renewable energy and one that integrates energy efficiency in its system is one the country ought to work towards.

Climate change also presents opportunities through its emission trading systems to earn revenues, especially for developing countries. Despite the ongoing international discourse regarding the second commitment period under Kyoto, it is safe to predict that the flexible mechanisms that enable countries meet reduction commitments shall be retained. Kenya shall therefore be able to achieve a green economy and still earn revenue by doing so.

In the end, having good policy, law and institutional framework in Kenya, dedicated to regulating climate change issues, and ensuring that economic development follows a green path is long overdue and needs government’s immediate attention.

CHAPTER FOUR
INDIA’S REGULATORY FRAMEWORK THAT PROMOTES CARBON EMISSION REDUCTION: WHAT CAN KENYA LEARN FROM IT?

4.1 INTRODUCTION

The most contentious global debate today is the obligations of the developed and the developing countries to take steps to reduce their carbon footprint. However, the developing world is gearing towards development; and all development and industrialization presupposes the need for higher emissions. Climate change impacts are not limited to a certain area or bounded by geographical locations. This makes it necessary for all the nations—whether currently major contributors to climate change or not—to take steps to control the extent of climate change by reducing or at least limiting their present and future carbon emissions. Therefore, even though developing nations have not been keen to accept binding emissions targets, some of them are undertaking efforts that have reduced the growth in their own emissions significantly. In most cases, climate mitigation is not the goal, but rather an outgrowth of efforts driven by economic, security, or local environmental concerns.¹

India is a key developing country not only in terms of its size and potential emissions of greenhouse gases but also through its intellectual contributions to the global debate from a developing country perspective. By promoting alternative measures to tackle greenhouse emissions within a developing country context, it is an important case study to explore alternatives that are viable across the developing world.

The choice to have study India’s regulatory system is influenced by the fact that it is a developing country that embarked on economic reforms; resulting in faster growth of its

economy, leading to an annual GDP of about 8% since the year 2000. It is therefore similar to Kenya in this respect, since our intention is to achieve and maintain an annual GDP of 10% over the next 20 years. The development activities in India necessitated the country to put in place energy efficiency measures as well as promote use of renewable energy. India has made significant gains towards guiding development towards a low carbon path and has managed to decouple economic growth from energy use. With the economy growing annually at about 8%, energy use has been growing at less than 4%. This makes India a good example for Kenya to emulate.

The chapter therefore examines laws and policies in India that have been put in place to tackle climate change issues; and particularly to guide development in the country towards a less carbon intensive development path.

4.2 INDIA’S POSITION IN THE INTERNATIONAL CLIMATE CHANGE ARENA

India signed the UNFCCC on June 10, 1992 and ratified it on November 1, 1993. It ratified the Kyoto Protocol on August 26, 2002 and hosted the eighth Conference of the Parties to the UNFCCC in October 2002 in Delhi. Although the UNFCCC requires India to monitor and report its GHG emissions, neither the framework Convention nor the Protocol impose any obligation on it to meet specific time-bound targets in reducing its emissions.

India’s gross domestic product (GDP) has grown steadily by about 8 per cent annually since 2000, and such economic growth has correspondingly resulted in increased GHG emissions. India is now reputed to be the fifth largest emitter of GHGs in the world. For this reason the

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4 Supra note 2, pp. 63-83
5 Supra note 2, pp. 63-83
Government of India has been under growing international pressure to accept binding obligations, much like existing Annex I nations, under the new instrument being negotiated to replace the Kyoto Protocol.\textsuperscript{6}

India however maintains that it cannot be described as a ‘major emitter’ despite the damning statistics. Further statistics indicate that the United States of America was ranked fifth in the world for its per capita GHG emissions, whereas India was ranked 121st. The US emitted 19.8 tonnes per person while India emitted 0.8 tonnes per person.\textsuperscript{7} The country has therefore continued to unequivocally reject taking on quantitative restrictions under any subsequent international agreement. Nonetheless, the Indian administration is undertaking several voluntary actions that may stem the rate of GHG emission increases. These actions include the promotion of renewable energy and investments in clean development technologies.

4.3 ECONOMIC DEVELOPMENT AND RESULTANT CARBON EMISSION TRENDS IN INDIA

India’s development agenda focuses on the need for rapid economic growth as an essential precondition to poverty eradication and improved standards of living.\textsuperscript{8} Economic reforms implemented since 1991 have resulted in faster growth of the Indian economy. GDP growth rates have averaged roughly 8% during 2004-2008.\textsuperscript{9} Despite the country growing at a fast pace, it still needs to do much more inorder to solve its economic and social issues.\textsuperscript{10} Statistics indicate that 27.5% of the population still lived below the poverty line in 2004/05 and 44% without access to electricity.\textsuperscript{11} Further, India is home to one third of the world’s poor.\textsuperscript{12} The development strategy

\textsuperscript{6} Supra note 2, pp. 63-83  
\textsuperscript{7} Supra note 2, pp. 63-83  
\textsuperscript{9} Ibid note 8, p 12.  
\textsuperscript{10} Supra note 1, p 4.  
\textsuperscript{11} Supra note 8, p 12.  
therefore maintains emphasis on rapid economic growth as an essential prerequisite to reduce poverty which can only be achieved through industrialization.

Industrial development has contributed significantly to economic growth in India. This has led to an increase in carbon emissions with the transport sector being a major contributor to urban air pollution. Demand for energy and carbon intensive materials to sustain development activities has risen exponentially. Notably, there is growing demand for electricity for hi-tech industries and for modern amenities such as air conditioners; materials to build infrastructure for the spiraling land and air traffic; and cement for commercial and residential constructions. Further, the Central Government has focused on encouraging internal and foreign direct investments to jumpstart some projects, particularly major infrastructure projects such as power plants construction, marine ports, telecommunications and real estate. The soaring energy demands of the growing economy have driven the government to exploit its coal reserves and increased its dependence on petroleum resources. Coal-based thermal power plants; steel and cement plants have been major contributors to carbon emissions. Total emissions from fossil fuel use in India have, as a result, risen more than 300% over the past two decades.

India is thus confronted with the challenge of sustaining rapid economic development amidst the increasing global threat of climate change. The country is also not immune from the impact of global warming and climate change. Evidence has shown that climate change will affect the distribution and quality of India’s natural resources, which will ultimately threaten the livelihoods of the most poor and marginalised sector of the population who are closely tied to

\cite{14} Supra note 2, pp. 63-83
\cite{15} Supra note 2, pp. 63-83
India’s natural resource base. More than 56% of workers are engaged in agriculture and allied sectors, while many others earn their living in coastal areas through tourism or fishing; and most of the poorest people live in rural areas and are almost completely reliant on natural resources for their food and shelter.

With a booming economy that is fueling a rapid increase in its GHG emissions, the Indian government faces the daunting challenge of designing laws and policies that balance the country’s insatiable appetite for rapid economic growth with the need to mitigate GHG emissions and to act in an internationally responsible manner on climate change. While the National Action Plan on Climate Change of June 2008 promises increased attention to alternative and renewable energy sources such as solar energy, it will take significant investment to meet projected energy demands.

4.4 INDIA’S REGULATORY FRAMEWORK PROMOTING CARBON EMISSION REDUCTION

4.4.1 THE CONSTITUTION

The Indian Constitution adopted in 1949 makes a number of provisions that have acquired implications for climate and other environmental policy issues. Some specific provisions for

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17. The United Nations Environment Programme included India among the 27 countries that are most vulnerable to a sea level rise. The mega cities of Mumbai and Chennai with large and growing populations and huge investments in infrastructure are located on the coast. Low-level areas, such as those in Orissa and West Bengal, could be vulnerable to inundation. Simulations with climate models as well as observational data have indicated that droughts and spells of excessive rain like the deluge that struck Mumbai in 2005 are likely to become more frequent in India with the warming of the world. Glaciers in the Himalayas feed important rivers such as the Ganga, the Indus and the Brahmaputra that provide water for millions of people as well as for irrigation and industry. The accelerated melting which these glaciers are experiencing as a result of the earth’s warming will have a profound effect on future water availability. The Gangotri glacier, one of the largest in the Himalayas, has been melting since long and more rapidly in recent decades. As the glaciers melt, they become more fragmented and the smaller glaciers are more sensitive to global warming.

environmental protection include Article 48A that provides that “the State shall endeavour to protect and improve the environment and to safeguard the forests and wild life of the country”. Similarly, it makes it obligatory for every citizen of India, “to protect and improve the natural environment including forests, lakes, rivers and wild life, and to have compassion for living creatures”. 19

The Constitution also establishes a number of basic citizen rights, most importantly, that no person shall be deprived of his life or personal liberty except according to procedure established by law. 20 The Indian Supreme Court has interpreted this Article to serve as a conduit for recognizing and enforcing a variety of ancillary rights, such as rights to livelihood, health, and basic necessities. 21 Of particular importance, the Indian Supreme Court has included, within this Constitutional provision, rights that are affected due to government inaction on environmental and related matters. Examples of such matters include protection of the Taj Mahal from coal and coke pollution; cleaning up the Ganga river; relocation of hazardous industries in Delhi; curbing of vehicular pollution; requiring compulsory environmental education; and re-directing an illegally diverted river. 22 Thus, the Indian Supreme Court has interpreted the right to life in a manner that extends beyond mere survival, to cover conditions that are necessary for higher standards of living. This then means that Constitutional litigation may be used as a tool for combating climate change.

4.4.2 THE ENERGY CONSERVATION ACT, 2001

Considering the vast potential of energy savings and benefits of energy efficiency, the Government of India enacted the Energy Conservation Act, 2001. The Act provides the legal mandate to implement energy efficiency measures through the Bureau of Energy Efficiency which is an institution established under the Act.

19 Article 51A(g)  
20 Article 21  
21 Supra note 2, pp. 63-83  
22 Supra note 2, pp. 63-83
The Act gives certain powers to the central government and others to the state government in their role in promoting energy efficiency. It empowers the central government to, inter alia:\(^\text{23}\)

1. specify energy consumption standards for notified equipment and appliances;
2. direct mandatory display of label on notified equipment and appliances;
3. prohibit manufacture, sale, purchase and import of notified equipment and appliances not conforming to energy consumption standards;
4. notify energy intensive industries, other establishments, and commercial buildings as designated consumers;
5. establish and prescribe energy consumption norms and standards for designated consumers;
6. prescribe energy conservation building codes for efficient use of energy and its conservation in new commercial buildings having a connected load of 500 kW or a contract demand of 600 kVA and above; and
7. direct designated consumers to:
   a) designate or appoint certified energy manager in charge of activities for efficient use of energy and its conservation;
   b) get an energy audit conducted by an accredited energy auditor in the specified manner and interval of time;
   c) furnish information with regard to energy consumed and action taken on the recommendation of the accredited energy auditor to the designed agency;
   d) comply with energy consumption norms and standards;
   e) prepare and implement schemes for efficient use of energy and its conservation if the prescribed energy consumption norms and standards are not fulfilled; and
   f) get energy audit of the building conducted by an accredited energy auditor in this specified manner and intervals of time.

The state governments, on the other hand, are given power to amend the energy conservation building codes prepared by the central government to suit regional and local climatic conditions.\(^\text{24}\) State governments also have powers to direct every owners or occupier of a new

\(^{23}\) Section 14

\(^{24}\) Section 15 (a)
commercial building or building complex, being a designated consumer, to comply with the provisions of energy conservation building codes; and to direct any such designated consumer to get an energy audit conducted.\textsuperscript{25}

The Act establishes the **Bureau of Energy Efficiency (BEE)**\textsuperscript{26}, a statutory body under the Ministry of Power with an aim of institutionalizing the energy efficiency measures. The BEE is responsible for spearheading the improvement of energy efficiency of the economy through various regulatory and promotional instruments. The mission of the BEE is to develop policy and strategies with a thrust on self-regulation and market principles, within the overall framework of the Act and with the primary objective of reducing energy intensity of the Indian economy.

Some of the BEE’s achievements include introduction of a **Standards & Labeling Programme**, a scheme that was launched by the Minister of Power in May, 2006 and is currently invoked for selected electrical equipments and appliances.\textsuperscript{27} The labels provide information about the energy consumption of an appliance, and thus enable consumers to make informed decisions. Almost all fluorescent tubelights sold in India, and about two-thirds of the refrigerators and air conditioners, are now covered by the labeling programme.

The BEE further launched the **Energy Conservation Building Code** (ECBC) in May 2007. This code addresses the design of new, large commercial buildings to optimize the building’s energy demand and is aimed at achieving total energy efficiency in buildings and establishments. Nearly one hundred buildings are already following the ECBC, and compliance with it has also been incorporated into the Environmental Impact Assessment requirements.\textsuperscript{28}

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\textsuperscript{25} Section 15 (c)
\textsuperscript{26} Section 3 (1)
\textsuperscript{27} These include Frost Free refrigerator, Tubular Fluorescent Lamps, Room Air Conditioners, Direct Cool Refrigerator, Distribution Transformer, Induction Motors, Pump Sets, Ceiling Fans, LPG, Electric Geysers and Colour TVs.
\end{flushleft}
With the aim of promotion of energy saving devices, The BEE introduced "**The Bachat Lamp Yojana**", a programme under which households may exchange incandescent lamps for CFLs (compact fluorescent lamps); while using CDM credits to supplement purchase price. Some States have also made it mandatory for the installation of solar water heaters in hospitals, hotels and large government and commercial buildings. Subsidy is provided for installation of solar water heaters in residential buildings.

The Act also makes provisions for a “**Designated Consumer**”. The central government may specify any user or class of users of energy as a designated consumer for the purposes of this Act.\(^{29}\) The government, in this regard, considers the intensity or quantity of energy consumed, the amount of investment required for switching over to energy efficient equipments and the availability of the energy efficient machinery and equipment required by the industry. The Schedule to the Act provides a list of the Designated Consumers (DCs). These DCs have to:

1. Appoint/designate energy managers;
2. Get energy audits conducted by accredited energy auditors;
3. Implement techno-economic viable recommendations;
4. Comply with norms of specific fixed energy consumption; and
5. Submit reports on steps taken.

Via gazette notice, the Ministry of Power in 2007 provided a list of DCs for purposes of the Act.\(^ {30}\) The following were listed; being the 9 main energy intensive industries:

1. **Thermal Power Stations** - 30,000 metric tonne of oil equivalent (MTOE) per year and above
2. **Fertilizer** - 30,000 metric tonne of oil equivalent (MTOE) per year and above

\(^{29}\) Section 4 (e)  
\(^{30}\) Gazette of India Part II Section 3 (ii), 19\(^{th}\) March 2007
3. **Cement** - 30,000 metric tonne of oil equivalent (MTOE) per year and above
4. **Iron & Steel** - 30,000 metric tonne of oil equivalent (MTOE) per year and above
5. **Chlor-Alkali** - 12,000 metric tonne of oil equivalent (MTOE) per year and above
6. **Aluminium** - 7,500 metric tonne of oil equivalent (MTOE) per year and above
7. **Railways** - electric traction Sub-Section (TSS), diesel loco shed, Production units and Workshops of Indian Railways having total annual energy consumption of 30,000 MTOE or more under the Ministry of Railways
8. **Textile** - 3,000 metric tonne of oil equivalent (MTOE) per year and above
9. **Pulp & Paper** - 30,000 metric tonne of oil equivalent (MTOE) per year and above

**4.4.3 THE NATIONAL ACTION PLAN ON CLIMATE CHANGE**

On 30th June 2008, the Prime Minister released India’s first National Action Plan on Climate Change (NAPCC), a guiding national strategy that addresses India’s development concerns as well as mitigation and adaptation challenges. It forms a consolidated account of the country’s position on climate change mitigation and adaptation efforts. The approach as described in this document is expected to lead to a directional shift in India’s development pathway. The Plan identifies measures that promote development objectives while also yielding co-benefits for addressing climate change effectively.

The NAPCC states that it is guided by the following principles:

1. Protection of the poor and vulnerable sections of society through an inclusive sustainable development strategy that takes climate change into account;
2. Achievement of national growth objectives with a distinct change in direction that enhances ecological sustainability, while reducing greenhouse gas emissions;
3. Efficient and cost-effective strategies for end use demand side management;

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31 The Chlor-alkali process is the electrolysis of salt solution. It has high energy consumption and produces three products - hydrogen, chlorine and sodium hydroxide - that are basic building blocks for thousands of useful substances and products. Hydrogen is used in making ammonia and margarine. Chlorine is used for killing bacteria in drinking water, making bleach and PVC. Sodium hydroxide is used in making soap, paper and ceramics.

32 Supra note 8, p 4.
4. deployment of appropriate technologies for adaptation and mitigation of greenhouse gas emissions;
5. engineering new and innovative forms of market, regulatory and voluntary mechanisms to promote sustainable development;
6. Implementation of programmes through unique linkages as required with civil society, local governments and through public-private-partnership; and
7. Welcoming international cooperation for research, development, sharing and transfer of technologies supported by additional funding and a global Intellectual Property Rights regime that facilitates technology transfer to developing countries.

The plan establishes eight missions, listed below, that are intended to advance India’s development and defining its approach to climate mitigation and adaptation; while satisfying the above stated principles.\textsuperscript{34} The idea is to deal with the climate change challenge on several fronts simultaneously in a focused manner. The missions therefore form the core of the NAPCC representing a multi-pronged, long-term and integrated strategy for achieving key goals in the context of climate change.

1. **The National Mission for Sustainable Agriculture** – whose purpose is to make Indian agriculture more resilient to climate change. This is through identifying and developing new varieties off crops; orientation of agricultural research systems to monitor and evaluate climate change and recommending changes in agricultural practices; as well as focusing on improving productivity of rain fed agriculture.

2. **The National Mission for Enhanced Energy Efficiency** – it proposes four new initiatives. These include a market-based mechanism that results in certification of energy savings that could be traded. Further, the mission will seek to accelerate the shift to energy efficient appliances to make products more affordable; and also create mechanisms that would

\textsuperscript{33} Demand Side Management (DSM) is the implementation of policies and measures which serve to control, influence and generally reduce electricity demand. DSM aim to improve final electricity use systems and reduce consumption, while preserving the same level of service and comfort.

\textsuperscript{34} Supra note 8, p 4.
finance demand side management programmes in all sectors; and developing fiscal instruments to promote energy efficiency.

3. **The National Mission for a Green India** – Green India initiative seeks to focus on enhancement of ecosystem services including carbon sinks. The Prime Minister has already announced a Green India campaign for afforestation of 6 million hectares to reach the national target of 33% land area under forest and tree cover from the current level of 23%.

4. **The National Mission on Sustainable Habitat** – it targets improvements in energy efficiency in buildings, management of solid waste and accelerating modal shift to mass transport. The Energy Conservation Building Code addresses the design of new and large commercial buildings to optimize their energy demand. Focus on recycling of material and urban waste management, includes technology development for producing power from waste.

5. **The National Mission for Sustaining the Himalayan Ecosystem** – it involves management measures for sustaining and safeguarding the Himalayan glacier and mountain eco-system. It seeks to establish an observational and monitoring network for the Himalayan environment to assess fresh water resources and health of ecosystem. Community based management of Himalayan ecosystems are to be promoted with incentives to community organizations and panchayats (village level institutions) for protection and enhancement of forest lands.

6. **The National Mission on Strategic Knowledge for Climate Change** – this is a strategic knowledge mission used to identify the challenges of and the responses to climate change. It provides an avenue for funding of high quality and focused research into various aspects of climate change.

7. **The National Solar Mission** - seeks to increase the share of solar energy in the total energy mix. India is a tropical country with high availability of sunshine. Solar energy therefore has great potential.
8. **National Water Mission** – It focuses on ensuring integrated water resource management to conserve water, minimize wastage and ensure equitable distribution across and within states. It seeks to ensure that a considerable share of the water needs of urban areas are met through recycling of waste water, and ensuring that the water requirements of coastal cities are met through adoption of new and appropriate technologies such as low temperature desalination technologies that allow the use of ocean water.

The policy also mandates the setting up of energy benchmarks for each industry sector and allows for trade in energy efficient certificates. Along the lines of the international market for trade in carbon credit, the aim of such a ‘cap-and-trade’ scheme is to facilitate the least-cost method to achieving the overall target of sector-wide efficiency.

Nine energy intensive sectors such as thermal power plants, iron & steel and cement have been identified and notified as Designated Customers under the Energy Conservation Act. Within these sectors, bands have been created which classify individual units (businesses) on the basis of energy intensity levels. Each band is given a target to reduce their fuel consumption over a fixed period of time. The industrial units who do not surpass their targets are given energy efficiency certificates which can be traded on the open market or banked for the next round of efficiency targets. Industrial units that surpass their allocated target are forced to buy such credits from more energy-efficient units.

In this manner, businesses have a monetary incentive to become more energy efficient and face risks of financial loss if they do not. Further, this move creates and significantly expands the market for energy-efficient goods, services and technologies across a range of industries.
4.4.4 OTHER APPLICABLE LAWS AND POLICIES

1. **Integrated Energy Policy, 2006** – It promotes energy efficiency in all sectors, through, inter alia, emphasis on mass transport, emphasis on renewables including biofuels and fuel plantations, accelerated development of nuclear and hydropower technology missions for clean energy as well as focused research and development in several climate change related technologies.


3. **Rural Electrification Policy 2006** – it promotes renewable energy technologies where grid connectivity is not possible or cost-effective.

4. **Biodiesel Purchase Policy, 2005** : Mandates biodiesel procurement by petroleum companies.

5. **National Environment Policy, 2004** - The principal objectives of this policy are the conservation of critical environmental resources; integration of environmental concerns in economic and social development; efficiency in environmental resource use; environmental governance and enhancement of resources for environmental conservation.

6. **The Environment (Protection) Act, 1986** - obligates the central government to protect and improve environmental quality, control and reduce pollution from various sources; and further prohibits or restricts the setting up and operation of any industrial facility on environmental grounds.

7. **The Environment (Protection) Rules, 1986** – these rules lay down procedures for setting standards for emission or discharge of environmental pollutants.
8. **The Environment (Siting for Industrial Projects) Rules, 1999** - lays down detailed provisions relating to areas to be avoided for siting of industries and enumerates precautionary measures to be considered for an industrial site.


### 4.5 IMPACT OF THE CLIMATE CHANGE RELATED LAWS AND POLICIES ON DEVELOPMENT IN INDIA

Despite India’s concerted effort in dealing with climate change, some difficulties have been encountered. One of these is the major delays experienced in various economic development projects.\(^3\) The Ministry of Environment and Forest must give clearances for setting up of new projects. These clearances can take anywhere between 2-5 years to materialize. Further, the costs incurred for projects are much higher due to the environmental policies that are in place. For example, hydro projects incur resettlement and rehabilitation costs, costs of replenishing the amount of forest cleared (if any) and cost of obtaining environmental clearances from relevant ministries.

Further, there is a looming perception of a shift in focus from development to giving more attention to climate change. Development of a country requires the setting up of major industries and providing all modern amenities to its citizens. India wants to develop rapidly. This is because it is plagued with problems that all developing countries face - poverty, illiteracy, lack of sanitation and health facilities, lack of public transport, electricity woes, food shortages etc. All these problems have one solution - rapid economic growth and development of the country. The immediate need for economic development is however somewhat clouded by India’s current focus on climate change adaptation and mitigation measures and in particular, its carbon emission reduction initiatives. This is because development through rapid industrialisation

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\(^3\) Supra note 1, p 8.
obviously leads to an increase in carbon emissions. The question then is; is India more concerned about climate change than it is about the need to develop fast enough to solve its poverty related problems?

It is also perceived that there has been a shift in the Integrated Energy Policy’s objective of providing reliable and affordable electricity to all. Developing renewable sources of energy like solar, wind, and hydro require heavy amounts of research and development in order to develop more efficient technologies for the reduction in price per unit generated by these resources. Since these renewable sources in India are in the nascent stage, the tariff charged for electricity generated this way is very high as compared to the conventional sources of energy like coal and gas.\(^{36}\) This means the electricity is expensive both to the investor(s) and to the consumers, beating the policy’s objective of providing reliable and affordable power to all.

Despite all these, the country has made significant gains towards guiding development towards a low-carbon path. Since 2004, India has managed to decouple economic growth from energy use, with the economy growing annually at a rate of over 9 percent but energy growing at less than 4 percent.\(^{37}\) When the Indian emissions are compared with some of the rapidly developing countries such as China and Brazil, it is seen that their compounded annual emission growth rates are 5 and 6 per cent respectively as compared to the 4.2 per cent per annum for India.\(^{38}\) Additionally, Indian per capita emissions were 2.2 and 1.3 times lower than China and Brazil respectively.\(^{39}\)

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\(^{36}\) Programs like the Jawaharlal Solar Mission incur huge expenditure to harness the resource though it is a known fact that the tariffs of the power produced will be almost 4 times that of power produced from coal or gas.


\(^{39}\) Ibid note 38, p 329.
A study into India’s sectoral trends of multigas emissions shows that while emissions from India are growing, their growth rates are declining since the year 2000. The contributing factors to these declining growth rates for CO2 emission include improved performance of coal-based power plants, policies encouraging more energy efficient automobiles and targeted energy efficiency measures by large producers of energy-intensive commodities like the Steel Authority of India that produces nearly two-thirds of Indian steel.

Nitrous Oxide (N2O) emission growth rate has also been declining, albeit marginally, due to reduction in use of synthetic fertilizer. In agriculture, agriculture extension services promoted by the Government for educating and helping farmers for more efficient and effective utilization of input resources have contributed to reducing emissions of Methane and N2O per unit of production. The policies mandating successive reduction in Sulfur content of petroleum products has been a key contributor to reduced Sulphur Dioxide (SO2) emissions over past five years.

Further, there has been an increased level of awareness on climate change. Many businesses are beginning to tackle climate change head-on as a business issue. In a survey of Indian business leaders, 41 percent of respondents regard themselves as having a good understanding of the issue and having a clear strategy in place; while a further 42 percent claim to be in the process of developing their carbon strategy. Many Indian businesses are beginning to look to the future and invest in clean energy, energy conservation and efficiency, smart buildings, and green products. They realize the market is changing and they need to act.

40 Supra note 13, p 4618.
42 Industrialist Anand Mahindra, the Chairman and Managing Director of one of India’s largest enterprise, Mahindra & Mahindra, views climate change as an emerging consumer and competitiveness issue. He wants his group to be at the forefront of addressing it and is redesigning his automotive portfolio accordingly.
4.6 LESSONS LEARNT FROM INDIA

From the foregoing, the following are some of the lessons that Kenya can pick from India’s experience:

1. The country has specific legislation and policy that focuses on energy efficiency and conservation. The Energy Conservation Act, for example, provides the legal mandate to implement energy efficiency in India. The Act empowers both the central and state governments to promote energy efficiency. This way, the effort is cascaded to the lowest level of government and is thus more efficient. The Integrated Energy Policy promotes energy efficiency in all sectors and promotes research and development in several climate change related technologies. The Biodiesel Purchase Policy also mandates purchase of biodiesel by petroleum companies. All these laws and policies provide a strong regulatory system where energy conservation is promoted across all sectors of the economy, while engaging all levels of government.

2. India has also identified specific institutions that are tasked with the mandate of promoting energy efficiency and controlling carbon emissions. The Bureau of Energy Efficiency has implemented various programmes that have resulted in the improvement of energy efficiency of the economy. The Standards and Labeling Programme, the Energy Conservation Building Code and the Bachat Lamp Yojana are some of these programmes. The National Action Plan on Climate Change also identifies various missions, which form the core of the NAPCC, and represent a multi-pronged, long term and integrated strategy for achieving key goals in the context of climate change. The institutional framework has therefore been quite effective in promoting energy efficiency in the country.

3. The government has also been very instrumental in promoting emissions trading in India. The NAPCC, for example, mandates the setting up of energy benchmarks for each industry sector and allows trade in energy efficient certificates. Further the Indian government is spending over 2% of its gross domestic product on measures to adapt to the impacts of climate change. The government has therefore accelerated the take-up of clean technology by
Indian firms to encourage participation in the global carbon market. The country now accounts for more than one third of all CDM projects registered worldwide.

4. Another important aspect is the high level of awareness in India on climate change. This is so even in the private sector. The awareness has enabled Indian businesses to invest in clean energy, energy conservation, energy efficient and green products.

From the above, it is possible for Kenya to achieve a shift in the “business as usual” way of economic development and adopt cleaner ways of achieving economic development with positive results. India’s experience is one such example that we can look to, to help us develop regulations that support sustainable development in the country.

4.7 CONCLUSION

Human Development Report 2007/08 states that “Mahatma Gandhi once reflected on how many planets might be needed if India were to follow Britain’s pattern of industrialization. It is estimated that if all of the world’s people generated greenhouse gases at the same rate as some developed countries, we would need nine planets.\footnote{Prasad. H and Kochher J. (2009). Climate Change and India - Some Major Issues and Policy Implications. Government of India: Ministry of Finance: Department of Economic Affairs. [Online] Available at: http://finmin.nic.in/workingpaper/Working%20paper%20Climate%20Change.pdf (Accessed on 20th August 2012), p 8.}

Several initiatives by India, encapsulated in the wide-ranging reforms in the past decade, have accelerated the economic growth and lowered the barriers to efficiency. Energy and power sector reforms, for instance, have helped to enhance the technical and economic efficiency of energy use. Policies adopted for a sustainable development, such as energy efficiency, improvement measures in various sectors have increased penetration of cleaner fuels, and a thrust for renewable energy technologies. These have all contributed towards more energy efficient
measures that have been instrumental in fostering economic development in India. Being a developing country, India sets a pretty good example; one Kenya should consider emulating.
CHAPTER FIVE
CONCLUSION

5.1 INTRODUCTION
This chapter attempts a summary of the study with the aim of drawing reasonable conclusions and recommendations based on research. These conclusions and recommendations are espoused through fair commenting and judgment aimed at reflecting on the ability of Kenya’s current regulatory framework in effectively guiding Kenya’s economic development activities towards a green economic development path.

5.2 RESTATEMENT OF THE RESEARCH QUESTIONS
The research questions were identified as follows:
1. Does Kenya’s current regulatory framework adequately address the effect of carbon emissions in its economic development agenda and is this framework adequate in guiding the country towards a low carbon development path?
2. What reforms can be made to our regulatory framework to adequately address carbon emissions in a manner that guides our economy towards a low carbon development path?

5.3 SUMMARY OF THE CONTENT
As set out in the beginning of the study, climate change can adversely affect Kenya’s economic growth plans and activities. Kenya is a developing country looking to being a newly industrializing country while providing a high quality life to all its citizens by the year 2030. Secondly, Kenya is a party to the UNFCCC and the Kyoto Protocol. This means that the country has a responsibility to contribute towards stabilizing GHG concentrations in the atmosphere at the level that would prevent dangerous anthropogenic interference with the climate system.

Responding to climate change requires integration of adaptation and mitigation into all aspects of policy development and planning for poverty reduction. This response to the threat posed by climate change on Kenya’s economy and its economic growth plans will not come from slowing growth, but rather from promoting the right kind of growth. What is needed is an economy that can secure growth and development while at the same time improving human well-being and preserving the natural capital upon which we all depend. This will mean making use of low-
carbon and resource efficient solutions; and stepping up efforts to promote sustainable consumption and production patterns.

The study has shown that, while the country’s economic and livelihood systems are highly dependent on natural resources which are very sensitive to any slight change in climatic conditions, the government has been slow in responding to this high vulnerability as demonstrated by the slow pace it is taking to formulate policies and legislation to address climate change. The existing policies, legislation and institutions are weak in effectively dealing with climate change.

The right regulatory framework is a useful tool in achieving this objective. By informing Kenya’s economic development plans, these policies, laws and institutions will create a new development regime that would amount to steering the country along a sustainable low carbon path to economic development. Legislation is the foundation for an effective policy.\(^1\) It is a clear expression of government’s recognition of a problem through specific actions by directing both the government and the governed on necessary actions to address the identified problem.

Currently, there are a number of sectoral laws, including the Energy Act and the Forest Act, which address various aspects of climate change, even though climate change is not the focus of these laws. This is in addition to Kenya’s comprehensive environmental law, the Environmental Management and Co-ordination Act (EMCA). Kenya can however learn from India’s example where the Indian government has passed specific legislation targeting achievement of energy efficiency and conservation; promotion of clean technologies and widespread climate change awareness. As a result, growth in energy-related carbon dioxide emissions has reduced over the last decade through economic restructuring, enforcement of existing clean air laws by the nation’s highest court, and renewable energy programs.\(^2\)

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\(^2\) In 2000, energy policy initiatives reduced carbon emissions by 18 million tons—over 5 percent of India’s gross carbon emissions. About 120 million tons of additional carbon mitigation could be achieved over the next decade at a cost ranging from $0-15 per ton.
5.4 CONCLUSIONS AND RECOMMENDATIONS

Kenya has made some effort towards formulating regulations that will deal with climate change. Despite this, climate change awareness remains low countrywide.\(^3\) By making citizens better informed of climate change issues allows them to participate in programmes to combat it. To date there has been limited (though increasing) understanding of climate change in government, with priority being given to supporting the development of clean energy. It is however arguable that the focus of Kenya’s climate change activities have not been in the area of funding adaptation to the potential impacts of climate change; rather Kenya has focused on the opportunities that new international financing streams bring in the context of the country’s need for increased diversity in its energy supply and for reducing costs.\(^4\) A clear vision is therefore required on how climate change should be managed and coordinated in the future. Increased clarity will be critical to successfully mainstream climate change needs and responses across the country and in government.

This will call for enhanced climate change awareness in a simplified language and manner understandable to different groups (women and youth, disabled, farmers and pastoralists, etc) so that they can be better prepared to deal with the problem. Further, awareness programmes that target those with some knowledge of climate change to help them take advantage of the opportunities that climate change brings will be necessary. The business community and private sector players who can take advantage of the opportunities presented by energy conservation initiatives as well as carbon emission trading mechanisms will accelerate the take up of clean technology by Kenyan firms and encourage participation in the global carbon market.

Some of the strides Kenya has made include developing a National Climate Change Response Strategy (NCCRS). However, unlike India’s National Action Plan on Climate Change (NAPCC), Kenya’s NCCRS lacks elaborate measures to combat climate change or reduce carbon emissions.

\(^3\) Supra note 1, p 67-69.
India’s idea of establishing several missions that focus on distinct areas while simultaneously working towards a common objective is a lesson that Kenya can pick. Our NCCRS does not allocate responsibility to any institution but merely gives ‘suggestions’ on what should be considered in matters relating to agriculture, energy, forestry, water, among others. Firmer obligations need to be set for certain identified institutions if we want to benefit from the process.

A dedicated climate change institution is a key requirement in this process. This is so because it shall establish a coordinated instrument which ensures that all cross-sectoral activities match the overall sustainable development vision with emphasis on low carbon development strategies. Part of the institution’s activities will involve resource mobilization; communication, education and public awareness; research and disaster management; adaptation and mitigation programmes; and monitoring and evaluation powers and responsibilities. An appropriate revision of the Climate Change Authority Bill may achieve the above objective. The shortfall in this Bill is that the proposed Authority shall be required to raise its own funds and shall not occasion any expenditure of public funds. The total exclusion of government funding means that the government will not be able to use the proposed Authority to spearhead government-driven climate change programmes. A survey conducted in India showed that while climate change issues appear to be high on the Indian businesses’ agenda, there is a desire for the Indian government to be seen as a leader on this issue and take the leadership role in bringing about climate change. The Indian government is already spending over 2% of its gross domestic product (GDP) on measures to adapt to the impacts of climate change. Without funding the proposed Climate Change Authority’s activities, the government will not able to take a leadership role, through the Authority’s activities, in its response to climate change. This position therefore needs to be reviewed before the Bill becomes law.

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5 Section 26
With regard to energy efficiency and management of energy demand, Kenya’s regulatory framework falls short. The demand for energy in the country is mainly addressed by supplying more energy as opposed to first managing demand through efficient use of available energy. This situation is compounded by the structure of the energy sector which is dominated by institutions whose primary objective is to increase supply. The incentive is market driven because these institutions make money from supply of electricity and do not make any money from managing the supply. The political support is also driven by the perceptive shortage of electricity, whereby the government subsidises supply; but does not subsidize conservation efforts. For these reasons, demand side management (of energy) is a toll order. Borrowing a leaf from India, Kenya needs specific policy and legislation to encourage energy efficiency and conservation. Such regulation will lead to initiation of programmes like product labelling, where the labels on certain identified products provide information about the energy consumed when the product was being manufactured as well as the consumption of energy of such a product – if it is an electrical equipment or appliance. This way, the consumer makes informed choices when purchasing these labelled products. These initiatives will lead to a change in culture that will impact on energy supply and use; creating a system which is efficient and well managed.

The same could be said about our focus on renewable sources of energy, where there is no specific policy or law that promotes use of renewable source over non-renewable energy sources. Over the years the Kenya government has been involved in medium to long term planning of the energy sector through the annual 20 year rolling Least Cost Power Development Plan (LCPDP). This is meant to identify existing potential in generation, possible investments in transmission as well as carefully forecasting on future demand for power and how best it can be met at least cost. Through this process, geothermal power, which is a renewable source of energy, has been identified as the most favorable mode of electricity generation. This has led to major investment in geothermal power generation projects and has indirectly influenced development in the power sector towards exploitation of a renewable energy resource for power generation. Noting that the LCPDP’s objectives do not take into account the environmental cost of using non-renewable resources for power generation; with the discovery of oil and coal in Kenya and in its neighboring countries, the current position that geothermal power is the most favorable mode of
electricity generation could be easily reversed. There is a real possibility that the LCPDP will identify fossil fuels as the most favorable mode of electricity generation and therefore attract major investment in the exploitation of these fuels for power generation. With clear policy and legislation promoting renewable energy use however, related policies, such as the LCPDP, shall be forced to take into account climate change issues as well as impose an environmental costs on using non-renewable sources of energy. This way, the country will be ensuring use of cleaner and more reliable energy sources for power generation.

In conclusion, the need for a robust policy, legal and institutional framework that focuses on climate change and emission reduction objectives is long overdue; as it is required to guide Kenya’s future economic development activities. The regulatory framework is further encouraged as is shall serve to vet government’s decisions that may negatively impact on the goal of achieving a low carbon economic development path before these decisions are implemented. This is because particular government development and investment objectives have been found to have a consequent negative effect on achievement of the government’s emission reduction initiatives. Some examples of such government decisions include subsidized pricing of fossil fuels and electricity generated from these fuels; reduced government budgets for energy projects; weakness in a country’s institutional and legal framework; the uncertain status of private firms in the energy sector; lack of information on mitigation options; and limited access to financing. The regulatory framework is therefore a necessary tool to guide Kenya’s future economic development and ensure its sustainability.

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