

Impact assessment



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Impact assessment

PIEA: Energy policy & Energy Act 2019

1. Background

1.1 The Petroleum Institute of East Africa

The Petroleum Institute of East Africa (PIEA) is the professional body for the oil and gas industry in East Africa. PIEA's mission is to provide a forum for expertise and excellence in the oil industry, promote professionalism and free enterprise in the petroleum business supported by the highest operations and business standards. PIEA's core objectives include advocating the maintenance of a legal, stable, fair, free and competitive market environment. They foster high standards and practices in the oil industry in East Africa by working with stakeholders, government and regulatory agencies to facilitate the development and sustenance of petroleum standards, guidelines and best practices. They contribute towards professionalism by building capacity through specialized oil and gas training offered at the School of Petroleum Studies, a PIEA subsidiary and the first training provider in Africa to receive accreditation as an approved training provider by the globally recognized Energy Institute. They also provide platforms for dialogue between industry and other stakeholders on diverse oil and gas subjects and they provide public safety education and awareness raising on petroleum related subjects.

1.2 The starting point

Development of the energy sector has been identified as one of the infrastructure enablers of the three pillars of Vision 2030. Petroleum energy contributes 22 per cent of Kenya's primary energy demand. This applies to East Africa and across the world, where projections show that fossil fuels will continue, at least in the short to medium term, to be the primary choice to meet the growing global energy demand.

The starting point for the Ministry and for PIEA was laid out in the National Energy Policy articulated in Sessional Paper no. 4 of 2004. This regulated the electricity, petroleum and renewable energy sectors. Inter alia, this established the Rural Electrification Authority (REA), outlined how electricity was to be generated, supplied and distributed and allowed for private entities to enter the sector and established the Energy Regulatory Commission (ERC). The policy would be implemented from 2004 to 2009. The Energy Act of 2006 came with three regulations, namely;

- the Energy (Electricity Licensing) Regulations 2012,
- the Electric Power (Electrical Installation Work) Rules 2006
- the Energy (Complaints and Dispute Resolution) Regulations 2012.

However, the Energy Act not only dealt with electricity matters but also regulated midstream and downstream operations and certain upstream operations of the petroleum sector. This was largely regulated through the Petroleum (Exploration and Production) Act, Cap. 308 together with:

- The Petroleum (Amendment) Rules, 2002 - LN 31
- The Petroleum (Amendment) Rules, 2002 - LN 64
- The Petroleum (Amendment - No. 2) Rules, 2003 - LN 197
- The Energy (Petroleum Regulation Levy) Regulations, 2008 (June) - LN 91
- The Energy (Petroleum Regulation Levy) Regulations, 2008 (August) - LN 109
- The Energy (Minimum Operation Stock) Regulations, 2008
- The Energy (Strategic Stock) Regulations, 2008
- The Energy (Liquefied Petroleum Gas) Regulations, 2009
- The Energy (Importation of Petroleum Production Products) (Quota Allocation) Regulations, 2010
- The Energy (Petroleum Pricing) Regulations, 2010
- The Energy (Gasohol Blending) Regulations, 2010
- Energy (Local Content) Regulations, 2014
- Petroleum Exploration Development and Production (Local Content) Regulations, 2014

The idea of using nuclear energy in the country was first proposed by the National Economic and Social Council (NESC) in 2010 which led to the establishment of the Nuclear Energy Project Committee (NEPC) under the Ministry of Energy. This was followed shortly by the establishment of the Kenya Nuclear Electricity Board (KNEB) in 2012 under the State Corporations Act, Cap 446.

Renewable energy was regulated by the following Acts and Regulations:

- Geothermal Resources Act No. 12 revised 2012
- Feed-in-Tariffs for Renewable Energy 2012
- Draft Appliances Energy Performance Regulations
- Designation of Energy Users Gazettement
- The Energy (Solar Photovoltaic Systems) Regulations, 2012
- The Energy (Energy Management) Regulations, 2012
- The Energy (Solar Water Heating) Regulations, 2012

In addition, the Environmental Management and Coordination Act and other laws cut across and affected the energy and petroleum sectors and were regularly referenced and used as appropriate.

The result was a complicated network of policy, legislation and regulation and a rapidly changing sector necessitating a new policy framework.

Vision 2030, the country's development blueprint to be implemented in five year plans was launched in 2008. The document recognised that energy had a big role to play in the development of the country and called for certain energy projects to be implemented and set milestones to be achieved by the end of the project

Climate change awareness grew in the country and Kenya became a signatory of various international agreements. This led to the development and launch of the Kenya National Climate Change Action Plan in 2013

Kenya additionally developed a number of related policies including:

- Kenya's 5000+M Power Plan
- Kenya's Last Mile Connectivity Project
- Least Cost Power Development Plan
- Scaling Up Renewable Energy Programme (SREP) Investment Plan for Kenya
- Rural Electrification Master Plan
- Kenya National Climate Change Response Strategy
- National Electrification Program Prospectus developed by REA
- Sustainable Energy for All (SE4All) Kenya Action Agenda and Investment Prospectus

Two private sector strategies were developed to deal with energy issues:

- Kenya National Domestic Biogas Programme (KEDBIP)
- Kenya County Action Plan - Cook Stoves

All these changes took place within a decade after the sessional paper was drawn up and by 2015, the then Ministry of Energy & Petroleum undertook to implement a policy reform process aimed at streamlining petroleum exploration, development and production. Successive energy policy drafts were discussed at national level.

1.3 Outline of the project

PIEA was concerned that the Ministry's draft did not sufficiently address PIEA's concerns and there was, thus, a need to influence the policy makers to adopt PIEA's proposals to ensure that the new policy was relevant to the needs of the sector. Specifically, PIEA wanted to ensure that policy guidelines would promote a direction for infrastructure development, local content, transparency & accountability, modern, cleaner quality affordable energy, deepened private sector participation and security of supply.

If successful, the expected outcome would be a revised National Energy Policy that met the current and expected future needs of the energy sector which would, in turn, improve the country's competitiveness as outlined in Vision 2030 and would provide the foundation for revising legislation and regulation to deliver an improved business regulatory environment.

PIEA developed comprehensive proposals and organised meetings with its members and other private sector stakeholders to validate them. It made presentations and discussed them with the Ministry of Energy and Petroleum, the Policy Technical Committee led by the Energy Regulatory Commission and the Parliamentary Energy Committee. PIEA used the media (both print and electronic) to communicate its policy proposals more widely.

2. Outcome

The CEO of PIEA was the only private sector member on the Technical Committee that drew up the 2018 Energy Policy. This allowed PIEA to raise concerns about the policy and to influence the final draft.

One of the key problems cited with sessional paper no. 4 is that consultation with stakeholders was inadequate. PIEA's representative membership and participation in the work of the technical committee made a considerable difference to the final draft.

A final draft of the Energy Policy 2018 was agreed by the technical committee and tabled at cabinet though it still awaits approval. However, many aspects of the policy are already being implemented and are discussed in this assessment. The plans and aspirations of the policy are listed in the Annex.

A further outcome is that the policy covered peripheral but important issues which had not been covered in earlier energy policies such as land, rights, conserving the environment, health and safety, waste management and pollution. A comprehensive list of these issues can be found in the Annex.

3. Impact

3.1 Quantitative analysis

One of the difficulties of carrying out any analysis of the impact of the energy policy 2018 is that it had not been approved by the cabinet at the date of the assessment. However, this does not render an analysis impossible because two laws that the policy says should be enacted and implemented, that is, the Energy Act and the Petroleum Act, were passed in 2019 and are now being implemented. It is important to note that the Acts were developed in tandem so as to streamline the petroleum and energy operations given the advanced nature of oil exploration in Kenya. The 2018 Energy Policy, when approved, will usher in a new era of the energy sector in Kenya and has dramatically altered the energy and petroleum landscape both institutionally and legally.

The difficulties alluded to earlier remain as institutional and regulatory changes are still underway and therefore data is scarce. Upstream operations remain relatively undeveloped, rendering it impossible to compare effects between the situation before the development of the policy and after in this sector from a quantitative angle.

Assessing the scale of the impact of the policy, let alone of PIEA's specific proposals, is challenging not least because energy plans are made years in advance. However, the impact of the Energy Policy can be envisioned to a certain extent by looking at the existing information contained therein. As can be seen in the policy aspirations laid out in the annex, the energy policy is meant to last until the year 2030 so that it aligns to the Vision 2030 blueprint. Kenya's energy plans are tailored to the energy demands of its flagship projects which are shown in Table 1 below.

Table 1: Flagship projects & assumptions

Project	Reference			High				
	First year of ops	Initial Load (MW)	Year of total load	Total Load (MW)	First year of ops	Initial Load (MW)	Year of total load	Total Load (MW)
Electrified mass rapid transit system for Nairobi	2024	15	2030	50	2022	15	2027	50
Electrified Standard Mombasa-Nairobi	2022	98	2030	130	2021	100	2028	300
Electrified SGR Malaba	2026	62	2035	62	2024	63	2032	189
Electrified LAPPSET SGR	-	-	-	-	2035	30	2037	30
Oil pipeline and port terminal (LAPSSET)	2025	50	2037	150	2022	50	2032	150
Refinery and petrochemical industries (LAPSSET)	2028	25	2037	100	2025	50	2030	200
Konza City	2024	2	2037	190	2022	2	2034	200
Special economic zones	2021	5	2037	110	2020	30	2028	110
Integrated steel mill					2030	100	2035	200

In addition to the flagship projects, the following energy projects are in the pipeline to be finalised by the year 2047.

Table 2: Energy projects in the pipeline

Year for system integration	Plant name	Type	Net capacity [MW]
2018	Orpower IV plant 1	Geothermal	10
2018	Lake Turkana - Phase I, Stage 1	Wind	100
2018	Strathmore	PV	0.25
2019	HVDC Ethiopia	Import	400
2019	Olkaria 5	Geothermal	158
2019	Olkaria Modular	Geothermal	50
2019	Olkaria 1 - Unit 1 Rehabilitation	Geothermal	17
2019	Lake Turkana - Phase I, Stage 2	Wind	100
2019	Lake Turkana - Phase I, Stage 3	Wind	100
2019	PV grid Garissa	PV	50
2019	Marcoborero	PV	2
2019	Kopere	PV	40
2020	Menengai 1 Phase I - Stage 1	Geothermal	103
2020	Olkaria 1 - Unit 6	Geothermal	70
2020	Olkaria 1 - Unit 2 Rehabilitation	Geothermal	17
2020	Olkaria 1 - Unit 3 Rehabilitation	Geothermal	17
2020	Kipeto - Phase I	Wind	50
2020	Kipeto - Phase II	Wind	50
2020	Alten, Malindi, Selenkei	PV	120
2020	Quaint Energy, Kenergy	PV	50
2021	Olkaria Topping	Geothermal	47
2021	Ngong 1 - Phase III	Wind	10
2021	Chania Green	Wind	50
2021	Aperture	Wind	50
2021	Eldosol	PV	40

Year for system integration	Plant name	Type	Net capacity [MW]
2021	Makindu Dafre Rareh	PV	30
2021	Gitaru solar	PV	40
2022	Olkaria 6 PPP	Geothermal	140
2022	Menengai I - Stage 2	Geothermal	60
2022	Prunus	Wind	51
2022	Meru Phase I	Wind	80
2022	Ol-Danyat Energy	Wind	10
2022	Electrawinds Bahari	Wind	50
2022	Hanan, Greenmillenia, Kensen	PV	90
2023	Orpower4 plant 4		61
2023	Olkaria 7	Geothermal	140
2023	Eburru 2	Geothermal	25
2023	GDC Wellheads	Geothermal	30
2023	Wellhead leasing	Generic back-up	50
2023	Karura	Hydropower	89
2023	Electrawinds Bahari Phase 2	Wind	40
2023	Sayor, Izero, Solarjoule	PV	30
2023	Belgen, Tarita Green Energy	PV	80
2024	Lamu Unit 1	Coal	327
2024	Lamu Unit 2	Coal	327
2024	Lamu Unit 3	Coal	327
2024	Olkaria 8	Geothermal	140
2024	Menengai III	Geothermal	100
2024	Baringo Silali - Paka I	Geothermal	100
2024	Marine Power Akiira Stage 1	Geothermal	70
2024	Meru Phase II	Wind	100
2024	Tarita Green Energy Isiolo	PV	50
2024	Asachi, Astonfield B82Sosian, Sunpower	PV	81
2025	AGIL Longonot Stage 1	Geothermal	70
2025	Olsuswa 140MW unit I&II	Generic back-up	140
2025	Meru Phase III	Wind	220
2026	Suswa I	Geothermal	100
2026	Baringo Silali - Silali I	Geothermal	100
2026	Aeolus Kinangop	Wind	60
2026	Solargen	PV	40
2027	Baringo Silali - Korosi I	Geothermal	100
2028	Menengai IV	Geothermal	100
2028	Marsabit Phase I - Kengen	Wind	300
2030	Olkaria 9 & Other fields	Geothermal	420
2030	Suswa II	Geothermal	100
2031	Menengai IV	Geothermal	100
2031	High Grand Falls Stage I	Hydropower	495
2032	High Grand Falls Stage I&II	Hydropower	693
2033	Suswa III	Geothermal	100
2034	Dongo Kundu CCGT - Small I	Natural Gas	375
2034	Dongo Kundu CCGT - Small II	Natural Gas	375
2036	Nuclear Unit I	Nuclear	600
2036	Nuclear Unit II	Nuclear	600
TOTAL MW			9,497

Source: Least Cost Power Development Plan 2017 - 2037 (LCPDP)

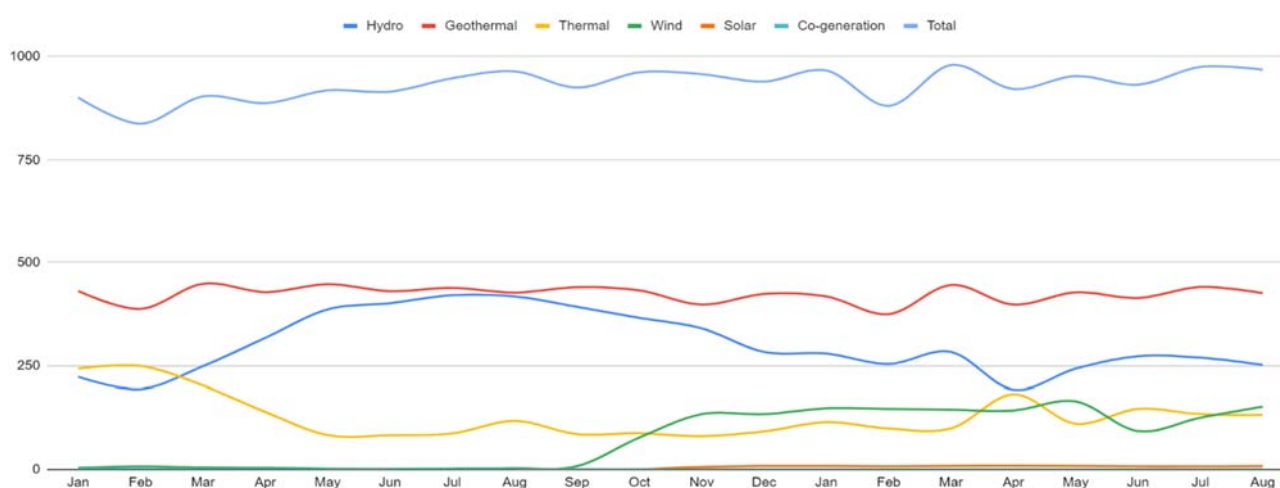
In other words, the energy policy 2018 will guide the development of about 6,000 MW into the national grid which should be more than enough energy to power all the flagship projects.

Petroleum plays an important role in this generation of energy because, according to the Least Cost Power Development Plan 2017-2037, 40 per cent of

the installed power generating capacity is reliant on petroleum products and crude oil. Currently, Kenya imports refined crude oil but should start oil production soon once the regulatory and institutional changes are in place. These point to the importance of the new petroleum act and the impact of the policy on this sector from a quantitative view not only now but in the future.

A look at data by the Kenya National Bureau of Statistics (KNBS) in Figure 1 shows power generation from 6 different sources since January 2018 till August 2019. There has been no significant change in power generation from the different sources except for wind power.

Figure 1 Power generation (Jan 2018-Aug 2019)



Source: Leading Indicators, KNBS

Kenya's current installed capacity is 2.3 GW. It projects a total demand of 15 GW by the year 2030 and intends to be able to provide 19 GW by then. One can therefore surmise from this information that the 2018 energy policy will be able to guide the addition of 16 GW to the country to drive economic growth in the country. As shown in the vision 2030 flagship projects, the impact will span the manufacturing, transport and energy sectors which tend to affect all other sectors in the economy. This means that the energy policy will have far reaching economic benefits far beyond what is covered in this assessment.

3.2 Qualitative analysis

After legislation related to the policy was passed in March 2019, a number of changes took place in the energy sector. It is therefore possible to carry out a qualitative analysis to look at the impact of the policy by studying what has been done by the government after the two acts were passed.

The impact of the Energy Act 2019 and the Petroleum Act 2019 can be looked at under the following two categories

- The new regulatory framework
- The new institutional framework

3.2.1 The new regulatory framework

The Energy Act 2019 was created “to consolidate the laws relating to energy, to provide for National and County Government functions in relation to energy, to provide for the establishment, powers and functions of the energy sector entities; promotion of renewable energy; exploration, recovery and commercial utilization of geothermal energy; regulation of midstream and downstream petroleum and coal activities; regulation, production, supply and use of electricity and other energy forms; and for connected purposes.”¹ The Energy Act 2019 repeals the following legislation

- Energy Act No. 12 of 2006
- Geothermal Resources Act No. 12 revised 2012
- The Kenya Nuclear Electricity Board Order No. 131 of 2012
- Petroleum (Exploration and Production) Act, Cap. 308

The Petroleum Act 2019 was passed to “provide a framework for the contracting, exploration, development and production of petroleum; cessation of upstream petroleum operations; to give effect to relevant articles of the Constitution in so far as they apply to upstream petroleum operations, regulation of midstream and downstream petroleum operations; and for connected purposes.”² It repeals the Petroleum (Exploration and Production) Act, Cap. 308 and authorises the Cabinet Secretary to create an agency to replace the ERC. It calls for the development of a national petroleum policy which should be reviewed every five years.

It also calls for the development of a national petroleum strategic plan which shall take into account the national petroleum policy and serve as a guide for the implementation of the national policy on petroleum operations. The Cabinet Secretary shall prescribe regulations in relation to the content and timelines for the preparation of the petroleum strategic plan. Within three months after the end of each financial monitoring implementation year, the Cabinet Secretary shall prepare and publish a report on the implementation of the national petroleum strategic petroleum plan.

It calls for the establishment of the National Upstream Petroleum Advisory Committee

It calls for the development of regulations for the downstream sector. These regulations will cover, the ‘determination of maximum wholesale and retail prices, tariffs for common user facilities, OTS operations, licensing and standard guidelines, minimum operation and strategic stocks, provision of a national oil spill plan, business dealings in lubricants and handling of petroleum products in aviation.’³

The act provides a formula on how profits from upstream operations are to be shared between national and county governments and the local communities using a 75:20:5 ratio.

¹ Energy Act 2019

² Petroleum Act 2019

³ Petroleum Insight 2019

While the model product sharing contract (PSC) is similar to that in the previous act, the new act includes a provision to allow parliament to review and ratify future production sharing contracts as called for by article 71 of the constitution.

Local content requirements are more stringent in the new PSC requiring the employment and training of Kenyan citizens. It calls for the set up of a training fund financed by the contractor and technology transfer programmes to help Kenyans learn specialised skills. It also requires the contractor to use local suppliers and materials produced in Kenya and to share these contracts with the ministry.

The act lays out strict term, exploration, obligations and termination rules to enable the ministry to oversee exploration activities in the country. It calls for the establishment of strategic petroleum reserves by creating a Consolidated Petroleum Fund. And, it emphasises environmental, health and safety (EHS) issues

These two Acts are closely bound together because, though the Petroleum Act substantively covers all petroleum sector related issues, it is the Energy Act which outlines how the oversight authority is to be established and run. A list of the regulations and codes being developed from the Petroleum Act 2019 and the Energy Act 2019 are shown in the table below.

Table 3: Regulations arising from the Acts

Petroleum Act 2019	Legal notice No. 100 of 2019 Petroleum Act (Liquefied Petroleum Gas) Regulations, 2019 Legal notice No. 99 of 2019 Petroleum Act (The Energy (Licensing of Petroleum Road Transportation Business Amendment) Regulations, 2019
Energy Act 2019	Legal notice No. 132 of 2019 Energy (Electricity Licensing) Regulation, 2019 Energy (Complaints and Disputes Resolution) Regulations, 2019 Energy (Geothermal Resources) Regulations, 2019 Energy (Rural Electrification Programme Fund) Regulations, 2019 Energy (Solar Water Heating) Regulations, 2019 Energy (Energy Management) Regulation 2019 Energy (Solar Photovoltaic Systems) Regulation 2019 Energy (Appliances' Energy Performance & Labelling) Regulations, 2019 Energy (Electricity Tariffs) Regulations, 2019 Energy (Mini-Grid Generation and Supply) Regulations, 2019 Energy (Accounts, Records & Reports) Regulations, 2019 Energy (Electricity Supply) Regulations, 2019 Kenya National Transmission Grid Code & Kenya National Distribution Grid Code Energy (Net Metering) Regulations, 2019 Energy (National Energy Policy & Integrated National Energy Plan) Regulations, 2019 Energy (Decisions of the Authority) Regulations, 2019 Energy (Energy & Petroleum Tribunal Procedure) Rules, 2019 Energy (Reliability of Supply, Quality of Supply & Quality of Service) Regulations, 2019 Energy (Rights of Way) Regulations, 2019 Energy (Local Content) Regulations, 2019 Energy (Incidents and Accidents Reporting) Regulations, 2019 Energy (Consolidated Energy Fund) Regulations, 2019

Source: EPRA

Only two Petroleum Act regulations have been passed. The LPG Regulations (Legal Notice no. 100) was passed earlier this year and covers the LPG industry. The sector is regulated by EPRA. Prior to 2009, gas cylinders were not exchangeable because they had different valve sizes. So valves were made universal to allow people to use different cylinders with different oil marketing companies. Earlier regulations forced oil marketing companies into a cylinder exchange pool, but this led to a number of problems, chief among which was illegal re-fillers and the safety of the cylinders due to a lack of servicing and ownership for the cylinders. These concerns also heightened the fear of using LPG as a form of fuel for household purposes which is unfortunate because the government wants to help Kenyans transition from using charcoal and wood as fuel to greener fuel sources.

The regulations therefore abolished the mandatory cylinder exchange pool and allowed marketers to enter into their own agreements. Gas cylinders are owned by the brand owners and safety is their concern. This allows for competition to be about the brand and not the gas cylinder. However, the cylinder universal valve is retained which means that LPG penetration can continue. Consumers should receive a refund of their deposit should they return a gas cylinder. Licensing of operators in the industry is a must. There are now new regulators in the sector in addition to EPRA. They include the Kenya Bureau of Standards (KEBS), Kenya Revenue Authority (KRA), Anti Counterfeit Agency (ACA), Directorate of Occupational Health and Safety (DOSHS), National Environment Management Authority (NEMA), and the County Executive Committees (CEC's) in public health, environment and energy across the country.

PIEA sets out the regulators' duties and the marketers' obligations as articulated in the LPG Regulations in a primer that can be downloaded from their website⁴.

3.2.2 The new institutional framework

The adoption of the two acts led to changes in the energy agencies and institutions. These can be seen in the table below.

Table 4: Energy Sector Entities

Old Institutions	New Institutions
Energy Regulatory Commission Rural Electrification Authority	Energy and Petroleum Regulatory Authority Rural Electrification and Renewable Energy Corporation (REREC) and Rural Electrification and Renewable Energy Advisory Committee (RERAC)
The Energy Tribunal Kenya Nuclear Electricity Board	The Energy and Petroleum Tribunal Nuclear Power and Energy Agency (NUPEA)

The whole energy institutional framework now consists of the following entities:

- Energy and Petroleum Regulatory Authority (EPRA);
- Energy and Petroleum Tribunal;
- Rural Electrification and Renewable Energy Corporation (REREC);
- Nuclear Power and Energy Agency (NPEA);
- Kenya Power and Lighting Company (KPLC);

⁴ PIEA Website <https://www.petroleum.co.ke/>

- Kenya Electricity Generating Company (KENGEN);
- Geothermal Development Company (GDC);
- Kenya Electricity Transmission Company (KETC);
- National Oil Corporation of Kenya (NOCK);
- Kenya Pipeline Company (KPC); and
- Kenya Petroleum Refinery Limited (KPR).

The newly established institutions will carry out the following functions:

- EPRA will regulate everything related to the whole supply and distribution chain of electricity except for the licensing of nuclear facilities.
- REREC will oversee the implementation of the Rural Electrification Programme and everything that pertains to it including managing the fund and sourcing for new revenue streams for the programme and for renewable energy.
- NPEA will develop and implement the nuclear energy programme.

On the establishment of EPRA, a sector operationalisation committee consisting of government and various stakeholders was set up to ensure that everything in the act is put in place. They have a matrix with deadlines and about 20 new regulations to implement. For each regulation, a regulatory impact assessment has to be done with possible impacts and stakeholder meetings held once the regulations are developed and before the regulation is passed. Currently about 20 regulations shown in table 3 are in the pipeline for development.

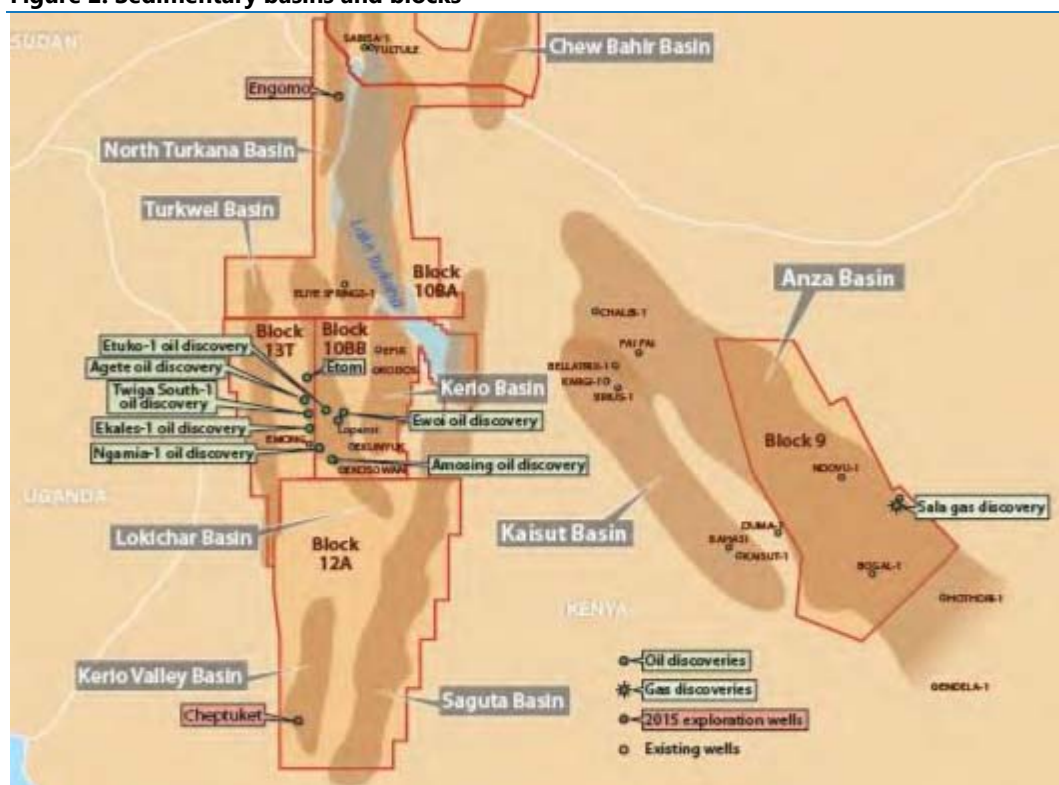
The two acts also call for the establishment of:

- Consolidated energy fund
- Rural electrification programme fund.
- Electricity sales levy.

With regard to upstream operations, the following is currently underway in terms of institutional changes. Upstream activities refer to exploration production, drilling etc up to the wellhead. Midstream activities refer to pipeline and refinery and what happens once the oil is produced. The largest midstream player is the Kenya Pipeline Company which operates a common user facility to load fuel to take to petrol stations. According to the Ministry of Petroleum and Mining website,⁵ Kenya has four major sedimentary basins namely Lamu, Anza, Mandera and Tertiary Rift. The basins cover a total surface area of approximately 485,000 km². Lamu Basin is both onshore and offshore and has a total of 37 blocks. The Anza Basin is divided into seven blocks. Mandera Basin comprises five blocks. The Tertiary Rift Basin has 14 blocks. There are 63 gazetted petroleum blocks in Kenya. Some 25 of these blocks are currently licensed to 13 international oil companies with one block, 14T, licensed to the National Oil Corporation of Kenya (NOCK), though it has not yet started drilling. Some 35 blocks are open for interested oil companies. To date, 94 wells have been drilled in the four sedimentary basins. When a discovery is made, it is reserved for the government and NOCK takes charge of these assets for the government.

⁵ <http://www.petroleumandmining.go.ke/>

Figure 2: Sedimentary basins and blocks



Source: Petroleum and Mining website

Operators own, operate or assign a block, but the blocks belong to the government and production sharing contracts are given to operators with works of obligation which refer to the obligations of these operators for a given period of time. Oil and gas exploration is very expensive and high risk so many of the operators tend to be international oil companies.

NOCK previously promoted oil exploration and geophysical data acquisition but in the new laws, it is set to hand these tasks to EPRA and concentrate solely on its relevance as a commercial entity which is expected to grow in the coming years. The idea is to have NOCK develop into an integrated oil and gas company like those found in other oil producing countries.

NOCK will also hand over most of its midstream operations and concentrate solely on upstream operations according to the Petroleum Act 2019. The oil found in Kenya has no sulphur but, due to the DNA of the oil microorganisms, is heavy and waxy. This means that pipelines have to be heated for the oil to flow. As Kenya does not have a refinery, the Kenya Pipeline Company intends to build a new pipeline and a modular refinery on site.

3.2.3 Green Growth and the Energy Policy 2018

In December 2019, Kenya was ranked 5th in the annual Bloomberg index which measures investments and opportunities in clean energy. This is due to the use of solar, wind and geothermal energy in the country. Kenya aims to be entirely powered by green energy in the near future and already 70 per cent of Kenya's installed energy comes from green sources. It ranks 9th in the world in terms of use of geothermal sources. Table 2 in the Annex on Electricity shows that the energy policy supports and aims to promote this commitment to green energy. It

calls for further development of solar, wind and geothermal sources through promotion or research and development, attracting investors and awareness programs to citizens. Table 4 calls for energy efficiency measures for sustainable development of the sector. Land, climate and local content issues are also addressed to show that the policy has a holistic approach to the generation, distribution and use of energy done in a sustainable manner.

3.3 Progress

3.3.1 Outstanding Issues

The 2018 energy policy needs to be signed by the cabinet so that it can be fully adopted.

A framework local content policy was developed in September 2018 by the Ministry of Industry, Trade and Cooperatives to apply to all the sectors of the economy. The senate also developed the Local Content Bill in the same year for implementing the policy. The Ministry of Petroleum and Mining then drafted the Petroleum (Local Content) Regulations 2019 which are meant to operationalise local content clauses in the 2019 Act with upstream petroleum operations in mind. All these documents are in draft and have yet to be approved or passed by parliament. There is a feeling in industry that the local content policy needs to be reviewed and harmonised to fully and comprehensively cover all sectoral needs.

The regulations that are currently being developed as shown in Table 3 need to be finalised and implemented.

The Ministry of Petroleum and Mining has hired a consultant to develop a national petroleum master plan for Kenya, a project under the Kenya Petroleum Technical Assistance Project. It then needs to be implemented. A petroleum policy and a petroleum strategic plan needs to be developed as per the stipulations of the Petroleum Act 2019.

In terms of upstream issues, the National Oil Corporation of Kenya (NOCK) needs to develop and adopt a new corporate strategy to allow it to transform to a fully commercial national oil company as called for in the petroleum Act 2019.

In terms of midstream issues, the government is to construct the Kipevu Oil Terminal which will be relocated to the Lamu Port to allow four tankers to berth simultaneously and to handle gas as outlined in the Kenya Ports Authority Master Plan (2018-2047) and in line with the Petroleum Act.

It is also finalising legal notice no. 121 on the LPG Cylinder Interchange system.

4. Lessons

Stakeholder involvement in development of government policies is important to ensure the buy in of policies and regulations and ensure investor confidence. it makes implementation easier for the government.

PIEA will need to continue to work closely with the government and its agencies to ensure that implementation is done, and best practices are adopted.

Appendix 1: Review of details from energy policy

Policy aspirations of the 2018 energy policy

Table 4: Coal utilisation as per the Energy Policy

Coal Utilization		Short Term 2018-22	Medium Term 2018-26	Long Term 2018-30
1	Develop local expertise and enhance local content in coal utilisation through training and collaboration with other Government organs, training and research institutions.	x	x	x
2	Develop and implement appropriate legal, fiscal and regulatory framework for utilisation.	x	x	x
3	Undertake extensive public awareness and stakeholder engagement on the use of coal as a cheap source of electricity generation.	x	x	x
4	Adapt appropriate clean coal technology and provide suitable fiscal incentives.	x	x	x
5	Enhance regional co-operation in data and information exchange for coal exploration.	x	x	x
6	Enhance budgetary support for utilisation of coal resources	x	x	x
7	Encourage private sector participation in coal utilisation through PPP and JV arrangements by providing appropriate incentives.	x	x	x
8	Facilitate development of 960MW coal fired plant within the Mui Basin (Kitui County), and development of other coal fired plants in other feasible sites in the country.	x	x	x
9	Develop an integrated infrastructure for coal storage, transportation and utilization to facilitate the development of the coal industry.	x	x	x
10	Ensure compliance with the best coal industry practice in coal utilisation.	x	x	x
11	Enforce investors' compliance with the regulatory framework and agreed work plans.	x	x	x
12	Provide incentives to encourage and promote the use of coal as an electricity generation source.	x	x	x

Table 5: Renewable Energy Aspirations in the 2018 Energy Policy

		Short Term 2018-22	Medium Term 2018-26	Long Term 2018-30
Geothermal				
1	The Government shall continue to support and fund geothermal resource assessment and development so as to manage the geothermal exploration risk and attract investors.	x	x	x
2	Promote research, development and capacity building for geothermal development by providing fiscal and other incentives.	x	x	x
3	Streamline licensing and allocation of geothermal blocks with incentives and sanctions in order to accelerate geothermal development.	x	x	x
4	The government to package incentives through attractive pricing to promote and encourage direct uses of geothermal resources such as utilization of heat, water, gases and minerals.	x	x	x
5	The government to enforce compliance with the regulatory requirement to utilize the best available technologies that optimise the resource and conserve the reservoir	x	x	x

		Short Term 2018-22	Medium Term 2018-26	Long Term 2018-30
6	Promote early geothermal generation through implementation of efficient modular geothermal technologies.	x	x	x
	Hydropower			
1	The government to develop a hydro risk mitigation mechanism to address risks such as prolonged droughts so as to cushion generators, transmitters, distributors and consumers against the effects of adverse hydrology.	x	x	x
2	The government to establish a coordinated approach for the management of water reservoirs.	x	x	x
3	Develop a framework for coordination for use of water resources against various interests.	x	x	x
4	The government to finance conservation of hydro power water catchment areas.	x	x	x
5	The Government shall implement hydro power projects as multi-purpose projects.	x	x	x
6	The government to invest in increased storage capacity for hydro power reservoirs.	x	x	x
	Small Hydro			
1	Finance conservation of hydro power water catchment areas.	x	x	x
2	Provide incentives for Public Private Partnerships in small hydros.	x	x	x
3	Invest in hydrological data collection, management and dissemination	x	x	x
4	Promote development of capacity and knowledge on usage of appropriate technologies.	x	x	x
	Biomass			
1	The government to undertake a comprehensive baseline study on biomass energy resources and potential and establish status of tree cover in the country.	x	x	x
2	The government to develop, update and disseminate information on biomass energy resources.	x	x	x
3	Formulate and implement a national strategy for coordinating subsistence and commercial biomass production.	x	x	x
4	Promote efficient conversion and cleaner utilization of biomass energy.	x	x	x
5	Promote the use of biomass briquettes as alternatives to wood fuel.	x	x	x
6	Provide incentives for private sector participation in conversion of waste to energy initiatives to reduce overreliance on Biomass energy	x	x	x
7	Undertake public sensitization and awareness programmes to enhance participation in the management, protection and conservation of the environment as provided for in Article 69 (d) of the Constitution.	x	x	x
8	Promote alternative sources of energy and technologies such as LPG, biogas and solar as substitutes for biomass.	x	x	x
9	Collaborate with other relevant ministries and stakeholders to promote sustainable afforestation programmes.	x	x	x
10	Collaborate with other stakeholders to ensure efficient use of land resource for biomass, food production and other human needs.	x	x	x
11	Undertake and promote Research	x	x	x
	Biofuels			
1	Undertake RD&D on Biofuel feed-stock	x	x	x
2	Review the existing legal, fiscal, regulatory and institutional framework.	x	x	x
3	Provide incentives for biofuel production projects and consumption.	x	x	x
4	Collaborate with other stakeholders to ensure efficient use of land resources for biofuel feed-stock, food production and other human needs.	x	x	x

		Short Term 2018-22	Medium Term 2018-26	Long Term 2018-30
5	Create stakeholder awareness and sensitization on the importance and viability of biofuel production and consumption.	x	x	x
6	Implement the bioethanol pilot program.	x	x	x
7	Initiate and implement	x	x	x
	Biogas			
1	Develop and implement public awareness programs on the benefits and potential of biogas technology.	x	x	x
2	Undertake and promote RD&D of biogas energy technologies	x	x	x
3	Provide appropriate fiscal incentives for local manufacture of biogas plant and equipment, large scale production, storage and distribution.	x	x	x
4	The government to initiate capacity building programs on biogas technology in learning institutions.	x	x	x
5	The government to develop and enforce legal and regulatory requirements on biogas.	x	x	x
6	Support domestic and community based biogas plants among urban, rural population and institutions.	x	x	x
7	Promote the use of biogas as an alternative to wood fuel and kerosene for domestic and commercial energy needs.	x	x	x
8	Roll out biogas initiatives to supply the remaining public institutions including prisons, schools and hospitals as well as biogas bottling plants across the country.	x	x	x
	Solar energy			
1	Undertake awareness programs to promote the use of solar energy	x	x	x
2	Enforce regulations on standards.	x	x	x
3	Regular review of standards for solar energy technologies and equipment.	x	x	x
4	Provide incentives to promote the local production and use of efficient solar systems.	x	x	x
5	Enforce regulations on building codes on water heating and lightning.	x	x	x
6	Provide a framework for connection of electricity generated from solar energy to national and isolated grids, through direct sale or net metering.	x	x	x
7		x	x	x
8	Enhance penalties for theft and vandalism of solar systems.	x	x	x
9	Support hybrid power generation systems involving solar and other	x	x	x
10	energy sources to manage the effects caused by the intermittent nature and availability of solar energy.	x	x	x
11	Roll out installation of solar PV systems in all the remaining public facilities in the off grid areas.	x	x	x
12	Procure and distribute solar lanterns to light up rural, peri-urban and urban areas.	x	x	x
13	Undertake RD&D on solar technologies.	x	x	x
	Wind energy			
1	Develop institutional capacity for widespread use of wind energy.	x	x	x
2	Continually review and enforce regulations and standards for wind energy technology.	x	x	x
3	Collect and compile wind energy data and update the wind atlas.	x	x	x
4	Provide incentives for wind energy development.	x	x	x
5	Support hybrid power generation systems involving wind and other energy sources.	x	x	x
6	Provide a framework for connection of electricity generated from wind energy to national and isolated grids, through direct sale or net metering.	x	x	x
7	Plan and invest in transmission lines to facilitate evacuation of power from areas with high wind potential to major load centres.	x	x	x

		Short Term 2018-22	Medium Term 2018-26	Long Term 2018-30
8	Undertake Research Development and Dissemination (RD&D).	x	x	x
	Municipal waste			
1	Develop and implement legal and regulatory framework for exploitation of municipal waste.	x	x	x
2	Develop and implement a framework for collaboration to manage and exploit the municipal waste.	x	x	x
3	Develop programs for data collection and dissemination on the potential of municipal waste.	x	x	x
4	Provide incentives for conversion of municipal waste to energy.	x	x	x
5	Undertake pilot programmes for the generation of electricity using municipal and industrial solid waste.	x	x	x
6	Provide integrated solid waste management plan and roadmaps	x	x	x
	Co-generation			
1	Provide incentives for investment in efficient and emerging cogeneration technologies.	x	x	x
2	Promote community programmes and projects in production and supply of agro-waste.	x	x	x
3	Support co-generators in implementing capacity building programmes in cogeneration technologies.	x	x	x
4	Carry out public awareness and sensitization programmes in cogeneration.	x	x	x
5	Formulate and implement a national strategy for coordinating development of cogeneration.	x	x	x
6	Undertake RD&D in co-generation technologies.	x	x	x
7	Support PPP arrangements to accelerate investment in cogeneration.	x	x	x
8	Formulate and implement information dissemination strategy to investors on issues relating to licensing, taxation and feed in tariff policy.	x	x	x
9	Develop and implement regulatory framework for certification of cogeneration projects.	x	x	x
	Feed-in-tariffs			
1	The private sector through Feed-in-Tariff to develop potential sites to generate electricity for their own consumption and for export of any surplus to the national grid.	x	x	x
2	Formulate and implement promotion campaigns to attract potential investors.	x	x	x
3	Periodic review and implementation of FIT policy.	x	x	x
4	Undertake periodic studies on the capital expenditures and operating costs of the different types of technologies and develop sufficient analytical tools to inform the level of tariffs for different technologies.	x	x	x
4	Develop and regularly review model power agreements	x	x	x
5	Encourage purchase agreements for the various modes of generation.	x	x	x
6	Provide capacity building programs and financial assistance to community based projects.	x	x	x
7	Expand the scope of FiT to include emerging and hybrid technologies.	x	x	x
	Other renewables			
1	Develop and implement legal and regulatory framework.	x	x	x
2	Carry out RD&D on potential of emerging renewable energies.	x	x	x
	Cross cutting issues			
1	Establish inter-ministerial Renewable Energy Resources Advisory Committee (RERAC) to advise the Cabinet Secretary on matters relating to renewable energy resources.	x	x	x
2	Transform the Rural Electrification Authority into the Rural Electrification and Renewable Energy Corporation (RERC) to become the lead agency in the development of renewable energy resources excluding geothermal and large hydros. RERC	x	x	x

		Short Term 2018-22	Medium Term 2018-26	Long Term 2018-30
	shall be the one stop shop for information and guidance to investors on renewable energy projects.			
3	In order to promote the use of renewable energy and disseminate information on renewable energy technologies, it is proposed to:	x	x	x
	Assist the counties which do not have energy centres to establish new ones based on existing models.	x	x	x
	Develop criteria for the phased transfer of existing energy centres to host County Governments.	x	x	x
4	Facilitate Partnership with potential financing institutions to enable the public to access credits schemes.	x	x	x
5	Develop regulations for net metering to facilitate and encourage sale to the grid of electrical energy generated from renewable energy systems.	x	x	x
6	Develop and implement master plan for renewable energy	x	x	x
7	Incentivise community based power generation.	x	x	x
8	Partner with relevant institutions to support green energy certification schemes.	x	x	x
9	9. Develop and implement resettlement action plans (RAP).	x	x	x
10	Enhance the capacity of the System Operator to manage power supplies from intermittent energy sources.	x	x	x

Table 6: Electricity aspirations in the 2018 Energy Policy

		Short Term 2018-22	Medium Term 2018-26	Long Term 2018-30
	Electric power generation			
1	Develop electricity infrastructure within the locality of generation plants.	x	x	x
2	Put in place mechanisms to ensure that local communities benefit from future developments of the electricity supply infrastructure.	x	x	x
3	Formulate and implement a renewable energy roadmap from the renewable energy master plan.	x	x	x
4	Facilitate electricity generation using natural gas and coal through PPPs.	x	x	x
5	Develop and enforce a regulatory framework to ensure that all equipment procured for thermal power plants shall be designed and constructed to minimise the environmental impact.	x	x	x
6	Promote the utilisation of Combined Cycle Gas Turbine (CCGT) plants to enhance efficiency.	x	x	x
7	Develop and enforce regulations for compliance with standards for reliable and stable power.	x	x	x
8	Establish natural gas handling and storage facilities in the country.	x	x	x
9	Enforce compliance for pollution prevention in thermal power plants	x	x	x
	Nuclear power generation			
1	Transform the Kenya Nuclear Electricity Board to the Nuclear Power and Energy Agency under statute, mandated to, inter alia, promote and fast track the nuclear power programme.	x	x	x

		Short Term 2018-22	Medium Term 2018-26	Long Term 2018-30
2	Develop a comprehensive legal and regulatory framework for the development, regulation and utilization of nuclear energy for electric power generation.	x	x	x
3	Identify an operator for the nuclear power plant and establish any other body required for the development and operation of nuclear electricity programme.	x	x	x
4	Carry out RD&D of nuclear energy technology and application.	x	x	x
5	Provide funds for establishment and operation of nuclear electricity programme.	x	x	x
6	Carry out pre-feasibility and feasibility studies to address all requisite infrastructure issues for the development of a nuclear power programme.	x	x	x
7	Commence human capacity building programme for recruitment of highly knowledgeable and skilled human resources in nuclear energy and ensure continuous training in all relevant specializations required for the support of the nuclear power programme.	x	x	x
8	Ensure the country accedes and domesticates to key conventions, treaties and protocols to meet her international obligations necessary for the establishment of a nuclear power programme.	x	x	x
9	Undertake extensive public awareness on the need for nuclear energy, engage stakeholders for support of nuclear power and also draw a comprehensive communication strategy.	x	x	x
10	Identify nuclear candidate sites followed by site evaluation, characterization and selection of feasible sites to be communicated to IAEA.	x	x	x
11	Identify vendors in nuclear energy technology, engage in bilateral agreements and MOUs with vendor countries.	x	x	x
12	Attain IAEA Milestone 1 (Ready to make a knowledgeable commitment to a nuclear programme and Milestone 2 (Ready to invite bids for the first nuclear power plant).	x	x	x
13	Commission the first 1,000MW nuclear plant by 2027 and 4,000MW by 2035.	x	x	x
14	The Government in the development of nuclear power shall collaborate with IAEA and countries with nuclear power generation technology.	x	x	x
	Electric power transmission			
1	Transform the Kenya Nuclear Electricity Board to the Nuclear Power and Energy Agency under statute, mandated to, inter alia, promote and fast track the nuclear power programme.	x	x	x
2	Develop a comprehensive legal and regulatory framework for the development, regulation and utilization of nuclear energy for electric power generation.	x	x	x
3	Identify an operator for the nuclear power plant and establish any other body required for the development and operation of nuclear electricity programme.	x	x	x
4	Carry out RD&D of nuclear energy technology and application.	x	x	x
5	Provide funds for establishment and operation of nuclear electricity programme.	x	x	x
6	Carry out pre-feasibility and feasibility studies to address all requisite infrastructure issues for the development of a nuclear power programme.	x	x	x

		Short Term 2018-22	Medium Term 2018-26	Long Term 2018-30
7	Commence human capacity building programme for recruitment of highly knowledgeable and skilled human resources in nuclear energy and ensure continuous training in all relevant specializations required for the support of the nuclear power programme.	x	x	x
8	Ensure the country accedes and domesticates to key conventions, treaties and protocols to meet her international obligations necessary for the establishment of a nuclear power programme.	x	x	x
9	Undertake extensive public awareness on the need for nuclear energy, engage stakeholders for support of nuclear power and also draw a comprehensive communication strategy.	x	x	x
10	Identify nuclear candidate sites followed by site evaluation, characterization and selection of feasible sites to be communicated to IAEA.	x	x	x
11	Identify vendors in nuclear energy technology, engage in bilateral agreements and MOUs with vendor countries.	x	x	x
12	Attain IAEA Milestone 1 (Ready to make a knowledgeable commitment to a nuclear programme and Milestone 2 (Ready to invite bids for the first nuclear power plant).	x	x	x
13	Commission the first 1,000MW nuclear plant by 2027 and 4,000MW by 2035.	x	x	x
14	The Government in the development of nuclear power shall collaborate with IAEA and countries with nuclear power generation technology.	x	x	x
	Electric power distribution			
1	Continually support and fund capacity building programs for the realization of energy human resource pool.	x	x	x
2	Government shall ensure and support reinforcement and development of the distribution network so as to improve reliability development of the distribution network so as to improve reliability and quality of supply.	x	x	x
3	Government to facilitate partnership programs in modernization of the distribution networks.	x	x	x
4	Review and enforce legal provisions with respect to energy related offences which are classified as economic crimes.	x	x	x
5	National government to put in place a collaborative framework with the County Governments in planning and developing distribution networks and transferring them to duly licensed distributor(s) to networks and transferring them to duly licensed distributor(s) to operate and maintain them so as to have only one distributor in a given area at any particular time for efficiency, safety and technical effectiveness of the national grid.	x	x	x
6	Facilitate open access to the distribution network with safeguards for the existing obligations and commitments.	x	x	x
7	Provide a mechanism for determination of use of system charges in a multiple off-taker model.	x	x	x
8	Enforce standards to ensure off-grid networks meet the national power grid standards to enable future inter-connection.	x	x	x
9	Carry out regular review of the electricity market structure to enhance efficiency.	x	x	x
10	Harmonize all levies charged on electricity infrastructure for purposes of managing costs.	x	x	x

		Short Term 2018-22	Medium Term 2018-26	Long Term 2018-30
11	Regularly review and implement of the rural electrification master plan.	x	x	x
12	Mobilize funds from development partners for specific rural electrification programmes.	x	x	x
13	Support local capacity programs for manufacture, installation, maintenance and operation of appropriate energy technologies in rural areas.	x	x	x
14	Provide incentives to both users and producers of energy technologies in rural areas.	x	x	x
15	Support data collection, dissemination and packaging and disseminate information on energy systems in rural areas to create investor and consumer awareness on economic potential offered by these systems.	x	x	x
16	Collaborate with other government agencies for provision of basic necessities including energy services to nomadic and pastoral settlements	x	x	x
17	Develop the criteria to access and utilize funds for electrification of marginalized areas from the Equalization Fund under Article 204 of the Constitution.	x	x	x
18	Implement the (EAC) Cross Border Electrification Policy for the cost-effective electricity supply to communities and load centres along the borders of Kenya and her neighbours.	x	x	x
19	Continually review bilateral agreements with countries outside the EAC to enhance cross border electrification.	x	x	x
20	Gather system operation and customer data through appropriate incident management and through appropriate incident management and geographical information systems to enable computation of key performance indicators.	x	x	x
21	Provide for incentives where reliability and quality of supply targets are met and sanctions in events of default.	x	x	x
22	Formulate a national electrification strategy to fast track consumer connections with a view to achieving universal access to electricity by achieving universal access to electricity by 2020. The strategy shall, inter alia, provide for:	x	x	x
	Establishment of a national electrification fund to finance the difference between the cost of connections and connection charges based on affordability.	x	x	x
	Source of funds and management of the national electrification fund.	x	x	x
	Appropriate technical standards for electric supply lines.	x	x	x
	Efficient utilisation of resources for the design and construction so as to ensure that connection costs are realistic.	x	x	x
	Determination of the number and location of households in the country and extent of the electricity supply network.	x	x	x
	Prioritisation of areas to be electrified, while ensuring equitable provision of services across the country.	x	x	x
	Use of off-grid systems, including standalone renewable energy solutions where appropriate.	x	x	x
	Setting off connection charges on the basis of affordability rather than cost, with options for payments in instalments.	x	x	x
	Mechanisms for refunds where persons require connections out of agreed prioritisation and therefore pay more than affordability-based charges and the electric supply lines are used to supply other persons.	x	x	x

		Short Term 2018-22	Medium Term 2018-26	Long Term 2018-30
	Role of County Governments in the national electrification strategy.	x	x	x
	Roles and management of contractors	x	x	x
	Retail of electrical energy			
1	The Government to facilitate investors in the implementation of the strategy to achieve an optimal energy mix that will bring down the end user electricity tariffs.	x	x	x
2	The Government to develop and implement a mechanism for a national uniform tariff.	x	x	x
3	Review and enforce the legal provisions with respect to illegal power line connections and respect to illegal power line connections and theft of electrical energy and classify such offences as economic crimes.	x	x	x
4	Regularly review the electricity market to facilitate competition in retail of electricity.	x	x	x
	Electricity – cross cutting issues			
1	Facilitate RD&D programs and feasibility to guide integrated planning for electricity projects.	x	x	x
2	Enact or amend laws that enhance penalties for existing offences affecting the sector and provide for additional offences while also classifying these offences as economic crimes.	x	x	x
3	Harmonize levies charged on energy infrastructure for purposes of managing electricity costs.	x	x	x
4	Support and ensure reinforcement and development of the distribution network.	x	x	x
5	Ensure that lifeline tariff is appropriately targeted to benefit the poor and marginalized consumer groups.	x	x	x
6	Create awareness and promote clean development mechanisms in energy projects so as to benefit from carbon credits under the 1997 Kyoto Protocol or any successor mechanism.	x	x	x
6	In consultation with power generators, distributors and transmission licensees, facilitate the construction of supply lines to cater for the needs of the local community in areas where generating plants are located.	x	x	x
7	Institute appropriate and innovative ways to enhance surveillance and security of energy infrastructure.	x	x	x
8	Undertake to progressively interconnect the off-grid network to the national grid where commercially viable.			
9	Provide incentives for local assembly and manufacture of energy infrastructure equipment.	x	x	x
10	Classify strategic energy installations such as power plants, primary substations, control centres as protected areas and provide security during construction and operation.	x	x	x
11	Ensure that the sanctity of power purchase agreements and network service contracts are respected and honoured at all times.	x	x	x
12	Develop and implement legal framework to empower the regulator to enforce provisions of the law.	x	x	x

Table 7: Energy Efficiency aspirations in the Energy Policy 2018
Energy efficiency and conservation

		Short Term 2018-22	Medium Term 2018-26	Long Term 2018-30
1	Develop and implement sustainable, awareness and sensitization programmes on energy efficiency and conservation.	x	x	x
2	Implement energy efficiency and conservation initiatives in all sectors.	x	x	x
3	Develop and implement guidelines for carrying out energy audits and advisory services in the counties.	x	x	x
4	Develop and enforce minimum energy performance standards (MEPS) and rating labels for energy efficiency and conservation equipment.	x	x	x
5	Develop and implement a regulatory framework to provide for incentives and penalties to reduce high losses in generation, transmission and distribution.	x	x	x
6	Provide appropriate fiscal and other incentives to enhance uptake of energy optimisation technologies.	x	x	x
7	Build capacity and empower the energy efficiency and conservation directorate to champion and spearhead energy efficiency and conservation activities.	x	x	x
8	Enforce building codes to enhance the concept of green design in buildings.	x	x	x
9	Develop and enforce standards for fuel economy of motor vehicle operations and maintenance practices.	x	x	x
10	Promote safe and fuel efficient transportation for passengers and cargo.	x	x	x
11	Adopt the use of new and efficient technologies in energy efficiency and conservation.	x	x	x
12	Develop, disseminate and implement a National Energy Efficiency and Conservation Plan in consultation with relevant stakeholders.	x	x	x
13	Undertake research and development in energy efficiency and conservation.	x	x	x
14	Collaborate in the preparation of education curricula on energy efficiency and conservation.	x	x	x
15	Implement international co-operation programmes in energy efficiency and conservation.	x	x	x
16	Collaborate with the private sector in energy efficiency and conservation.	x	x	x

Table 8: Land and Socio-economic aspirations in the 2018 Energy Policy

		Short Term 2018-22	Medium Term 2018-26	Long Term 2018-30
	Land and Socio-Economic Issues			
1	Provide linkages with provisions of the National Land Policy, which provide a framework for access, planning, utilization and administration of land in the country	x	x	x
2	Collaborate with the relevant agencies to review and set rates payable for compensation in respect of damage caused by the energy and petroleum sector players.	x	x	x

		Short Term 2018-22	Medium Term 2018-26	Long Term 2018-30
3	Ensure compliance with the environmental laws on restoration and decommissioning of projects.	x	x	x
4	Collaborate with other land regulatory agencies to ensure that energy and petroleum infrastructure corridors are provided for in the national plan.	x	x	x
5	Ensure enforcement of legal provisions on encroachment and obstruction of energy infrastructure.	x	x	x
6	Develop and enforce a legal and regulatory framework on encroachment and trespass on energy infrastructure.	x	x	x
7	Develop and implement a national Resettlement Action Plan Framework for energy projects. Environment, Health and Safety	x	x	x
8	Phase out the importation of two stroke motorcycles.	x	x	x
9	Continuously update and enforce the specifications and standards for supply of clean fuels.	x	x	x
10	Enforce emission standards in energy production plants.	x	x	x
11	Carry out public education sensitization programmes on benefit of clean fuels and well maintained vehicles.	x	x	x
12	Promote the use of public transport and non-motorized transport.	x	x	x
13	Provide incentives for acquisition and use of fuel efficient technologies in motor vehicles.	x	x	x
14	Provide incentives for use of clean modern household energy to eliminate the use of wood-fuel, charcoal and kerosene as an energy source.	x	x	x
15	Provide incentives for the uptake of renewable energy technologies.	x	x	x
16	Enforce the regulatory framework for wood fuel and commercial woodlots production.	x	x	x
17	Spearhead the national afforestation programme aimed at increasing the national tree cover percentage.	x	x	x
18	Support and promote conversion of cookstoves to uptake modern and clean fuels in households and institutions.	x	x	x
19	Ensure compliance with international standards for nuclear plant siting, construction, operation, decommissioning and waste	x	x	x
20	management to ensure proactive preventive approach to managing the environmental, health and safety risks	x	x	x
21	Support initiatives and ensure proper coordination of all relevant statutory authorities in conservation of catchment areas.	x	x	x
22	Identify and map out water catchment areas boundaries and gazette them as protected areas.	x	x	x
23	Develop capacity to deal with EHS risks associated with emerging sectors such as coal, nuclear, upstream and midstream petroleum and gas.	x	x	x
	Climate change mitigation			
1	Support the development and implementation of the national policy on climate change	x	x	x
2	Facilitate capacity building for participation in international climate change negotiations.	x	x	x

Table 9: Energy financing, pricing and socio-economic aspirations in the 2018 Energy Policy

		Short Term 2018-22	Medium Term 2018-26	Long Term 2018-30
	Energy financing			
1	Explore and adopt all viable financing options from local and international sources to ensure cost effective utilization of all locally available energy resources.	x	x	x
2	Create a competitive and predictable investment climate in the country to attract investments in the energy sector.	x	x	x
3	Provide adequate fiscal incentives for energy resource and infrastructure development.	x	x	x
	a. to attract investment in energy infrastructure across the country;	x	x	x
	b. for renewable energy projects to reduce reliance on petroleum-based energy in the long term;	x	x	x
	c. to encourage adoption of clean and efficient coal technologies.	x	x	x
4	Develop fiscal legislation to encourage efficient technologies and discourage inefficient technologies.	x	x	x
5	Dedicate not less than two percent of the income from energy demonstration.	x	x	x
6	Ensure a reasonable return on investments through cost-reflective pricing.	x	x	x
7	Develop adequate infrastructural facilities to enterprises involved in the development of the energy sector.	x	x	x
8	Liaise with the National Treasury to enhance the internationalization of Kenya's Capital Market by encouraging financial instruments and stocks of Kenya's energy corporate units to be quoted in international financial markets to attract foreign portfolio investment capital.	x	x	x
9	Expand the scope of venture capital financing to include investments in the energy sector.	x	x	x
10	Review the relevant legislations to provide fiscal incentives in the energy sector.	x	x	x
11	Provide letters of comfort to private investors and letters of guarantee to state corporations.	x	x	x
12	Continuously engage development partners to establish financial facilities for financing energy related projects at minimal interest rates especially for renewable energy and energy efficiency projects.	x	x	x
13	Seek financing of clean energy projects through carbon credits under the clean development mechanism and other financing associated with clean energy.	x	x	x
14	Package attractive investment instruments which will be appealing to alternative investors such as savings and co-operative societies, pension schemes and venture capitalists.	x	x	x
15	Support and encourage Public Private Partnership as provided for in the PPP Act, 2013 to facilitate private sector participation in financing, construction, development, operation and maintenance of energy resource or infrastructure projects, including development of infrastructure for strategic petroleum reserves and power generation projects.	x	x	x
16	Mobilise funds for strategic petroleum stocks through government appropriation, development partners, international financial institutions and strategic stocks bonds.	x	x	x
	Energy pricing and socio-economic issues			

		Short Term 2018-22	Medium Term 2018-26	Long Term 2018-30
1	Ensure that tariffs and charges are prudent, cost effective and set in a coordinated manner in consultation with relevant stakeholders.	x	x	x
2	Ensure that energy projects are completed on time to ensure security of supply and increased access by consumers.	x	x	x
3	The Government shall undertake to maintain a controlling stake in the sector and link the economic policy with the energy policy.	x	x	x
4	Provide incentives to encourage production and use of modern energy sources.	x	x	x
5	Develop a framework to ensure implementation of local content in the energy sector.	x	x	x
6	Develop a framework to ensure local communities benefit from energy investment in their regions.	x	x	x
	Integrated energy planning			
1	Establish structures and systems for integrated sectoral planning and monitoring implementation of planned projects.	x	x	x
2	Develop adequate human resource capacity to carry out integrated energy planning.	x	x	x
3	Collect and maintain data for all energy forms.	x	x	x
4	Strengthen linkages and synergy with other sectors of the economy.	x	x	x
5	Establish framework for monitoring and evaluation of the implementation of energy projects.	x	x	x
6	Develop systems that ensure security and reliability in provision of energy services products.	x	x	x
7	Ensure implementation of the integrated energy master plan.	x	x	x
8	Ensure that all projects under the integrated energy master plan are implemented through competitive bidding processes.	x	x	x
9	Government may implement strategic energy projects through State Corporations or PPP arrangements where necessary.	x	x	x
	Research and development			
1	Establish an Energy Institute to undertake training, research, development, dissemination, nurture talent, innovation and to enhance capacity building in the sector.	x	x	x
2	Encourage energy sector entities to allocate adequate resources for research and human resource development.	x	x	x
3	Promote local, regional and international participation in research activities, particularly in technology-oriented research.	x	x	x
4	Enhance research linkages between industries and academia.	x	x	x
5	Ensure that institutions that provide human capital development to build knowledge and technical capacity in the sector are duly licensed and that their training programs are accredited for quality assurance purposes.	x	x	x
	Gender, youth and person with special needs			
1	The Government shall comply with Article 27(8) of the Constitution.	x	x	x
2	Mainstream gender, youth and persons with special needs issues in energy policy formulation, planning, production, distribution and use.	x	x	x
3	Undertake public education and awareness on the benefits of using clean and modern services of energy.	x	x	x
4	Undertake measures to make clean and modern energy services affordable and accessible.	x	x	x

Policy Implementation, Monitoring and Evaluation

		Short Term 2018-22	Medium Term 2018-26	Long Term 2018-30
1	Formulate a monitoring and evaluation framework for this policy.	x	x	x
2	Formulate a monitoring and evaluation framework for energy programmes and projects.	x	x	x
	Data Collection, Management and Dissemination			
1	Enhance the capacity of the central planning unit at the ministry to collect, maintain and disseminate energy data.	x	x	x
2	Ensure that the energy data is disseminated through the website of the ministry on a quarterly basis.	x	x	x
	Sharing of Benefits from Energy Resources			
1	The Government shall develop and implement a legislative framework to ensure equitable sharing of benefits accruing from the exploitation of energy resources between the national government, county government and the local community.	x	x	x
2	The government shall put in place a transparent mechanism for the allocation of energy revenues raised by the national and the county governments for the benefit of the people of Kenya.	x	x	x
	Local Content			
1	The government shall develop and implement local content policy.	x	x	x
2	The government to develop and implement education framework for human capital development to build knowledge and technical capacity in the energy sectors.	x	x	x
3	Establish capacity building programmes in conjunction with local industry associations, local training institutions and international institutions.	x	x	x
4	The government to develop and implement legislation for energy industry linkages for capacity building.	x	x	x
5	The government to develop and implement legislative framework to prioritise the utilization of locally available goods, services and human resources.	x	x	x
6	Government shall ensure the investors and contractors in energy sector comply with local content requirements as specified in the policy and legislation.	x	x	x
7	Government shall establish a local content development and monitoring unit.	x	x	x
	The government shall develop and implement a legislative framework for pro-active and sustained engagement with the governments, investors and communities in energy resource areas.			
	The government to develop and implement awareness programmes for the communities to enhance constructive engagement process.			
	The government to put in place mechanisms to ensure that environment, health and safety compliance audits are regularly carried out.			
	The government to develop and implement laws and regulations to govern waste disposal and management from energy resources.			

Table 50: Cross cutting aspirations in the Energy Policy 2018
Legal and regulatory framework

		Short Term 2018-22	Medium Term 2018-26	Long Term 2018-30
1	Review and align the energy sector legal and regulatory framework with the Constitution.	x	x	x
2	Incorporate provisions in legislation that will ensure that:	x	x	x
3	All the public institutions in the energy sector adopt the Constitutional requirements on national values and principles under Article 10.	x	x	x
4	All necessary and applicable general rules of international law affecting the energy sector under Article 2(5) of the Constitution are complied with.	x	x	x
5	All ratified treaties and international conventions affecting the energy sector under Article 2(6) of the Constitution are adhered to.	x	x	x
6	Consumer rights as is provided for under Article 46 of the Constitution are protected.	x	x	x
7	Where efficient alternative cheaper modes	x	x	x
8	A prudent energy efficiency and conservation programme is developed and implemented across the energy value chain.	x	x	x
9	Review the institutional mandates of the various public institutions in the energy sector to streamline their respective mandates, businesses and operations.	x	x	x
10	Enhance the jurisdiction of the Energy Tribunal in the new legislation.	x	x	x
11	Enhance penalties for offences in the energy sector; by providing minimum sentences and classifying these offences as economic crimes.	x	x	x
12	Provide and create additional legal safeguards on utilization of land, environment and natural resources critical to the development of energy infrastructure and service provision.	x	x	x
13	Provide appropriate mechanisms for access to information that also protects the principle of confidentiality as provided under Articles 33 and 35 of the Constitution.	x	x	x
14	Establish inter-ministerial collaboration of relevant stakeholders to ensure coordination at policy, regulatory and operational levels on matters relating to development of energy resources.	x	x	x
15	Support and encourage community policing initiatives to curb vandalism of energy infrastructure.	x	x	x
16	Ban scrap metal trade to deter vandalism.	x	x	x
17	Retain ownership and control of strategic energy sector enterprises.	x	x	x