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Security & Emergency response preparedness

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PIEA

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Hass Petroleum Targets 188 Stations by 2020

Mr. Mohammed Billow
Country Manager (Kenya) & Group
Business Development Manager

Hass Petroleum has embarked on an ambitious project of increasing its retail footprint to 188 Service stations in the next two years in the region. The company is also investing heavily in depots, aviation and LPG infrastructure developments.

According to Hass Petroleum Country Manager(Kenya) who also doubles as the Group Business Development Manager, Mr. Mohamed Billow, the company aims to increase its retail stations from 67 to 188 by December 2020.

"In 2018 the company decided that it must triple its retail networks in Three years. At the start of 2018 we had 67 stations in theregionally and the mid-term goal is to add 121 stations by December 2020 to make it 188 stations. We are also investing heavily in inland depots, LPG infrastructureandthe aviation sector" says Mr. Billow.

Hass Petroleum has in the last 12 months increased its retail network by 48 stations regionally with another 13 approaching their final stages.

"We are looking for countries that can give us maximum benefit for our investment such as Zambia, Tanzania, Kenya and Uganda. 60% of our investments will focus on Kenya and Uganda markets" he explains.

Mr. Billow adds that as part of the expansion plan and in conformity with the company's business tag line of "Servicing New Frontiers," the company has undertaken to put up stations in remote areas and other parts of the region where leading oil marketing companies have not ventured. "We are taking our products to the remote parts of the region (East & Central Africa as well as the Horn of Africa) especially where the multinationals have shied away, so that every consumer in this region can enjoy our quality petroleum products and services. Our products are not only for the city dwellers but for everyone in the region. We assure our customers of a reliable one stop-shop in all our stations," he says.

"In the next 5 years we want to have fully fledged company that will deal with the customer directly. We want to minimize our role in reseller market and concentrate our resources in the establishment of retail stations and key consumer accounts" Mr Billow says.

An alumnus of University of Nairobi, Mr. Billow has extensive experience in the oil industry spanning over 11 years. He has been the General Manager for the company's affiliates in Rwanda, Tanzania and recently Uganda.He holds a Bachelor's degree in Chemistry and has an ongoing MBA course at Moi University.

From the General Manager

It is expected that the year will be characterized by renewed investment impetus in the backdrop of reformed regulatory reforms in various petroleum business segments following the Presidents assent to the both the Energy and Petroleum Bills. These Bills will repeal the Energy Act 2006 and the Petroleum (Exploration & Production) Act.

The long awaited LPG regulatory reforms will now be implemented thereby setting in motion the creation of an enabling legal framework that should spur LPG growth. The gazettement of the new LPG Legal Notice 121 will require full compliance by all players and effective enforcement by the regulator if it is going to provide the elusive solution to achieving the Governments policy on LPG development.
Expectations are that the ERC guarantee to the Industry that its monitoring and enforcement capacity had been enhanced to ensure compliance by all LPG players will indeed transpire so that the desired market confidence transforms into action the readiness by players to increase LPG investments.

The PIEA is set to roll out a national LPG public safety campaign to raise awareness on the new law including the related obligations and responsibilities of all stakeholders as well as the role of these regulations in upscaling LPG consumption. In addition, PIEA in collaboration with the World LPG Association will host the annual East Africa LPG Summit and Training Workshop in Nairobi on 25th and 26th April 2019. The event is aptly themed; regulatory *changes driving liquefied petroleum gas growth in east African countries* and the forums intention is to disseminate up to date status of LPG development in East Africa and across the globe.

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According to this year's International Energy Agency (IEA) report, it is expected that the global oil demand in 2019 will grow by 1.4 million barrels per day (mbpd) against 1.3 mbpd in 2018.This being influenced by low prices and the sale of new petrochemical projects in the United States and China. The IEA further predicts that the slowdown in global economic growth will restrain further demand growth.

In the full year ending 2018, global consumption of fuels in Kenya stood at 5,923,810 M^3, a 6 % decrease from the same period in 2017. The drop is mainly attributed to reductions in Kerosene, Jet and Fuel Oil.

The equalization of diesel and kerosene has impacted on the drop in demand for kerosene while the drop in fuel oil is related to the increase of wind and geothermal in electrical power generation. The stagnated growth in diesel relates to the disruption of cargo transportation by road from the Port of Mombasa to inland destinations which is increasingly being replaced by the Standard Gauge Rail.

The aviation segment is also poised for regulatory reforms to ensure that there is a level playing field, efficiency and good order for sustainability to investors. The ERC is consulting with industry to ensure comprehensive legal and operational improvements in this segment.

Suffice to note there is an obvious relationship between non-compliance with business laws and insecurity bearing in mind that malpractices in any business are an avenue for illicit trade whose activities not only adversely disrupt the market and depress investments but also whose profits have the potential to fund crime and criminal activities.

In this issue we have focused on safety and security in the energy sector and especially in the petroleum energy space.

Wanjiku Manyara
General Manager

INDUSTRY NEWS

E.A.C Stakeholders Meet to Review Fuel Standards

Mr Olagoke Aluko,PIEA Chairman

The East Africa Community Harmonized Fuel Standards regional workshop was recently held in Nairobi to review the current EAC Fuel Standards.

The regional workshop co-hosted by PIEA, UNEP and CCAC brought together participants drawn from diverse stakeholder organizations including government, industry, civil society and academia with the aim of reviewing the harmonized draft EAC standards since their introduction in 2015.

The workshop's objectives included promoting systematic review of the January 2015 low sulphur fuel standards based on the 2018 fuel imports quality data; promote implementation of the progressive adoption of cleaner fuels which will result in sustainably addressing one of the significant contributors to urban pollution; transportation which has a significant impact on health, safety and the environment.

PIEA, the Oil & Gas Industry professional association, has been instrumental in promoting cleaner fuels and indeed PIEA members have been involved in the development of standards and programs that facilitate improved fuel quality.

PIEA Chairman Mr Olagoke Aluko stated that at the heart of PIEAs Mission is the promotion and adherence to high operation and business standards by industry players given the importance of standards in creating a sustainable competitive business setting that protects the consumer's health, safety and environment.

"The PIEA, which is the Oil & Gas Industry professional association, has been instrumental in promoting cleaner fuels and indeed PIEA members have been involved in the development of standards and programs that facilitate improved fuel quality" said Mr Aluko.

During the workshop, it was noted that the journey towards reducing Sulphur and other contaminants in fuels has been long and gradually progressive with successful milestones.

The EAC signed up to the 2008 E.A. Regional Framework Agreement on Air Pollution where governments committed to enact regulations to reduce Sulphur in imported AGO to 500ppm by 2010.
Kenya reduced Sulphur content as per EAC commitment via standards that were gazetted and implemented in 2010. In 2015 the EAC enforced the harmonized EA Fuel Standards which had been developed following a 2013 EAC legal notice to amend the maximum Sulphur content in AGO from 500ppm to 50ppm.

Mr Aluko commended the EAC Oil Marketing Companies that complied with fuel specifications and noted that PIEA in collaboration with the UNEPs Partnership for Cleaner Fuels and Vehicles (PCVF), had been consistent in providing forums for stakeholder's engagements on the cleaner fuels agenda.

"The success of good quality fuels adoption in the EAC would not have been achieved were it not for the collaborative approach between industry, policy makers, regulatory agencies as well as the assistance of non-governmental agencies. I therefore applaud the Government through the Ministry of Petroleum and Mining for supporting and implementing the prominent policy intervention measures that had been taken to gradually avail cleaner fuels in the EAC" said the chair.

Principal Secretary (PS), State Department of Petroleum, Mr Andrew Kamau, emphasized on the importance of systematic review of the January 2015 low sulphur fuel standards based on the 2018 fuel imports quality data across East Africa.

He highlighted the support of government through policies such as harmonization of IK and AGO duties and the focus on access to cleaner fuels like LPG to tackle indoor pollution which is a major cause of respiratory diseases.

While officially opening the workshop, the P.S stated that deliberations at the workshop would empower stakeholders to objectively review the final draft EAC fuel standards and thereafter submit comments that are in the best interest to advance the petroleum energy space.

According to data submitted by Kenya Pipeline Company (KPC) during the workshop, fuel imports into the E.A region had on average AGO with sulphur content at 8ppm, an indicator that the industry has advanced since 2012 when it first considered capping sulphur content to 30ppm though the E.A.C settled on 50ppm.

The PIEA, which is the Oil & Gas Industry professional association, has been instrumental in promoting cleaner fuels and indeed PIEA members have been involved in the development of standards and programs that facilitate improved fuel quality

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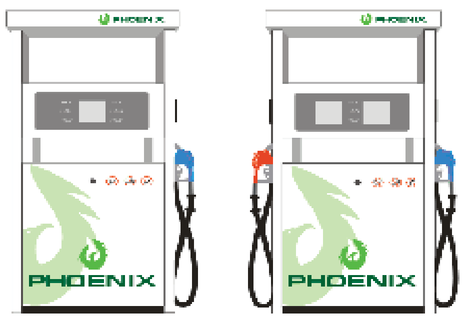

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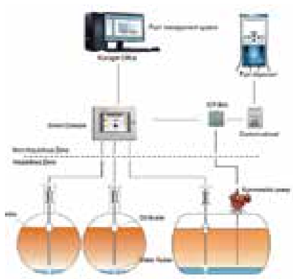

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INDUSTRY NEWS

Kenya set to Host E.A Petroleum Conference and Exhibition 2019

Mr Andrew Kamau, Principal Secretary
State department of Petroleum

Kenya will be hosting the East Africa Petroleum Conference and Exhibition 2019 in May this year, Mombasa.

The conference will bring together international investors and all stakeholders from East Africa Community (EAC).

The government will be keen to market Kenya as the preferred investment destination for oil and gas as it seeks for funding of various oil and gas projects.

Principal Secretary State Department of Petroleum, Mr Andrew Kamau says that the government has created an enabling environment for Oil and Gas investment through regulatory, legal and fiscal framework that would attract more investments into the country.

"In order to attract investments into the country, the government has created an enabling environment for Oil and Gas investment through regulatory, legal and fiscal framework. There has been a review of the current Act Cap 308 Petroleum (Exploration, Development and Production) Bill awaiting enactment" he says.

"Currently we have 15 International Oil Companies in Various Phases of Exploration operating 27 Production Sharing Contracts (PSC's) in the Country's Licensed Acreage and marketing the Country's potential in International Conferences-Africa Oil Week in South Africa"

During the conference, Kenya will be showcasing its attractiveness to Oil and Gas Sector investment opportunities and the Tourism sector as well as sharing of the latest information on technological development in Oil and Gas exploration, Development and Production.

From this conference, the government expects more interest generated towards Oil and Gas exploration in the EA region and especially focus on the oil and gas sector in the country that will lead to funding of various oil and gas projects as well as marketing of the exploration acreage in the country and the region at large.

We foresee new business ventures for the increasing demand of the petroleum products and the other industrial entities requiring ready and prompt supply of the products.

He notes that in the recent past, the government through Kenya Pipeline Company (KPC) has launched various projects that complement the East Africa Petroleum regional block agenda in infrastructure.

"Line 6 which is 122km, 10-inch diameter multi product line from Sinendet to Kisumu was constructed to deliver an additional 350 m3/hr in order to meet increasing demand for petroleum products in Western Kenya and by extension serve our neighbouring countries. This line has reduced adulteration of export products and truck related accidents"

"Kisumu jetty was completed to secure regional market of Petroleum products in the Western Region. This provides Lake transportation of products to the neighbouring countries that is Northern Tanzania, Uganda, Rwanda, Burundi as well as DRC. It can deliver approximately 720,000 litres/hr. This shows Kenya's good will on integration and trade" he explains.

He adds that projects such as crude oil pipeline, Early Oil Pilot Scheme, Field Development Plan and Exploration in various oil fields are currently ongoing and some at an advanced stage.

"Crude Oil Pipeline project is currently underway and at an advanced stage of ESIA and FEED. Early Oil Pilot Scheme (EOPS) project has necessitated modification of the storage tanks at KPRL for uptake of Kenyan crude in readiness for International Market. The project involves tracking of crude oil produced from the South Lokichar Field Extended Well Testing," he says

There is a consultant who is assisting the government in reviewing of the Field Development Plan (FDP) in readiness to submission envisaged in Q4 2019; Currently one IOC's, Zarara Oil and Gas Ltd is drilling an exploration well in Pate Island. Tullow and JV partners are undertaking Extended Well Testing (EWY) as well as fast-tracking of oil to Mombasa and other JV's in various stages of exploration stages."

The P.S states that the ongoing projects once completed will assure security of supply of the products in the country and efficiency in delivery of products.

"We foresee new business ventures for the increasing demand of the petroleum products and the other industrial entities requiring ready and prompt supply of the products. Regional stability and ease of access for the products; new employment opportunities and an increase in economic activities for the country which will lead to increase of revenue for government" he says.

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Global Health Research Group Launched to curb Household Air Pollution

Members of the CLEAN-AIR (Africa) Research Group with representatives from Moi University and all other research partners at the Group launch event in Liverpool.

Global Health Research Group was recently launched to tackle household air pollution from burning solid fuels in Kenya.

The group which comprises of researchers from Moi University, Eldoret and the University of Liverpool, UK, received £2 million funding from the UK National Institute for Health Research to develop a new Global Health Research Group - CLean Energy Access for the prevention of Non-communicable disease through clean Air in Africa: CLEAN Air (Africa).

The Group will conduct a 2.5-year programme of high-quality applied research to support sustained and equitable transition to clean household energy across the population in Kenya, Ghana and Cameroon and demonstrate the anticipated health impacts through reductions in non-communicable disease, health inequalities and climate change.

At the same time, CLEAN Air (Africa) will undertake education and training activities to develop the capacity of the health sector to recognise the burden of disease related to household air pollution, intervene early and promote population health.

Dr Diana Menya, Principal Investigator School of Public Health at Moi University, and her team joined researchers from Kintampo Health Research Centre from the University of Ghana and Douala General Hospital for the Launch event hosted by the Department of Public Health and Policy at the University of Liverpool. Participants prepared a programme of research and capacity building to inform policymakers in partner countries.

Global Health Research Group settled to work in Kenya given the government's commitment to scale up population access to clean fuels, including LPG for domestic cooking purposes under the Sustainable Energy for All goals.

The Kenyan Government has set out ambitious targets to reduce health and climate-damaging emissions hence the Research group working closely with partners from the health and energy sectors, not for profit and business communities to strengthen the evidence base in support of a transition to clean fuel. This will include evaluating promising fuel and technology options and consumer finance schemes to facilitate access by low-income populations.

The work in Kenya will begin in the second quarter of 2019 starting with research activities in Western Kenya. Preliminary study findings will be shared through the PIEA network as new evidence emerges.

In addition, Moi University and the University of Liverpool have secured additional funding through an MRC-NRF-Newton funded UK-Kenya collaboration to explore the possible role of Household Air Pollution from burning solid fuels mainly charcoal and firewood in the development of esophageal cancer.

The hypothesis is that household air pollution resulting from burning biomass in poorly ventilated kitchens, is a large contributor to esophageal cancer in the young and in women. Air pollution is already an established risk factor for lung cancer, but few studies have examined an association with esophageal cancer.

The Kenyan Government has set out ambitious targets to reduce health- and climate-damaging emissions hence the Research group working closely with partners from the health and energy sectors, not for profit and business communities to strengthen the evidence base in support of a transition to clean fuel.

REACHING INTO AFRICA

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ADVERTISER'S FEATURE

Soliflo - Making Every Drop Count

By Philip G. Dawson

Positive Displacement vs Coriolis

Coriolis meters are the meters of choice in many liquid measurement applications. But what about Custody Transfer applications in the oil industry?

Positive Displacement (PD) is the most practical and accurate method to achieve volumetric measurement of refined hydrocarbons. Unlike other Positive Displacement [PD] meters, Brodie's BiRotor Plus meter has major advantages over Coriolis meters for the highest accuracy and reliability. Below are reasons why:

Meter Design

Moving parts - The measurement tubes of a Coriolis meter continuously vibrate at a high frequency, resulting in material fatigue and reduced life expectancy.

The BiRotor Plus has two solid moving parts [the rotors] with no metal to metal contact, except for its hybrid ceramic bearings and timing gears, resulting in a high, field proven life expectancy.

Pulse Generation – There is no direct relation between the vibration of the tubes inside the Coriolis Meter and its pulse output - the pulses are calculated and generated by a microprocessor. This requires complex electronic filtering of the vibration signal and causes a delay between flow and pulse output. It can also cause nonuniform pulses that are difficult to use with a proving device.

The BiRotor Plus generates real, pulses that originate directly from the rotor rotation. They are "original" and unmanipulated.

The BiRotor Plus pulse output is uniform and works well with all proving methods including Small Volume Provers using pulse interpolation.

Strainer and Air Elimination Requirement – Even if stated otherwise by Coriolis manufacturers, a Coriolis meter requires a strainer and an air eliminator just as a PD meter.

Strainers are inexpensive insurance against foreign material such as weld rods, slag, corrosion coupons that can lodge in the tubes of Coriolis meters. Entrained air can have major effects on accuracy of Coriolis meters. Strainers/Air Eliminators are also required to protect downstream instrumentation like control valves and meter provers.

Pressure Drop and Changes of Pressure – Coriolis meters have the highest pressure drop of all metering technologies available. This is due to the splitting of the flow into two smaller vibrating tubes. Accuracy at higher pressures decreases because of the stiffening of the tubes.

Although they handle the same flow rates, the pressure drop across a 4" Birotor Plus is half the pressure drop across a 3"

Coriolis meter. The BiRotor Plus is mostly insensitive to pressure changes.

Meter Performance

Linearity and Repeatability - With a published linearity of +/-0.075% and a repeatability of 0.02%, the BiRotor Plus is the most accurate Custody Transfer meter in the industry. As with other PD meters, the accuracy of the BiRotor Plus improves with increasing viscosity.
A comparison was made of a leading brand 3" Coriolis meter vs. the Brodie 4" BR+ meter.
The testing consisted of ten repeatability checks at flowrates from 70 to 900 GPM in 100 gallon increments. The two curves per meter represent the highest and lowest values of the ten repeatability checks at each flowrate.
The linearity curve of the 4" Birotor Plus meter was nearly flat. The linearity curve of the 3" Coriolis meter was a steady increase. On the meters tested, the linearity of the BR+ meter was +/-0.033% vs +/-0.106% for the Coriolis meter.
The 3" Coriolis repeatability spread constantly increased at flowrates greater than 500 GPM. At 900 GPM, the repeatability spread was over 4 times greater than at 500 GPM.

Every Drop Counts - Based on the above data, we calculate its implication on cost due to the uncertainties of both meters.

Assumptions

Application:	Truck loading rack
Operating flow rate:	600 GPM (2,270 LPM)
Operation:	10 h/day and 365 days/year
Annual volume:	131,4000,000 gallons/year
Gasoline cost:	$ 0.70

Uncertainty cost per year
Coriolis:
1.00042 [max meter factor] – 1.00017 [min meter factor] = 0.00025 [uncertainty]

131,400,000 gallons x 0.00025 [uncertainty] = 32,850 gallons/year

BiRotor Plus:
1.00030 [max meter factor] – 1.00016 [min meter factor] = 0.00014 [uncertainty]

131,400,000 gallons x 0.00014 [uncertainty] = 18,396 gallons/year

Difference between both meters is 14,454 gallons/year resulting in $ 10,118 savings/year if using BiRotor Plus PD meters.

Meter Operation

Noise and pressure changes – Unlike the BiRotor Plus meter, Coriolis meters are susceptible to noise. The electronics in the Coriolis meter are sensitive to occurrences in the field like noise from the pump, pipe vibration, lightning strikes, power surges and other occurrences. Some Coriolis manufacturers counter this effect by adding complex electronic filters/algorithms to stabilize the signal, however, this does not come cheap and in many cases, adds to the intricacy of operation.

Product pressure also has an effect on the accuracy of Coriolis meters. The higher the pressure, the more the vibrating tubes stiffen, thus, measurement at a higher pressure does not provide the same results as at lower pressure. The bigger the meter the larger this effect. For example, at a 1,000 lb pressure difference, a 2" meter shows an accuracy change of 1/2 percent, while a 6" meter shows 1.5 percent. Coriolis manufacturers offer an electronic correction for this, but it requires additional pressure transmitters which adds further cost. This is an important issue in applications with pressure variations [at 800 - 1000 pound pressure applications].

Coriolis manufacturers test their meters at low pressures and provide software compensations for high viscosity and high pressure to maintain the stated lab accuracies.
The BiRotor Plus does not need any compensations.

Internal Product Residue - Any residue causes Coriolis tubes to become mechanically unbalanced, which has implications on the accuracy of the Coriolis meter.
Crude oils which contain paraffin wax often coat the inside tubes of the Coriolis meter. Likewise, viscous oil creates an internal layer on the tubes, the "boundary layer". Again, there are correction procedures in the software to correct that, but these need to be monitored and turned on or off. This adds another level of complication because the operator needs to know when he needs it and when he doesn't need it.
The BiRotor Plus meter is self- cleaning by design and does not require cleaning of residue.

Maintenance and Proving - Coriolis meters require IT-trained personnel to operate as they are set up and maintained using a laptop. The BiRotor Plus does not require any of this.
Coriolis meters need to be taken out and sent to the manufacturer for repair. The tubes can suffer from fatigue caused by its high frequency vibration. Their replacement is costly. With periodic maintenance, BiRotor Plus meters can last for decades and can be repaired on site.

The zero offset (during low or no flow) of a Coriolis meter needs to be checked and verified periodically. Zero error can occur if the tubes become mechanically unbalanced due to coating or erosion. The BiRotor Plus does not require Zero setting.
The complex electronic filtering by a Coriolis meter can cause delays in flow/response measurement. Therefore, a minor change in flow during a proof run can translate to poor repeatability in a Coriolis meter. The pulses of a BiRotor Plus are created in real-time directly from its pulse wheel, without electronic manipulation. This makes proving straightforward and easy.

Soliflo your local partner

The Soliflo name has been synonymous with highly specialized bulk liquid control, tanker loading and off-loading systems, equipment and services throughout the Southern and Eastern Africa countries and beyond since 1984.
As the region's liquid control and tanker loading specialists, Soliflo is a principal supplier of a wide range of safe, efficient and environmentally-friendly liquid control, fluid and gas transfer solutions to tanker operators as well as leading brand access and loading equipment for road, rail and marine tankers.

Under its current ownership and management, the company operates Soliflo (Pty) Ltd and Soliflo International (Pty) Ltd. Soliflo's objective to expand its footprint within Africa has led to the formation of Industrial Flow Systems (IFS), Mozambique in 2013 and Soliflo International, Kenya in mid-2017.

Headquartered in Laser Park, west of Johannesburg, Soliflo is ISO 9001:2015 and ISO/TS 29001:2010 Quality Management certified.
Philip G. Dawson is Managing Director, Soliflo Group.
Email: phil@soliflo.co.za

KPA Develops 2018–2047 Master Plan

Kenya Ports Authority (KPA) has published the final draft of a new port Master Plan 2018 – 2047 that will define the authority's development horizon over the next 30 years.

Speaking during the Stakeholders forum on Development of KPA Master Plan 2018 – 2047, KPA Managing Director Dr Arch Daniel Manduku said that the new master plan will incorporate emerging infrastructure projects and forecast demand for the port facilities.

"The 2018-2047 Master Plan presents a blue print that will define KPA's development horizon over the next 30 years. It encapsulates the forecasted demand for the port facilities, the port development strategy for all ports, the environmental and social considerations in the development, the financial assessment and investment requirements for the planned development. It further defines the roles of both the public and private sector, the development partners as well as other government agencies," he said.

KPA's first Master Plan was developed in 2004 to ensure a consistent and structured way of achieving Authority's objectives but has since been revised in 2009 in order to be aligned to emerging key changes, especially Governments adoption of Vision 2030.

"Over time, the Maritime industry has continued to evolve with major changes coming into play including; The development of the Standard Gauge Railway (SGR) and auxiliary facilities along the corridor; The need for Inland Container Depots and other inland logistics centers to support cargo offtake by SGR; The expansion of KPA's mandate to include management of Inland water ways; The growth of demand for port facilities over time and The development of a new commercial port in Lamu," said Manduku

"The above changes coupled by continuous evolvement of the shipping industry through innovations and new inventions, and the need to align the KPA master Plan to key government decisions necessitated the development of a new Master Plan 2018-2047."

KPA, through an open tender process, procured M/s Royal Haskoning DHV and M/s MA consulting Group to develop a new Master Plan for the Authority.

The consultant has, through engagements with both internal and external stakeholders, made several strides including delivery of the inception report, assessment report, development report and currently a draft Master Plan 2018-2047.

While presenting draft document to stakeholders, KPA MD urged them to incorporate new views and ideas that may have been left out during the entire process in order to enrich the document.

"The views of our stakeholders and industry experts are therefore critical and need to be incorporated in this document. Moreover, the Constitution of Kenya 2010 stipulates that stakeholder views be taken into consideration in all government planning and development.

"It is against this background that we are gathered here today to both validate the draft Master plan as prepared by our consultant and to also incorporate new views and ideas that may have been left out during the entire process. I therefore call upon you to participate by giving your views to enrich this document," he said.

Tullow to construct oil pipeline in Kenya

Tullow Oil aims to complete the construction of a $1 billion oil pipeline in Kenya by 2022.

According to the multinational oil and gas company, the 821km pipeline will transport around 80 000 barrels of oil per day from the Lokichar oilfields in Northern Kenya to the Lamu seaport.

Kenya's early oil export project currently transports 600 barrels of oil per day from the Turkana oilfields by road to the Mombasa port for storage, ahead of shipments which are expected to begin in mid 2019.

"Early oil project is not a commercial venture, it's about finding out exactly what are the requirements from a logistical point of view and a social point of view on what we will need to produce full field," said Andrew Kamau, Principal Secretary, State Department of Petroleum.

London-based multinational company plans to invest a further KSh7 billion in its Kenyan operations this year as the company steps up its preparations for commercial production starting 2022.

According to Tullow, the additional capital will be spent on developing wells in Turkana County where the multinational discovered an estimated 1.2 billion barrels of oil reserves. Besides Kenya, Tullow is investing heavily in multiple other countries this year.

"The group's 2019 capital expenditure is expected to total approximately $570 million (KSh.57.5 billion), comprising Kenya pre-development expenditure of circa $70 million (Sh7 billion)," Tullow said.

The company continues to transport crude oil, an estimated 600 barrels per day, by road to Mombasa ahead of the planned small-scale (early oil) exports in the coming months.

"This is expected to increase to 2,000 barrels of oil per day from April 2019. Currently, there are 60,000 barrels of oil stored in Mombasa with a maiden lifting expected in the first half of 2019."

The multinational plans to commit to commercial oil production this year in a process that will include signing contracts with the Kenyan government.

Security Investment sure way to combat threats - FSG

Mr Phil McDonald , Regional Risk Manager Frontier Services Group (FSG)

Due to the significant global downturn in predominantly the oil and gas space in late 2014, numerous organizations have continued to reduce their commercial and operational footprint, which inevitably has had an impact on security services. This said, security plays a fundamental role to energy projects within the region. Security is no longer just a physical deliverable.

Risk management, security assessments, technology and information analysis are now, more than ever, a key component to any security framework. In this modern age, where terrorism, extremism and violent crime sets a precedent, the energy sector can be seen as a potential target. Security should and must remain a constant.

In order to improve on security, organizations must better understand the increasing need for security in their day-to-day activities. Security should not only be needed once an incident has occurred. We must be more proactive, rather than reactive. Looking at past incidents and trends will engineer a platform in order to make informed decisions. Community engagement, corporate social responsibility is also intertwined with security. Ensuring a collaborative approach to operations is implemented will greatly assist in mitigating security threats that may arise.

In case of crises, basic security considerations and protocols should be considered prior to and during operational activities in the sector. As a minimum requirement, companies and stakeholders should look at either building an internal security capacity, or contract a private security company to manage their requirements for them. Obviously, the level of services would vary, subject to your company structure and activity schedule.

This said, ensuring security risk assessments are in place for all company locations and assets is paramount. This then sets the benchmark for further planning. Understanding your environment is key. Additionally, creating your in-house Standard Operating Procedures (SOPs) is also critical, in order to look at implementing further procedures, such as Journey Management Plans, Emergency Response Plans and Country Evacuation Plans.

Petroleum products are immensely sensitive and hazardous and if not handled properly can cause tremendous damage. Thus, it is strongly recommended that respective OMC's first ensure that due diligence, vetting and appropriate training is put in place for drivers and operators associated to transporting Petroleum products.

Bespoke Journey Management Plans must be implemented, which should in addition, utilize tracking systems for oversight and monitoring purposes, as well as the option to call upon security escorts where required.

Appropriate and well tested Oil Spill Response Plans should be implemented in case of oil spillage both onshore and offshore. Naturally these will vary in design and application, however largely underpin the same structure.

Clearly this OSRP would govern the appropriate response and action plan to be followed. Additionally, the main aim of this OSRP would be to;

- preventing spills from oil tanks and pipeline,
- preventing spills vessel operation and vessel accidents.
- minimizing movement of oil spills,
- minimizing environmental impact,
- maximizing effectiveness of response and equipment.

A nominated site response team should be in place to provide instruction and guidance to personnel directly involved. Scene management, media and next of kin duties all have important roles to play.

Continued monitoring of spill equipment, its storage and usage remains critical. Spillage prevention as well as clean-up operations must remain at the forefront for energy institutions. A proactive approach rather than reactive must be brought to the pinnacle of all organizations. Training training training!!!

East Africa's energy demand is expected to grow significantly over the next 20 or so years. Critical to bridging the gap between supply and demand is new power generation and associated infrastructure. However, the importance of efficiency is critical to meeting the increasing demand of timely, low cost energy.

In many areas of the wider continent, as well as the Middle East, there are key challenges, some of which are more difficult to overcome than others.

For example, urban and rural economic disparities have led to quickened urbanization, allowing for an upturn in demand. While this is somewhat complex to control, demand growth and poor use of energy can be managed by technical and economic approaches, in order to enhance energy efficiency.

In conclusion, emergency response cannot be overlooked at any level. We only need to look at the current environment we live in to see that acts of crime, terrorism and elements to do with natural disaster/human error informs us that we must all remain proactive and security conscious. All stakeholders should take a vetted interest in their internal and external security protocols.

Emergency response planning must be implemented through your respective teams, departments and/or suppliers. Table top exercises should be implemented and regularly rehearsed.

Philip McDonald is Regional Risk Manager at Frontier Services Group (FSG), a leading provider of integrated security, aviation, logistics and insurance services for clients operating in frontier markets.

Embrace Modern Security Management Technologies to curb Insecurity, OMCs told

Mr Philip Kavevi, Founder and Director Corporate Eye

Corporate Eye and General Security Consultants has challenged Oil Marketing Companies (OMC's) to embrace modern security management technology and approaches in preparation for the ever-increasing security threats in the country.

Kenya has in the recent past witnessed increased acts of terrorism and its impact has been quite devasting.

Corporate Eye Founder and Director Mr Philip Kavevi urges OMC's to regularly have security risk assessments to ensure current security measures in the depots are improved to adequately contain the prevailing threats.

Mr Kavevi observes that Kenya records more security and safety incidents as compared to other countries in the region attributing it to the volume of business handled within the country.

"Terrorism is a real threat in the region and the impact of a terror attack in any of the depots could spill to the rest and greatly affect product supply in the region. It is much to their (OMC's) benefit when they are able to effectively manage safety/security incidents within their establishments. It is even better when they are able to jointly manage safety incidents within their establishments riding under the able stewardship of PIEA and limit competition to marketing" said Kavevi.

Corporate Eye and General Security Consultants Limited, CE as it is popularly known, is a Security Consultancy Firm whose mission is to help corporates to continuously assess emerging security risks to the business and assist in developing appropriate mitigation action plans to effectively manage them.

The founders are ex-military and police officers who have previously served as Regional Security Managers in reputable multinationals.

Kavevi said systems should be put in place for a continuous review and updating of the joint depots Emergency Response Plans for both Nairobi and Mombasa as well as development and implementation of security threat operating levels for all depots.

"OMCs should be encouraged to report safety and security incidents to PIEA. PIEA should collate incidents data and share the learnings across the industry to enable players review and update the current security /safety measures," he said.

He further stated that an industry collaborative approach is recommended in the management of an incident. Joint industry Response Plans should be developed and regularly tested to facilitate prompt mobilization and response in the event of an incident.

"A single safety incident if not well managed can wipe out a corporates benefits earned over many years. Examples of these are evidenced in the Gulf of Mexico Oil spill by BP in 2010 remains the worst offshore spill to date. BP agreed to an out of court settlement of USD 20 billion. 11 people died, 17 others were injured, and 8000 marine organisms were reportedly affected; and the 2015 Thange oil spill in Makueni is still fresh in our minds. The victims are yet to be compensated by KPC," said Kavevi.

"Managing an incident and managing a crisis are different undertakings and present different challenges. Incident management addresses an immediate physical, safety, or security risk with the goal of protecting people, the environment and assets. Alternately, crisis management addresses reputational, financial, commercial, and strategic risks that threaten the viability of a corporate and may result from an incident or an escalated issue. In the event of a crisis, the affected corporate activates her Crisis Management Plan to protect her reputation and viability."

Petroleum products and illegal filling of LPG has remained a challenge in the energy sector. Existence of strategically located illegal fuel dens along the main supply routes is a feature unique to this region. He therefore urges industry players to continuously highlight locations of illegal fuel dens and illegal LPG filling plants to the ministry of interior and push to ensure closure of illegal facilities and their operators prosecuted.

Kavevi said OMCs should continually review/update their operating procedures to ensure stock losses are promptly detected, investigated and corrective action including prosecution taken against those culpable.

"OMCs should ensure staff in critical roles are properly vetted and well trained in their roles. This should include managers in critical roles, depot managers, tank farm operatives, gantry operatives, guarding force, sealers, drivers etc. Corporates should through safety and security training instill the right safety/ security culture among their employees including contractors" he says.

In order to curb petroleum products related accidents and incidences, he urges OMCs to carefully select and train tanker and locomotive drivers and contractors are on the safety/security implications of the products they transport.

"In addition to proper training of drivers and contractors, OMC's should also inspect the transport tankers/ wagons to ensure fitness for purpose and implement an elaborate movement monitoring procedure. OSMAG should engage the recently launched Coast Guard and see how the two can assist one another in the effective management of an Oil spill and environmental cleanup along the Kenyan Coast line" he stressed.

Human interference at Depots poses security threat

Mr Eric Kong'ani, Depot Operations and Safety Expert

The mushrooming of welding and tanker repairer garages along Nanyuki road has been identified as a fire hazard to depots in Nairobi's industrial area.

According to Depot Operations and Safety expert Mr Eric Kong'ani, the number of garages along this road has increased overtime and is now a ticking time bomb.

Mr Kong'ani observes that there is a glaring risk of fire from the ever-unending congestion on Nanyuki road coupled by poor road network around the depots including Tanga road, Yarrow road and the rest and not forgetting Risk of terrorism attack due to uncontrolled human and vehicle traffic around the depot.

"The security in most of the depots during loading is sufficient. Only identified persons are allowed into the depots for loading of product. However, security needs to be tightened at the depot entrance and depot surrounding areas should be clear of human traffic for security access control," he explains.

"The government should embrace use of technology-controlled access at the barrier to enhance its security as well as provide designated parking for fuel tanks which currently park by the roadsides. Regular road repairs to the depots are paramount for ease of access in case of emergencies."

Nairobi Depots Safety and Security Committees is a formation of all Nairobi depot managers, Kenya Pipeline Company, area police and lately the locals from Viwandani (Sinai) mandated to oversee depots safety and security.

Nairobi Depots handles huge volumes of highly flammable petroleum products in their day to day operations in endeavoring to meet their customers' needs.

NDSSC is tasked with identifying and mitigating risks around and in depots, monitor operations and carry out drills to gauge public emergency response preparedness.

"NDSSC ensures that risks in and around the depots are identified and mitigated in an efficient and safe manner to property, life and environment," says Kong'ani.

The security in most of the depots during loading is sufficient. Only identified persons are allowed into the depots for loading of product. However, security needs to be tightened at the depot entrance and depot surrounding areas should be clear of human traffic for security access control

In case of an invent of oil spillage or LPG tanker accident within the depot, Mr Kong'ani says that Emergency Response Preparedness mechanisms in every depot are automatically activated.

These mechanisms include raising of alarm, evacuating the site, containing spillage as required and finally calling for reinforcement.

"In the event of an accident while in transit, the first respondents should report to the nearest police station for human and vehicle traffic control and call for help from trained marshals. Avoid any open lights/smoking. General public is cautioned to stay clear of the scene and stay safe," he explains.

The Depot Operations and Safety expert says that strong measures such as Control driving hours for tank drivers; Limiting and controlling late hour operations especially off-loading during the night; enhancing and ensuring Vehicle integrity such as carrying out inspections, Training, assessment; Employing visible signage to alert the public on dangerous vehicles/operations and Route planning to avoid dark spots should be adhered to prevent petroleum spillage and tanker accidents.

"Sensitization to the public is key when it comes to petroleum products accidents. The public needs to know and understand what is expected of them when such incidences occur. Regular trainings for specialized police units and security patrons who are always first responders should be availed on a regular basis," he says.

"While transporting petroleum products, Oil Marketing Companies (OMCs) should ensure enhanced sealing systems, monitoring techniques and surveillance checks are in place and where possible employ escorts to trucks. In case of crises, OMCs are obligated to inform the public and authority as well as Avert/avoid any risk activities that may escalate the problem. At the end of the day, the energy sector and general public should stay vigilant at all times" he concludes.

OMCs urged to form joint ventures to combat security threats

Eng. Henry K. Mwangi, Head of Distribution Vivo Energy

Oil marketing companies have been urged to invest in high level engagement with lead government agencies and other stakeholders for a joint security facilitation and consultations in order to counter major security risks at the depots that would collapse petroleum supply chain in the country.

According to Eng. Henry K. Mwangi, Head of Distribution Vivo Energy and a member of the Nairobi Depots Safety and Security Committee (NDSSC), major risks identified at Petroleum depots are mainly security related such as terrorism and armed robbery as well as fire safety and environmental pollution from in land spills.

"Energy stakeholders should realize that security emergency response is even more critical now given the fluid and changing nature of terrorism threat. All must invest in high level engagement with lead government agencies and other stake holders for a joint security facilitation and consultations" he says.

"Individual petroleum facilities need to invest in robust security management systems and physical security infrastructure owing to the nature of the petroleum products we handle and also to ensure safety and security of staff and the general public. The continued presence of illegal structures around the depot facilities is also a major fire and security risk."

He observes that though emergency response preparedness has improved greatly over the past few years due to the level of training, there is still room for improvement.

"There has been a number of industry drills where members respond to assist each other in a simulated emergency, and this has brought many learnings and helped us close many gaps that previously existed in our preparedness. However, there is still room for improvement as evidenced by gaps noted during Emergency Response drills and actual incidents noted in the past few years" he says.

Eng Mwangi adds that there is need for OMCs to continue investing in security management – both in improved security management systems and physical security infrastructure, have a continuous engagement with both National and county governments to improve security around oil installations as well as improve infrastructure around these installations that impact security management i.e. road networks, illegal structures.

He adds that with time depots have continued to mitigate risks by having stakeholder engagement and seeking support within the MDSCC and NDSSC, especially on security issues.

He says in case of crises, OMCs should respond to the crisis as per their crisis management plans and escalate as necessary for mutual assistance through NDSSC, MDSCC, PIEA, OSMAG, County and Central Governments.

"One needs to effectively communicate the progress on crisis management to manage and involve all the relevant stakeholders, including the public, the government, their employees and their customers as well as their suppliers. The other important point is to implement robust business continuity plans (BCPs) to ensure security of supply of petroleum products to customers and the country" he says.

Eng. Mwangi states that in order to improve on emergency response preparedness at the depots around the country, the following initiatives can be undertaken:

- **Mutual aid** – Enhance joint preparedness through the operationalization of the MoU on Mutual aid. The agreement should streamline protocols to assure that resources available at member facilities can be quickly mobilized to respond to emergencies. An inventory of all firefighting equipment in member facilities to be maintained/updated.
- **Joint drills** – undertake more joint drills to test preparedness of the members and effectiveness of the mutual aid. Different scenarios should be tested.
- **Competency development/training** – in crisis management training, incident command training, communication training to handle crisis as well as fit-for purpose oil industry ER trainings.
- **Investment in Emergency Response equipment by OMCs** – engage through PIEA individual OMCs to invest in ER equipment.
- **Government (county/central) intervention** – clearing of illegal structures, removal of illegal fuel operations near oil facilities, security provision given the protected areas.
- **Joint peer audits** – key in ensuring response capability and identifying gaps in ER preparedness.
- **Parking provision for petroleum tankers** – County governments to support this so as to protect the general public from safety incidents related to fuel tankers parked at residential areas.
- **Traffic management** - key around oil installations during crisis management for evacuation of trucks and personnel. The provided for security barriers need to keep working well.
- In addition, more needs to be done in the area of community sensitization, to ensure that members of the public are cautious around petroleum products and petroleum transport vehicles, and they have some basic knowledge of how to respond to an incident involving petroleum products. County governments also need to be empowered to support in the prevention and management of such emergencies.
- Proper maintenance of the roads around the oil installations. This is important to ensure easy evacuation of injured persons in event of an emergency.

Safety and Security Committees key players in Depots Security Checks

Mr John Muchunu, Health, Safety, Environment and Quality Manager, Total Kenya PLC

Formation of Safety and Security Committees that meet regularly to assess existing and emerging threats at the Nairobi Safety and Security Committee (NSSC) and the Mombasa Safety and Security Committee (MSSC) have been attributed to the improvement of safety and security at the Petroleum Depots countrywide.

Health, Safety, Environment and Quality Manager at Total Kenya PLC Mr John Muchunu says these committees have identified various risks such as Fire, Terrorist attack, Spillage, Pilferage and malicious damage of petroleum storage at the depots and work towards mitigating before they occur.

"Various risks such as Fire, Terrorist attack, Spillage, Pilferage, malicious damage of petroleum storage and distribution infrastructure, mushrooming of illegal business, proximity to informal settlement (Sinai in Nairobi) pose as a threat to depots and those living around the depots. The NSSC and MSSC meet regularly to assess existing and other emerging threats in order to mitigate before they occur" says Mr Muchunu.

"Security is of importance to this business and each OMC is encouraged to have their own Security and Safety measures such as Security Services, CCTV systems, fencing of facilities, Traffic control as well as exercise individual and mutual emergency preparedness."

Mr Muchunu says the government and OMC's should adhere to NSSC and MSSC proposed action plans agreed upon on security enhancement of the Gazetted zone, eviction of illegal activities and creation of a common truck parking yard.

"There is need to honor on commitment as prescribed in the MOU's. Relevant Government Authorities should harmonize and enforce Standards for all OMC's. The National and County Governments need to provide better infrastructure like repair of Kismayu circuit in Mombasa and Nanyuki Road in Nairobi and clearance of the illegal structures on roads around the depots" he says

The Health, Safety, Environment and Quality Manager and member of NSSC observes that emergency response preparedness at the depots have improved significantly over the years and termed it as satisfactory, based on the recent drills at Oilibya in Nairobi and GAPCO Terminal 2 in Mombasa but says that there is always room for improvement.

He urged OMC's to develop a practical Emergency Response Plan (ERP) that provides clear steps for activation and escalation in time of crisis.

"Security is paramount especially in the petroleum industry. Therefore, strict vetting before Licensing of OMC's is of high importance, sustained enforcement of the existing regulations, enforcement of transport and traffic regulations, strictly adhere to Loading, Transportation and Off-loading procedures, access Control to facilities and lastly sensitization of the Public on dangers of mishandling Petroleum products in case of accidents and quality standards" he explains.

He further adds that tanker accidents are mostly caused by rogue or untrained drivers, wrong vehicle specifications and poor maintenance, non-enforcement of transport and traffic regulations as well as poor road network and signage.

"OMC's and relevant government agencies should strictly vet before licensing and hiring Fuel transport companies. There should be strict enforcement of the existing regulations by relevant agencies to curb rogue drivers. Regular driver training is of importance to prevent truck related accidents and incidences" says Mr Muchunu.

There is need to honor on commitment as prescribed in the MOU's. Relevant Government Authorities should harmonize and enforce Standards for all OMC's. The National and County Governments need to provide better infrastructure like repair of Kismayu circuit in Mombasa and Nanyuki Road in Nairobi and clearance of the illegal structures on roads around the depots

E.A.P.T.A. assures industry of high-quality services

Mr Mohamed Abdulle, Secretary General East Africa Petroleum Transporters Association (EAPTA)

Competent and well-trained truck drivers alongside the right specifications for trucks and trailers constitute critical elements for an effective supply chain of petroleum products.

East Africa Petroleum Transporters Association (EAPTA) Secretary General Mr Mohamed Abdulle says Oil Marketing Companies (OMC) should contract credible and professional companies to transport and handle petroleum products that meet the local and international standards in order to prevent human interference in the supply chain.

"Petroleum products are highly sensitive and need to be handled with outmost care. This means when hiring truck drivers, OMC's ought to carry out formidable background checks before employing new drivers and if out sourcing should engage credible, professional and accredited companies to transport their products, they should do so" says Abdulle.

The East Africa Petroleum Transporters Association secretariat, which was established in the recent past, aims to promote the growth of the petroleum transport sector through self-regulation.

"We want to ensure a high level of compliance with our regulators and to ensure our members are conducting their business as per the required standards and procedures," says Abdulle.

"We also want to adopt the best practices for our members to engage stakeholders in bench marking and adopting policies that will ensure high levels of standards due to the sensitive nature of the goods our members ferry."

He commended the Energy Regulatory Commission (ERC) for championing registration and certification of truck drivers to curb malpractices.

However, he urged OMC's to develop a common database for all approved drivers and banned drivers to help in identifying and eradicating errant drivers.

"Information on approved and banned truck drivers should be shared amongst OMCs, EAPTA and ERC," he says, adding that, "product security while on transit should be a joint venture for the OMC and contracted transport company."

According to Abdulle OMCs need to engage EAPTA on credible transport companies that can carry out petroleum transportation in a safe and secure manner.

He also underscores the need for improvement of electronic cargo monitoring process and the need for transport companies to provide the right truck and trailer specification that ensure no product spills.

Mr Abdulle adds that transport companies ought to have an Emergency response process well documented and drills conducted to test their preparedness to instance of Oil spillage or LPG spillage.

Emergency drills need to be conducted at least once a year in order to gauge preparedness as well as shot cummings and close gaps.

"Transport Companies need to invest in Emergency response equipment or have in place agreements with Equipment providers to evacuate product on the site when accidents and incidences occur. This equipment is critical in salvaging petroleum product in an uncontrolled environment so as to reduce environmental disasters. I also urge National Disaster Management Authority to engage with EAPTA and OMCs to formulate a sub sector policy on emergency response and conduct national drills in various parts of the country," he says

He further states that to curb petroleum spillage and tanker accidents, OMCs and EPTA should have risk assessment programs such as Route hazard mapping assessments, Rest Stops Listings, Overnight Stays listings, Black spots identification and out to be shared to all stakeholders with the aim of awareness on the dangers and possible outcomes of risks and mitigating factors.

"OMCs and EAPTA can embark on a process of managing the drivers by ensuring that defensive driving, fatigue control measures, Fitness to work control and health programs are covered to ensure that unwanted incidents do not occur," says EAPTA Secretary General.

Besides being EAPTA Secretary General, Mr Mohamed Abdulle is the Managing Director of Dakawou Transport Ltd.

We want to ensure a high level of compliance with our regulators and to ensure our members are conducting their business as per the required standards and procedures

Inadequate infrastructure hindering supply of petroleum products

Mr Martin Kimani, Supply Coordination Committee Chairman

Lack of adequate infrastructure in the petroleum industry is amongst the challenges hampering the supply and export of oil products in Kenya.

Oil Industry Supplycor Committee Chairman Mr Martin Kimani says that Kenya has lost its competitive edge to the port of Dar es Salaam in Tanzania over time due to the high fuel landing costs linked to high demurrage cost incurred at the port of Mombasa as well as high cost of transport for using the Kenyan route due to high KPC Tariffs.

We used to export a lot of petroleum products as a country into Uganda, Burundi, Rwanda, Democratic Republic of Congo and South Sudan but over time we have lost this ground by virtue of us being uncompetitive as a country, My agenda is to try and gain back our mantle

"High cost of product has made our country uncompetitive due to our constrained infrastructure. The Common user facilities are inadequate, compared to the high demand of petroleum product. There are only two Jetties in the country; KOT which receives larger vessels into KPC, SOT that receives smaller ships into private terminals and one pipeline operated by KPC. As a result, Oil Marketing Companies (OMCs) experience high demurrage costs which is part of the aspect that contributes to making our export product more expensive compared to our competitors" he says.

Supplycor Chair acknowledges that the government has in the recent past improved on infrastructure expansion through Kenya Pipeline Corporation (KPC) which commissioned four tanks in Nairobi with a capacity of 133,000m^3 and commissioning of an additional Line at KPC from Mombasa to Nairobi.

"This has improved evacuation of product from Mombasa to Nairobi and other parts of the country and we hope that the government will continue with such progressive initiatives until we achieve optimum storage and transport facilities in the country" says Supplycor Chair.

KPC also entered into an agreement with what used to be Kenya Petroleum Refineries Limited (KPRL) to use part of their tanks for storage in order to accommodate more product thus reducing the number of ships that have to wait at the port of Mombasa. In addition, Kenya Ports Authority recently launched its plan to put up a new Jetty that will accommodate even bigger ships.

"We are also hoping that this new jetty will incorporate a pipeline for LPG that will allow discharging of big LPG cargo. This will help the country to access cheaper LPG and enable private investors to put up LPG Import storage tanks in Mombasa which will go a long way in making LPG more affordable to the consumer" he adds.

Penetration of LPG is still very low at the moment and this is mainly due to lack of investment in Import storage facilities.

The Oil Industry Supply Coordination Committee consist of 15 Oil Marketing Companies Heads, a representation of the entire Oil Marketing Companies which are about 80 in number, and whose main mandate is to ensure smooth Supply of petroleum products into the country throughout the year. Supplycor meets on a monthly basis to ensure that everything runs smoothly.

"We have some processes that we oversee and have put in place to ensure that the petroleum product supply is not disrupted. This includes effective coordination and planning together with the state department of petroleum that includes determining the demand of petroleum products in the country, right quantity that needs to be imported, establishing storage and transport capacity in the country for smooth discharge and supply of petroleum products" says Mr Kimani.

Supplycor Chair's key agenda is to ensure an effective and efficient supply chain in the country as well as the country's competitiveness for the exports of petroleum products to our neighboring land locked countries.

This he says, will be achieved through constant engagement with all the Oil sector stakeholders that includes government agencies.

"How we handle our supply chain determines our competitiveness as a country in the oil business. We used to export a lot of petroleum products as a country into Uganda, Burundi, Rwanda, Democratic Republic of Congo and South Sudan but over time we have lost this ground by virtue of us being uncompetitive as a country, My agenda is to try and gain back our mantle " says Kimani.

The chairman's other key agenda is the ongoing Independent forensic audit at KPC on the stock losses. As Supplycor we recently engaged Channoil Consulting, a London based firm that specializes in the oil and gas sector.

"The product stored at KPC belongs to Oil marketing companies and it is in our best interest to establish what could have caused the huge and abnormal losses reported recently by KPC as stocks lost through pilferage and spillages" he said.

COVER STORY

Government assures Security for Energy Sector

P.S Karanja Kibicho, State Department of Interior, Ministry of Interior and Co-ordination of National Government

Principal Secretary State Department of Interior, Ministry of Interior and Co-ordination of National Government, Mr Karanja Kibicho has assured energy sector stakeholders of security in their investments countrywide. He acknowledges security threats, especially terrorism related, in the country and assures that the government is on high alert to combat with such threats.

Excerpts;

Q. Briefly tell us about the Ministry of Interior and Co-ordination of National Government and your role in securing the country.

A. The Ministry of Interior and Coordination of National Government was created through the Executive Order No. 2/2013. The Ministry's roles over the years have been shaped through subsequent Executive Orders. The current roles of the Ministry are informed by Executive Order No.1/2018 and Executive Order No.1/2019. The Ministry is divided into three State Departments; Interior, Immigration and Citizen Services, and Correctional services.

The Vision Statement of the state department is "A cohesive, peaceful and secure society" while the Mission Statement is to "create an enabling environment by ensuring peace and security to the people and property, maintain a credible national integrated information management system, promotion of national cohesion, facilitate administration of justice and provision of correctional services for Kenya's economic development".

Q. What are some of the Ministry's engagements with the Energy Sector on matters of security?

A. The Ministry's engagements with the Energy Sector are primarily in the following areas:

i. General co-ordination of the activities of various Ministries with responsibilities within the Energy Sector. For instance, the Cabinet Secretary for Interior and Coordination of National Government Chairs National Development Implementation and Communication Cabinet Committee.

ii. Provision of Security in all Energy Sectors such as Geothermal Power, Hydroelectric Power, Wind Power, Solar Power, and Thermal Power. Specifically, with respect to the Oil Sector, provision of security up-stream, mid-stream and down-stream. This currently revolves around ensuring safety of the oil fields in the Lokichar Basin in the North Rift and the surrounding areas, the transportation routes out of the area down to the Coast, and the oil facilities in the Coastal region.

iii. Energy is a strategic Sector in Kenya's National Interest. In Pursuit of this interest this Ministry equips all security personnel with the requisite Energy Sector-related knowledge to perform their specified duties diligently.

iv. The Government has established a critical infrastructure Police Units for all sectors, energy being one of the most vital one. The deployment to this unit has been enhanced and it is properly resourced.

v. The Ministry has been in forefront fighting adulterated fuel all over the Country in conjunctions with actors in Energy Sector. Several perpetrators were arrested and apprehended following numerous sting operations in the Country.

vi. The Ministry has also demolished shanties around oil depots and critical energy infrastructure to avoid deadly accidents caused by inflammable substances. The Ministry has been keen on sensitizing the public on dangers of such activities.

vii. The increased development in the energy sector has the potential for resurgence in inter-community violence linked to competition for tenders and job opportunities and access to resources such as high value land water and road infrastructure. The Government is also live to the threat from terrorists and extremists, especially Al Shabaab targeting, among others, Government personnel, foreign expert rates working in the energy sector, key infrastructure and installations. These challenges would result to project delays, increased costs, disruption, reduced revenues, reputational damage and ultimately, reduced investor confidence, not to mention destruction to property and loss of lives.

To address these challenges, the Ministry has taken the following measures;

a) Revitalized Community policing

b) Peace building and conflict management initiatives have been scaled up through inter-communal peace dialogues

c) Elaborate counter terrorism measures have been instituted, through;
   - Developing County Action Plans to establish Counter Violent Extremism forums that bring together security agencies, County Governments, civil society and citizens.
   - Pursuing a legal framework to deliver a more robust disengagement, rehabilitation and reintegration process;
   - Sensitizing the media on terrorism reporting;
   - Enhancing engagement with the telecommunication players in a bid to check terrorism financing through mobile money transfer and communication;

d) Review of National Security strategies through introduction of Multi-Agency approach to security issues and enhanced cooperation among agencies in the criminal justice system; National Police Service, office of the Director of public prosecution and the Judiciary.

e) Public sensitization and awareness campaigns in crime management

The Government has also initiated a number of cross cutting measures to ensure effective and efficient preparedness and response to the various dimensions of threat to National Security. These measures include;

- The inter-agency cooperation among the security and law enforcement agencies which is aimed at avoiding duplicity of efforts by different agencies thus leading to optimal utilization of resources.
- The National Police Service has been enforcing the anti-counterfeit laws in the country, which will facilitate that only products of the right quality are used in the energy sector, and in all other sectors.
- The Government launched a policy framework and strategy for reorganization of the National Police Service which resulted to the initiation of various reform programmes.
- Reforming Prison Services

Q. What are some of the key highlights and milestones the Government has achieved in security and emergency response preparedness, specifically in the oil industry, in the last few years?

A. The key highlights are as follows:

a) Creation of a dedicated Critical Infrastructure Police Unit (CIPU) which is normally stationed even in oil fields in Turkana County and other prospective areas.
b) Reduction of adulterated fuel in the Country and general enforcement of compliance on request from the actors in the energy sector.
c) Through sensitization and creating public awareness the local leaders and the community have owned the early oil pilot project and exploration programme.
d) Mobile patrols and police check points have enhanced security of critical infrastructure

Q. What programs is the Government undertaking in order to ensure safety and security for oil industry investments, specifically "petroleum storage depots"?

A. The Government is fully aware of the security challenges that it faces in ensuring the safety of "petroleum Storage depots", especially in these times of tension arising out of recent terrorist attacks in various parts of the country. Be assured that the Government is fully seized of the situation and has put in place elaborate security framework to ensure the desired safety level. In addition, safety is being assured through capacity building programmes run by the Kenya Petroleum Technical Assistance Project and employment of Information Communication Technology (ICT) for Early Warning for both safety and security measures. Other measures include;

i. Deployment of round the clock security officers at the facilities
ii. Encouraged the installation of CCTV cameras for surveillance.
iii. Enhanced patrols within the facilities' environs
iv. Coordination of response to disasters

Q. What are some of the key challenges facing the Kenyan Government in its bid to assure security and emergency response in the energy sector?

A. The key challenges being faced by the Government are:

a) The porosity of our borders has facilitated infiltration of small arms and light weapons, despite the Government efforts to control the vice. The Government has thus embarked on fresh registration of all weapons by licensed gun-holders and planned operations to sweep up all illegally held light weapons.
b) Socio-economic and cultural factors - Raising livelihoods of people in zones where energy sector programmes are pre-dominant by ensuring equitable development, creating awareness, and with needs determined by the affected populaces through public participation. This is with the hindsight that poverty levels are generally high and that there are inadequate means of transport. The tendency of people squatting on both public and private lands along the infrastructure routes and in critical infrastructure land has complicated the provision of security and response during disasters. The Government has therefore engaged the various stakeholders to facilitate the removal of the squatters and other unauthorized persons.
c) Political interference has in some cases resulted to negative influence which jeopardizes security.
d) The community members place unrealistic high expectations on the benefits from the energy projects and programmes.
e) The discovery of oils in Turkana County has aggravated ethnic tensions and boundary disputes between Turkana and Pokot communities.

Q. What message do you have for the energy sector players in regard to emergency response? The general public?

A. Energy Sector players

The Government is committed to create an enabling environment for businesses and investments to thrive by ensuring peace and security to the nation. I would like to assure all Energy Sector players that the Security Sector (an enabler sector) is prepared in respect of emergency response in the Energy Sector through a multi-stakeholder approach and general up scaling of enforcement of law and order. This preparedness is enhanced by periodic drills covering most likely scenarios, aimed at raising our response levels to the desired capacities. This preparedness extends to acceptance of assistance from other countries and international organizations with technical expertise in the Energy sector.

General public

The Government is committed to ensure the peace and security of Kenyans citizens and their properties and will go the full length to facilitate peaceful coexistence among the various communities. The Government thus urges the public to be proactive in enhancing safety in the Energy sector. This specifically revolves around safety procedures to guard against fires, avoiding oil spillages, gas leakages, and illegal electricity connections and use of appropriate firefighting equipment in combating fires.

Q. Any other comments?

A. The Government acknowledges the teething challenges it has faced in the Energy Sector in the last few years, especially in ensuring inclusivity in development plans for affected communities in the oil-producing region. This is being corrected with an aim of ensuring that, in particular, all Counties upstream, midstream, and downstream that will be involved in one way or another in Oil Sector programmes will be dully consulted and fully involved as necessary.

Mop out illegal Structures around Depots - GoK asked

Eng. Okanga Anjichi, OSMAG Technical Coordinator

Petroleum facilities handle high-value-theft-prone (HVTP) products and therefore attract many illegal structures housing illegal trade that foster insecurity within the industry due to their cartel behavior.

The government, through a multi-agency approach should mop out all illegal fuel, LPG, lubes dens and other illegal structures around depots across the country. Thereafter conduct systematic security, compliance and enforcement operations in order to eradicate these illegal fuel dens.

Some petroleum bulk handling facilities have been gazetted as protected areas. This is commendable and has helped a great deal in improving security around depots. However, the government, through the ministry of interior, should move with speed and gazette the remaining petroleum bulk storage and handling facilities.

Once installations have been gazetted, illegal structures cleared, constant security presence around the installations will be key in maintaining security.

Security agencies including the National Police Service (NPS) and Inspectorate from county governments must be trained on safety within the oil and gas industry.

Such training ensures familiarization with the operating environment should they respond to security incidents within oil & gas. It also ensures a safe response that does not exacerbate the situation.

Petroleum companies like many other companies employ private guards to help with security management. Since security is a highly specialized field and with emerging security risks from terrorism, private guards require periodic specialized training on security matters.

Driver security threat awareness training is crucial for OMCs and such training should include topics such as threat awareness; vehicle checks; Robbery response; use of secure parking; and communication with security agents and company management.

In the event of oil spillage during an accident, truck driver should notify the consignment owner (OMC) of the incident noting the location and the nature of incident. Where contacts of local security and administrative agencies are available, they should be notified with advice on the product type, quantity and risks.

The driver in conjunction with responding agencies, should cordon the area where the incident has occurred to prevent incident escalation. It is important to note that exclusion zones might be as wide as 300 meters in radius depending on the type of incident.

Where specialist equipment is available from responders the safety of the surrounding should be monitored. Practical steps that can be taken include: sealing off any openings on the tanker to contain leaks; containing leaks in drums, buckets or pail; preventing the spread of oil the ground using items such as sorbent material and even soil.

OMCs can prevent these accidents by conducting routine tanker shell integrity and leak tests as per guidelines set by regulations, ensuring that tanker drivers are certified and licensed by the Energy Regulatory Commission, ensuring that only the correct specification of discharge hoses are purchased and that periodic testing them to assure of their integrity during petroleum discharge operations.

The company should put in place a comprehensive journey planning policies and procedures while the county governments hosting petroleum facilities and along tanker transport corridors should provide designated secure parking for tankers.

In addition, company drivers should be trained in defensive driving techniques, and behavior based safety as per guidelines established by the Energy Regulatory Commission.

Response to any emergency begins before the incident. This is true for all incidents including security incidents.

Therefore, the first step in emergency response is development of a response plan which should include ways of notifying people of the emergency, specific actions to take such as evacuation, sheltering, lockdown, contact details of help that may be called upon such as security agents.

Once every one on the facility is familiar with the response plan, periodic exercises and drills should be planned around simulated events within the plan.

These exercises and drills provide staff with an opportunity to exercise the implementation of the plan in low environments and ensure success during the high environment of a real incident.
The general public is always advised to stay a considerable distance away from both security and safety incidents involving petroleum products.

This is because under specific conditions there is a potential of explosions. These explosions can have a radius of up to 200 meters.

Engineer Okanga Anjichi is the Technical Coordinator at OSMAG

ERC: Emergency Preparedness an obligation to OMCs

Mr Robert Pavel, Director General ERC

The Energy Regulatory Authority (ERC) has said that emergency response is not a choice for petroleum businesses and adherence to applicable standards, codes of practice, laws and regulations governing emergency preparedness and response is an obligation of all petroleum businesses.

In the event that the licensee delays in cleaning up, the Commission can cause the cleanup to be executed at the expense of the licensee.

ERC Director General Mr Pavel Oimeke says that Section 98 of the Energy Act 2006 requires petroleum business licensees to comply with the relevant Kenya Standards or in the absence of such standards, any other standard approved by ERC on environment, health and safety in consultation with other relevant Government agencies.

The D.G further states that licensees are required to undertake cleanup in cases of accidents involving fires, explosions or oil spills occurring in petroleum facilities or involving a petroleum transport vehicle.

"In the event that the licensee delays in cleaning up, the Commission can cause the cleanup to be executed at the expense of the licensee. Petroleum transporters are required to have an oil clean-up plan in compliance with the national oil policy. These transporters are also required to institute measures to ensure that the mode of transport is safe" says the D.G.

He adds that depots are required to comply with the safety measures outlined in Kenya Standards (KS) 1967 of 2015 and KS1968 of 2006.

"Petroleum retail stations are required to comply with KS1969 of 2013 and KS2506 of 2014" he says.

The regulator has created a Directorate of Enforcement and Consumer Protection and has also opened regional offices in Kisumu, Eldoret, Mombasa and Nyeri to enhance the levels of compliance in the industry.

"The regional offices largely deal with Enforcement and Consumer Protection matters and this will improve the overall compliance in the country. ERC has also forged strategic partnerships with key Government agencies such as the National Police Service in a bid to enhance enforcement in the energy sector" explains the D.G

Section 117 of the Energy Act 2006 requires all persons engaged in any undertaking or activity pursuant to a licence or permit under the Energy Act, 2006 to notify ERC in writing, in the form and manner prescribed, of any accident or incident causing loss of life, personal injury, explosion, oil spill, fire or any other accident or incident causing significant harm or damage to the environment or property that has risen in Kenya or within Kenya's Exclusive Economic Zone or Outer Continental Shelf.

The Commission is then mandated to direct an investigation to be carried out and appropriate action taken as necessary. ERC prescribes that accidents or incidents should be reported in writing within 48 hours of occurrence.

"Once a report is received, ERC in conjunction with the affected licensee coordinates an emergency response, information gathering & sharing. In case of oil spillage, the affected licensee is compelled to undertake site clean-up and remediation of the soil or water that may have been contaminated. ERC then undertakes a root cause analysis of the accident and where the licensee is found in breach of licensing conditions, sanctions are immediately imposed. The main sanctions are suspension or revocation of licence or sometimes prosecution of the directors of the company involved" he says.

Mr Pavel adds that ERC made it compulsory with effect from 2018 for all petroleum transport companies, petroleum road tankers and petroleum road tanker drivers to obtain licences.

"Tanker inspection is an important requirement during the licensing process and this ensures continued safety on the roads. In addition, drivers are required to have valid licences and certificates of good conduct from the Directorate of Criminal Investigations. We are also in the process of introducing a requirement for tanker drivers to have training in defensive driving and this is aimed at minimizing road transport incidents" he explains.

The D.G notes that they have received cases of malpractices due to non – compliance some which have led to loss of lives.

"ERC has handled a few cases of non-compliance with emergency procedures and requirements. Fortunately, loss of lives because of failure of emergency procedures has been minimal in the last 5 years. As the regulator, we suspend or revoke licences for non-compliant companies and in certain instances, the directors of the company may be charged" says the D.G.

Government turns to GIS Mapping for emergency response

Principal Secretary Mr Andrew Kamau

The government is in the process of mapping all petroleum facilities including depots with a view to developing a Geographic Information System (GIS) map.

The GIS map will be used as a quick locator tool for emergency services during response to accidents in petroleum retail stations and other storage facilities like depots.

Principal Secretary State department of Petroleum, Ministry of Petroleum and Mining, Andrew Kamau says that the government is working with international and regional partners to enhance fight against terrorism, huge threat to the energy sector.

"The government is in the process of preparing a framework for hydrocarbon escape prevention, preparedness and response planning for both offshore and onshore operations covering upstream, midstream and downstream operations" says Kamau

He says the government is in the process of developing a National Petroleum Master plan that will provide for security and safety planning options for the oil and gas industry as well as promoting public – private partnership on security maintenance.

"Olive Group is one of several global security companies that have found a niche in this country. It operates in over 30 countries and is part of the 11,000-employee Constellis Group. Other Constellis companies include Triple Canopy, ACADEMI, (formerly Blackwater, then Xe), Edinburgh International and Strategic Social" he says

"Regional private security firm, KK Security entered into a partnership with Canadian-based LearnCorp International (LCI) to train professionals expected to work in the gas and oil sectors in Kenya. The agreement will see the Canadian firm provide internationally recognized instructors, curricula and technical support to assist KK Training in the development and delivery of courses and programs."

Kamau says onshore oil and gas facilities should establish and maintain a high level of emergency preparedness and Response plan to ensure incidents are responded to effectively and without delay.

"An emergency response team should be established for the facility that is trained to respond to potential emergencies, rescue injured persons, and perform emergency actions. The team should coordinate actions with other agencies and organizations that may be involved in emergency response," he says

"Personnel should be provided with adequate and sufficient equipment that is located appropriately for the evacuation of the facility and should be provided with escape routes to enable rapid evacuation to a safe refuge. Escape routes should be clearly marked and alternative routes should be available."

He says the Government security bodies are working together with Oil and Gas developers to monitor security and maintain law and order in incidences where there is tension.

"We have established the Turkana Grievance Management Committee which is expected to address some community grievances which may escalate to security and safety concerns in Turkana County where upstream development activities are ongoing. We have also established capacity building on conflict resolution that targets government organization with mandates associated to oil and gas development on conflict resolution".

The P.S. explains that the Security Masterplan will be anchored in the ongoing assignment on development of National Petroleum Master Plan which is under development.
Kamau highlights expansiveness of the operational areas both onshore and off-shore; Inter-Communal conflicts; Limited human capacity and skills, inadequate financial resources; Global terrorism and political instability in neighboring countries, lack of a current Oil spill contingency response plan. It is under review for revision and update; Lack of modern technology and its utilization curbing insecurity, Community misconceptions about petroleum sector development and associated hazards and resultant risks as the government's major challenges in its bid to assure security and emergency response to the energy sector.

In order to safeguard supply of petroleum products across the country and E.A region, he says the government has established various mechanisms such as Highway police patrol, monitoring of transport vehicles, Development of oil and gas transportation safety standards and ensure testing of LPG Products.

"The government has procured LPG Testing equipment for Energy Regulatory Commission Promotion of inspection to nub adulterated fuel and we are also in the process of developing road hazard safety management system for petroleum sector," he says

"In the event of oil spillage or tanker accident we are mandated to mobilize response teams and equipment which include Red Cross, National Disaster Operations center mobilizes response team and coordination, and Police condones the scene and maintain law and order, explains Kamau

Kenya Pipeline Company Sensitizes communities on its HSE projects

Mr Hudson Andambi, Ag Managing Director KPC

Kenya Pipeline Company (KPC) carries out its Health Safety and Environment projects countrywide to sensitize communities on the dangers of petroleum products when mis-handled and during incidences.
P.I spoke to the company's acting Managing Director Mr Hudson Andambi on its various HSE projects.

Excerpts:

Q. Briefly go over laws that govern KPC with regard to Health Safety and Environment (HSE)?

A There are mainly three sets of laws that cover HSE in Kenya namely Energy Act 2006, the Occupational Safety and Health Act (OSHA) 2007 and finally the Environment Management and Coordination Act (EMCA) 1999.
It is important to mention that KPC is in compliance with all these pieces of legislation and submits annual audit reports to the Directorate of Occupational Safety and Health Services (DOSHS) and National Environment Management Authority (NEMA) for all its sites. Under the Energy Act, KPC is audited annually by the industry regulator, Energy Regulatory Commission (ERC) to confirm compliance.

Q. Which HSE projects has KPC undertaken in the recent past?

A As a public institution mandated to store and transport refined petroleum products, safety remains our number one priority across the spectrum of our operations. In line with this operational principle, we have undertaken the following initiatives so as to evolve and embed a culture of safety in KPC and also among our stakeholders: carrying out a safety culture awareness programme where daily and annually targeted activities aimed at improving safety attitude among workers and other stakeholders have been undertaken; Successful environmental clean-up and restoration of Thange Basin in Kibwezi, Makueni County that was occasioned by a 2015 oil spill. Other sites that have undergone successful environmental bioremediation include Mariakani (Kilifi County); Koru (Kisumu County), Lisa Ranch, Konza (Makueni County) and Kibos (Kisumu County).

Q. What are some of KPC's milestone achievements in its HSE programs?

A KPC has been on the path to be accredited for ISO 14001 on Environmental Management System and ISO 18001 on Occupational Health and Safety System. We are on the final stage audit before issuance of the certification by Bureau Veritas.
KPC has invested heavily in modern firefighting equipment. We have partnerships with oil marketers with depots near our facilities to provide assistance in the event of an unforeseen event. The Nairobi and Mombasa Depot Safety and Security Committees, of which KPC is part, carries out regular drills to enhance preparedness.

Q. What are some of the challenges that KPC has faced while implementing HSE programs countrywide and how has the company overcome them?

A KPC has been adversely affected by criminal puncturing of the pipeline in some parts of the country resulting in product spillage into the environment which requires cleaning intervention. Some spills have been as a result of corrosion of the pipeline especially the old Mombasa-Nairobi pipeline (Line 1). However, with the operationalization of Line 5 we expect that the spillages will now become history.
Encroachment of the members of the public into the pipeline's right of way has also greatly affected the company's operations in terms of detection of illegal activities on the pipeline and the company's response strategy. KPC has, through partnership with relevant government agencies at national and county level, been educating the public on dangers of encroachment on the pipeline's right of way.

Q. In your view, how has HSE programs impacted the community?

A Our HSE programmes have greatly improved incident and near-miss reporting companywide internally and by local communities. The upgrading of our firefighting system has enhanced the capacity of the organization to adequately and safely respond to emergencies. As an organization that implements ISO 14001 and OHSAS 18001 on environment and occupational health and safety, KPC has a clear interaction system with its various stakeholders for better management of HSE at the workplace for a safe and pollution free environment. This ensures safe transportation of the petroleum products and caring for the environment.

Q. What message do you have for the energy sector players with regard to HSE? The general public?

A Energy sector is a critical aspect of any nation's development. The sector has significant impact on health, safety and environment and therefore, we must take it upon ourselves to fulfil our role in ensuring that we safeguard the health and safety of our stakeholders within operational environment. This would mean investment in systems safeguards, transparency in our operations and continued engagement with all our stakeholders to ensure we are not only prepared to immediately respond to any incident, but are also able to mitigate any consequences arising from the incident.

1. Ms Stella Apolot, Principal Standards Officer in EAC Secretariate empasizing a point during the Regional Workshop on EAC Harmonized Fuel Standards held in Nairobi.
2. From L to R is Mr Albert Nyagechi of Kenya Bureau of Standards, Mr Micheal Mugerwa of Uganda Refinery Holding Company, Mr Fabien Nshizurungu of Rwanda Standards Board, Mr Timothy Mugambi of Kenya Pipeline Company responding to stakeholders queries during the EAC Harmonized Fuel Standards Regional Workshop held in Nairobi.
3. KPA-PIEA Stakeholders meeting on the Kipevu Oil Terminal (KOT) relocation.
4. Be Energy General Manager Mr Ali Abdelgany with Marketing Manager Mr. John Mwabili and Retail Manager Erick Wangati cut a ribbon during the opening of BE Energy Ongata Rongai Petrol station.
5. Tosha Petroleum Commercial Director Abdilatif Abdirahman hands over a gift to Ms Barbra Kwena of KenolKobil. (P.I apologizes for name and title error of Mr Abdilatif Abdirahman in Q4 2018 Edition).

6. Participants show off their certificates after successful completion of Petroleum Stocks Control in Oil & Gas - Module 1 training.
7. Group of participants pose for after during the Introduction to Oil and Gas Sector short course held in Nairobi.

TRAINING CALENDAR, 2019

CODE	COURSE TITLE	Duration	Dates
INTRODUCTORY TO THE OIL AND GAS COURSES			
CODE	COURSE TITLE	Duration	Dates
SPS 001	Introduction to the Oil and Gas Sector	5 days	21 – 25 January, 2019 (Nairobi)
SPS 001	Introduction to the Oil and Gas Sector	5 days	18 – 22 March, 2019 (Msa)
LIQUIFIED PETROLEUM GAS (LPG) COURSES			
CODE	COURSE TITLE	Duration	Dates
SPS 036	East Africa PIEA/WLPGA LPG Summit and Training Workshop	2 days	25 - 26 April, 2019 (Nairobi)
SPS 006	LPG Operations Safety and Marketing	5 days	8 – 12 April, 2019 (Nairobi)
SPS 014	LPG Installers	3 days	2 – 4 September 2019 (Nairobi)
OIL AND GAS SUPPLY AND DISTRIBUTION COURSES			
CODE	COURSE TITLE	Duration	Dates
SPS 015	Petroleum Depots Operations and Distribution Management	5 Days	15 - 18 October 2019 (Nai
SPS 020	Petroleum Stocks Control (Module 1)	5 Days	11 - 15 March 2019 (Nairobi)
SPS 021	Petroleum Stocks Management (Module 2)	5 Days	10 – 14 June 2019 (Msa)
SPS 023	Supply Planning Optimization in the Oil and Gas Sector	5 Days	6 – 10 May 2019 (Msa)
SPS 023	Supply Planning Optimization in the Oil and Gas Sector	5 Days	12– 16 August 2019 (Nairobi)
OIL AND GAS HUMAN RESOURCE MANAGEMENT COURSES			
CODE	COURSE TITLE	Duration	Dates
SPS 013	Supervisory Skills Development in the Oil and Gas Sector	2 days	13 – 14 February 2019 (Nairobi)
SPS 012	Managing Employees Relations in OIl and Gas Sector	2 days	3 - 4 April (Nairobi)
SPS 022	Strategic Customer Service in the Oil and Gas Sector	2 days	6 - 7 February 2019 (Nairobi)
OIL AND GAS RETAIL AND MARKETING COURSES			
CODE	COURSE TITLE	Duration	Dates
SPS 025	Oil and gas Retail Facilities Maintenance and Management for Technicians	2 days	28 -29 March 2019 (Nairobi)
SPS 018	Service Station Attendants Course	5 days	22 - 26 July 2019 (Nairobi)
SPS 019	Service Station Management Course	5 days	26 - 30 August 2019 (Nairobi)
HEALTH, SAFETY, ENVIRONMENT AND QUALITY MANAGEMENT COURSES			
CODE	COURSE TITLE	Duration	Dates
SPS 033	Risk Management in the Oil and Gas Industry	1 day	1 March 2019 (Nairobi)
SPS 010	Health, Safety, Environment and Quality Management in the Oil and Gas Sector	5 days	13 - 17 May 2019 (Nairobi)
SPS 035	Health, Safety, Environment and Quality Management in the Oil and Gas Sector	5 days	3 - 7 June 2019 (Msa)
SPS 003	Contractor Safety Management (Module 1)	5 days	1 -5 July 2019 (Nairobi)
SPS 035	Oil and Gas Fire Marshals/Wardens Training	3 days	4 - 8 November 2019 (Nairobi)
OIL AND GAS TRANSPORTATION COURSES			
CODE	COURSE TITLE	Duration	Dates
SPS 007	East Africa Oil and Gas Transportation Management	5 days	23 - 27 September 2019 (Nairobi)
SPS 016	Petroleum Road and Transportation Management	5 days	18 - 22 November 2019 (Nairobi)
OIL AND GAS LEGAL REGULATORY FRAMEWORK COURSES			
CODE	COURSE TITLE	Duration	Dates
SPS 026	Legal and Regulatory Compliance in the Oil and Gas Industry	1 day	31 January 2019 (Nairobi)
SPS 005	East Africa Legal Regulatory Framework and Standards	5 days	18 -22 February 2019 (Nairobi)
SPS 029	Oil and Gas Corporate governance for Boards and Management Conference	1 day	23 October 2019 (Nairobi)
LUBRICATION AND AVIATION COURSES			
CODE	COURSE TITLE	Duration	Dates
SPS 011	Lubricants and Lubrication (Module 1)	5 days	16 - 20 September 2019 (Nairobi)
SPS 002	Aviation Operations	5 days	5 - 9 August 2019 (Nairobi)
PROJECT MANAGEMENT COURSES			
CODE	COURSE TITLE	Duration	Dates
SPS 017	Project Management in the Oil and Gas Sector	5 days	2 - 6 December 2019 (Nairobi)

Additional Information:

5 DAYS COURSE CHARGES: PIEA Members Ksh. 49,000 + VAT
Non Members Ksh. 62,500 + VAT
3 DAYS COURSE CHARGES: PIEA Members Ksh.35, 000+VAT
Non Members Ksh.40, 000+VAT

2 DAYS COURSE CHARGES: PIEA Members Ksh.25, 000+VAT
Non Members Ksh.30, 000+VAT
1 DAY COURSE CHARGES: Subject to discussion depending on the course

UPSTREAM

Kenya's Product Sharing Contract at a Glance

Daniel Muasya

Petroleum contracts are fundamental documents that set out the legal framework for oil and gas projects.
It is estimated that for a large petroleum operation project, there could easily will be over 100 contracts signed in order to discover and commercialize hydrocarbons.

All these fall under the broad category of 'petroleum contract'. There may be well over 100 parties involved, including government, Fellow joint venture partners, private banks and financiers, transporters, engineering firms and many more. It is however the contract between the Host state and the Joint venture partners that draws a lot of attention.

Most countries and governments have over time accused global oil players of dishonesty and insincerity when both get to negotiating table, therefore making negotiation, signing and disclosure of these contracts one of the most contested activities in the oil and gas cycle, thereby significantly delaying huge projects and flow of revenues to all parties involved.

Most upstream petroleum contracts usually contain a range of terms relating to project management, work programs, royalty and tax payments, production shares, work obligations, local content obligations, employment and training of personnel and accounting procedures, while downstream contracts speak to payments, delivery information and pricing, among other things.

It is the nature and the number of parties involved that draws a lot of emotion when it comes to negotiation of the contracts and given the huge capital outlay required for such petroleum projects its highly like that the state is dealing with a consortium of investors who mostly likely have formed a joint venture that is led by operating company, who most likely owns a larger percentage of the joint venture. These contracts are often referred to as Host Government Agreements.

Nature of Host Government Agreements

There are three principle types of Host Government Agreements.

Concessions; where the contractor owns the hydrocarbons in the ground, **Product Sharing Contracts (PSC's)** where the contractor owns a share of the hydrocarbons once they are exploited on the ground and **Service Contracts** where the contractor gets a service fee for getting the oil out.
\The most popular of the three is the Product Sharing Contract as it helps balance risk and reward between the Host state and the contractor.

A PSC is liked by states as it ensures that hydrocarbons and other resources remain under the ownership of the government and the license only allows the oil companies to carry out petroleum activities in given oil blocks.

Although there have been several fiscal changes since the first PSC's were signed that have affected the operating environment and commercial metrics of most of the oil companies in country, the Kenya PSC is one of the best in the region. It has significantly balanced the risks and rewards between the Kenya government and Oil companies.

Under a PSC, the oil company will bear most of the exploration and development risks. The government gets to share the costs with the IOC once if successful in exploration activities.

Most of the times, the government through the National Oil Company joins the joint venture by contributing some of its profits as "share capital" to the JV that is developing the oil fields. Mostly. the host government is carried through the initial phase of the project, however, in return the oil company negotiates a higher oil share as a compensation to the carried interest.

At the point of signing the PSC, the government is paid a signature bonus and an annual fee as rental charges to the exploration blocks.

This is paid at an agreed rate per square Kilometer or foot. Other components of the Product Sharing contract include the agreed contract area, Agreed accounting procedures, Costs allocation procedures, procurement and project implementation procedures, minimum financial commitment per exploration phase among others.

Kenya Case

Kenya has adopted the Product Sharing Contract model as the main form of contracting with the global oil players in the country.

This has helped the government avoid early exploration risks and financial burdens that have been borne by the oil companies, and where as there has been success in the Lokichar Basin in Northern Kenya, a couple of other areas have not yielded success on commercial discoveries leading to relinquishments. The Kenya government has therefore not suffered any financial losses when such relinquishments have taken place.

In addition, the PSC model is good to the government of Kenya because it has allowed the state to retain ownership of the natural resources (hydrocarbons) while allowing Oil and Gas companies to carry out exploration activities within the country.

Other key features of the Kenya Product Sharing Contract include:

Signature Bonus – Upon signing of the PSC between the Kenya government and the oil player, A signature bonus needs to be paid to the Kenya government before any operations or activities commence. The amount paid is depended on the size of the license area and the historical data and information that the government has accumulated over the years.

Surface fees – This is an annual rental fee paid by the oil companies to the government. It's a fixed rate on each exploration phase and is computed based on the size of the license area. A case would be if the surface area is 5,000 square kilometers and the rate per square kilometer is $15, then the total surface fees payable to the government would be $75,000. The rate applied per each square kilometer increases as companies move from one Exploration Period to the next.

Exploration period – The Kenya PSC is time bound and is structured in Exploration Periods. These are periods in which the oil company is required to carry out certain activities before electing to move to the next. Individual PSC's signed with different oil companies differ in periods but most of them have three exploration periods of two years each namely Initial Exploration Period (IEP), First Additional Exploration Period(FAEP) and Second Additional Exploration Period(SAEP).

An oil company can seek an extension of time in any Exploration period from the Kenya government for at most 2 times. It is expected that by the time the SAEP ends the company needs to be thinking of a development project.

Minimum Work Obligations – Oil companies are required to carry out certain minimum activities in each exploration period. Some of the work include acquiring, processing and interpretation of Seismic data which defined in area size as well as monetary terms, and drilling wells which is defined in both depth and cost of the well. This is important as it ensures that companies don't acquire blocks for speculative purpose and not carry out in exploration work on them

Performance Bond – The oil companies are supposed to provide a guarantee to the Kenya government that it will meet the Minimum Work obligations for each phase by providing a bank guarantee split into 50 per cent provided by a bank and 50 per cent provided by the parent company. In case the Oil company does not meet the minimum work obligation the Kenya government has the right to liquidate the guarantees.

Surrender obligation - The oil companies are required to surrender a percentage of the license area to the Kenya government in the Initial Exploration Period and an additional percentage in the First Additional Exploration Period. In most PSC's this has been fixed at 25 per cent to 30 per cent in each Exploration Period. The Kenya government can elect to not exercise its rights upon application by the Oil company and in return the Oil Company can elect to do more work on the license.

Government participation – In most individual signed PSC's the Kenya Government has a carried interest of 10 per cent until declaration of commerciality of a discovery. Thereafter it may elect to acquire a further 10 per cent participating interest to add to a maximum of 20 per cent participating interests.

Cost oil or Gas - This is the negotiated percentage of total crude or gas produced for recouping of investment costs incurred by the oil and Gas Company in the Exploration and Production phases. The Kenya PSC has capped this at 60 per cent of all the oil or gas produced in a field for a period of five years.

Profit oil or Gas - This is the remaining oil or gas after deducting cost oil or gas and is shared between the Government and the contractor. The Kenya PSC has used R factors or Barrels produced per day to set the oil or gas split with the Oil companies. An R factor is arrived at by dividing the revenues from a project by the costs of that project and then ascribing a particular profit share which is payable to the state to each band of the resultant R factor calculation.

Windfall profit – The Kenya PSC States that where oil prices are higher than the negotiated threshold, the Government creams off Oil Companies Share above the threshold crude oil prices by 26 per cent.

Late payments – In case of late payments the Oil Company is charged interest at Libor plus 300 basis points until such payment is made to the Kenya Government.

Local Content – The PSC has defined minimum thresholds on involvement of Kenya's suppliers and employees to each Oil Company while carrying out its petroleum activities in the Country. In addition, all major contracts must be approved by the government before signature. The companies are also required to submit its procurement procedures to the government. This is to ensure there is transparency in the dealings of the Oil companies in the country and to support Capacity building in the Nation.

Accounting procedures – The Kenya PSC provides guidelines on how certain accounting items would be treated before arriving at profit or gas oil. Several expenditures that are not considered to be part of Cost Oil have been excluded. Some of these include Social investment costs, Surface fees, signature bonus among others. It also provides guidelines on what share of Company head office costs would be charged to the profit oil and treatment of Intercompany transactions which are normally quite significant. It also stipulates how audits will be conducted and the regular reports that need to be filed with the ministry in charge of petroleum operations in Kenya.

Other terms included in the Kenya PSC Include, Dispute resolution, unitization, rights of each party, stabilization clause, domestic oil or gas supply obligations and several other clauses.

Conclusion

Although there have been several fiscal changes since the first PSC's were signed that have affected the operating environment and commercial metrics of most of the oil companies in country, the Kenya PSC is one of the best in the region. It has significantly balanced the risks and rewards between the Kenya government and Oil companies. The spirit of the initial PSC should be maintained as a way of encouraging further investment growth in the Upstream Sector.

The writer is the Resident Country Representative and Upstream Manager – Shell International Exploration and Production – Kenya
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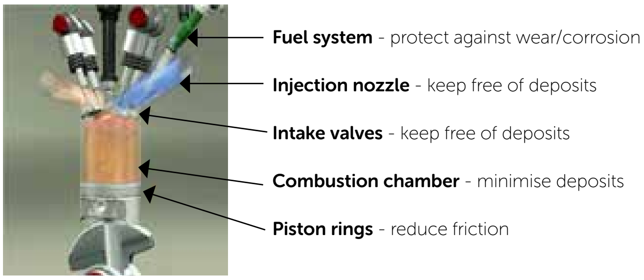
Introduction to Fuel Performance Packages

By Joseph Ndung'u

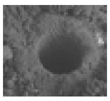
Fuel performance packages are advanced chemical formulations consisting of several additives contained in a suitable solvent. They are added to already refined fuel either at the storage depot or transport tanker or added when fueling at the gas station
Fuel performance packages improve Fuel performances. They work by creating conditions that makes the fuel burn more efficiently.
These conditions mainly revolve around the aspect of removing and preventing buildup of deposits in the intake valves and injector nozzles, minimizing deposits in the combustion chamber and reducing friction at the piston rings. This is shown in the image below.

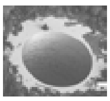


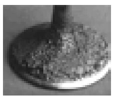
BASF, the world's leading chemicals company, produces and markets its fuel performance packages for Gasoline and Diesel under the brand name Keropur®.

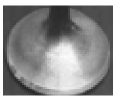
Engine cleanliness

Fuel additives can work in two ways to keep the engine clean. Firstly, they can coat the intake system of the engine with a protective film which prevents deposits from building up in critical engine parts such as injector nozzles and intake valves. Secondly, they can also remove existing deposits from these areas. The pictures below shows injector nozzle and intake valves when normal fuels and fuels with BASF' Keropur® are used.


Injector nozzle normal fuel


Injector nozzle fuel containing Keropur®

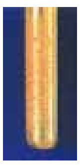

Intake valve normal fuel

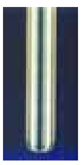

Intake valve fuel with Keropur®

The deposit control additive used in formulation of the fuel performance packages is responsible for keeping the engine parts clean. In the pictures shown above, Keropur® helps to keep these engine parts clean because it has been formulated using highly efficient deposit control additives.
A clean engine burns fuels more efficiently (improved fuel economy) has less impact on the environment (reduced emissions) and has a lower maintenance costs.

Corrosion Protection

To protect the fuel intake system from corrosion, fuel performance packages also contain corrosion inhibitor additives.
Steel corrosion may cause severe damage in pipes and tanks leading to high maintenance cost. The effect of Keropur® when it comes to the prevention of corrosion are shown in the pictures below


Without Keropur®


with Keropur®

Friction reduction

In an internal combustion engine, 10 % of the energy generated by the fuel is wasted through internal friction for example between the piston rings and cylinder liner.

Fuel performance packages containing friction modifier additives coats the piston rings thus reducing friction and consequently increasing fuel efficiency.

For example, Keropur® gasoline performance packages can be formulated with very effective friction modifiers minimizing friction between the piston rings and the cylinder wall, which results in an instantaneous fuel economy benefit.

Are fuel additives beneficial?

The immense benefit of use of fuel additives has been recognized by the World-Wide Fuel Charter. This charter that is supported by the whole Automobile industry, defines different minimum qualities of fuels. Limits can only be achieved if fuels contain an effective level of deposit control additives.

In the US for instance, Top Tier Gasoline program supported by BMW, General Motors, Honda, Toyota, Volkswagen and Audi aims to improve gasoline quality in US by using higher treat levels of deposit control additives.

Fuel performance packages are also good for the environment. By reducing emissions, they contribute significantly towards sustainability.
Additionally, reduction in fuel consumption and maintenance cost all have a tangible economic benefit to the motorist.

Fuel branding

Fuel performance packages enable oil companies to stay ahead of the competition by differentiating their product offering, effectively creating a fuel brand. Such a fuel brand will be supported by marketing claims.

Based on the technical feature imparted on the fuels by fuel performance packages such as Keropur®, oil companies can make several marketing claims spanning from an improved fuel economy, across reduced emissions to a better unfolding of full engine power.

In an environment where fuel margins are constantly under pressure, fuel branding creates an opportunity for oil companies to compete on improved fuel performance as opposed to product discounting.

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Joseph Ndung'u
BASF Technical Account Manager
East & West Africa Fuel & Lubricant Solutions

Petroleum Taxes

	Import Duty	Excise Duty	VAT	Road Mainten. Levy	Petroleum Devel. Levy	Import Decl. Form	Remission Kshs/Litre	Adulteration Levy
Motor Spirit (Gasoline) Regular	-	19.505	8%	18.00	0.40	2.00%	0.45	-
Motor Spirit (Gasoline) Premium	-	19.895	8%	18.00	0.40	2.00%	0.45	-
Aviation Spirit	-	19.895	8%	-	0.40	2.00%	0.45	-
Spirit Type Jet Fuel	-	19.895	8%	-	0.40	2.00%	0.45	-
Special Boiling Point & White Spirit	-	8.500	8%	-	-	2.00%	0.30	-
Other Light Oils and Preparations	-	8.500	8%	-	-	2.00%	0.30	-
Partly refined (including topped crudes)	-	1.450	8%	-	-	2.00%	0.30	-
Kerosene type Jet Fuel	-	5.755	8%	-	0.40	2.00%	0.45	-
Illuminating Kerosene (IK)	-	7.250	8%	-	0.40	2.00%	0.45	18
Other Medium oils and preparations	-	5.300	8%	-	0.40	2.00%	0.30	-
Gas Oil (automotive,light,amber for high speed engines).	-	10.305	8%	18.00	0.40	2.00%	0.30	-
Diesel Oil (ind heavy,black for low speed marine and stationery engines).	-	3.700	8%	-	0.40	2.00%	0.30	-
Other Gas Oils	-	6.300	8%	-	0.40	2.00%	0.30	-
Residual Fuel oils 125 cst.	-	0.300	16%	-	0.40	2.00%	0.30	-
Residual Fuel oils 180 cst.	-	0.600	16%	-	0.40	2.00%	0.30	-
Residual Fuel oils 280 cst.	-	0.600	16%	-	0.40	2.00%	0.30	-
Other residual fuels	-	0.600	16%	-	0.40	2.00%	0.30	-
Lubricating oils	25%	-	16%	-	-	2.00%		-
Lubricating greases	25%	-	16%	-	-	2.00%		-
Batching oils	25%	-	16%	-	-	2.00%		-
Butanes (Petroleum gases)	-	-	-	-	0.40	2.00%		-
Petroleum Bitumen	10%	-	16%	-	0.40	2.00%		-
Bituminous or oil shale and tar sands	10%	-	16%	-	0.40	2.00%		-
Bituminous mixures	10%	-	16%	-	0.40	2.00%		-

SOURCE: KRA

Kenya Petroleum Sales

	HALF YEAR RESULTS					Q2 RESULTS	
Products	**Jan-June 2016**	**% Change Compared to same period 2017**	**Jan-June 2017**	**Jan-June 2018**	**% Change Compared to same period 2018**	**April-June 2017**	
Avgas	761	20%	955	1,643	42%	418	
Jet A-1	413,555	-6%	389,138	405,302	4%	210,739	
Premium Gasoline	787,901	6%	836,411	896,723	7%	421,164	
Regular Gasoline	-		-	-		-	
Kerosene	269,062	6%	286,093	223,136	-28%	143,447	
Gas Oil	1,249,499	-1%	1,240,340	1,282,638	3%	617,466	
Industrial Diesel	418	85%	2,807	20	-13984%	2,320	
Fuel Oils	154,700	53%	326,214	251,686	-30%	180,348	
Bitumen*	-	100%	1,125	429	-162%	1,008	
Lubricants	26,822	0%	26,749	26,041	-3%	12,956	
Greases*	13		-	606	100%	-	
TOTAL	**2,902,731**	**7%**	**3,109,832**	**3,088,223**	**-1%**	**1,589,866**	
Units in M^3							
* Units in Metric tonnes							

Market Share

OVERAL MARKET SHARE (INCLUDINGEXPORTS) OCTOBER - DECEMBER 2018	
VIVO	14.4%
TOTAL	13.9%
KENOL KOBIL	13.7%
GULF ENERGY	5.0%
OLA ENERGY	4.8%
NOCK	3.7%
PETRO	3.7%
BE ENERGY	2.6%
GAPCO	2.5%
GALANA	2.4%
ROYAL	2.0%
HASS	1.9%
RH DEVANI	1.5%
DALBIT	1.4%
STABEX	1.4%
TEXAS	1.4%
TOSHA PETROLEUM	1.4%

TRISTAR	1.1%
EAGOL	1.1%
FOSSIL FUEL	1.1%
CITY OIL	1.1%
AINUSHAMSI	1.0%
ORYX	1.0%
LAKE OIL	1.0%
ASPAM	1.0%
REGNOL	0.9%
LUQMAN	0.8%
ENGEN KENYA	0.8%
KENCOR	0.8%
RIVAPET	0.7%
OLYMPIC	0.7%
TOWBA	0.7%
ONE PETROLEUM	0.6%
MOGAS	0.6%
LEXO ENERGY	0.6%
FINE JET	0.6%

MS OIL	0.5%
AXON	0.4%
GASLINE	0.4%
ASTROL	0.4%
BANODA	0.4%
ILADE	0.4%
OCEAN ENERGY	0.4%
BACHULAL POPATLAL (K) LTD	0.4%
RANWAY	0.3%
TIBA	0.3%
ASHARAMI	0.2%
HARED	0.2%
OIL ENERGY	0.2%
AFRO	0.2%
PETROCAM	0.2%
HELLER	0.2%
KOSMOIL	0.2%
OTHERS	0.8%
TOTAL	**100.0%**

April-June 2018	% Change Compared to same period 2018	Q2 vrs Q1 2018 % Change	July- Sept 2018	% Change Compared to April-June 2018	Jan-Sept 2018	Jan-Dec 2017	Jan-Dec 2018	2018 % Change Compared to 2017
1,177	64%	60%	334	-252%	1,977	2,007	2,056	2%
189,764	-11%	-14%	172,269	-10%	510,362	879,243	722,214	-22%
443,159	5%	-2%	453,766	2%	1,333,064	1,711,426	1,801,270	5%
-			-			-		
104,374	-37%	-14%	101,920	-2%	318,326	533,794	374,939	-42%
640,219	4%	0%	639,813	0%	1,912,294	2,509,585	2,532,911	1%
-			204	100%		2,155		
85,652	-111%	-94%	83,788	-2%	346,493	603,843	435,284	-39%
258	-290%	34%	262	1%	691	1,770	1,555	-14%
12,349	-5%	-11%	13,387	8%	39,505	52,402	52,259	0%
606	100%	100%	-		1,301	2	1,320	100%
1,477,559	**-8%**	**-9%**	**1,465,743**	**-1%**	**4,464,013**	**6,296,228**	**5,923,810**	**-6%**

KENYA PETROLEUM SALES MARKET SHARE OCTOBER - DECEMBER 2018	
VIVO	18.5%
TOTAL	17.2%
KENOL KOBIL	14.4%
OLA ENERGY	6.1%
GULF ENERGY	5.8%
NOCK	4.9%
GAPCO	2.9%
PETRO	2.6%
GALANA	2.4%
BE ENERGY	2.3%
RH DEVANI	1.5%
DALBIT	1.4%
LAKEOIL	1.3%
TOSHA PETROLEUM	1.3%
ORYX	1.2%
ENGEN KENYA	1.1%
HASS	1.1%
AINUSHAMSI	1.0%
TOWBA	0.9%
ONE PETROLEUM	0.8%
ASPAM	0.8%
KENCOR	0.8%
EAGOL	0.8%
LEXO ENERGY	0.8%
TEXAS	0.7%
REGNOL	0.7%
FOSSIL FUEL	0.7%
RIVAPET	0.6%
ASTROL	0.6%
BACHULAL POPATLAL (K) LTD	0.5%
LUQMAN	0.4%
MOGAS	0.4%
ROYAL	0.3%
OLYMPIC	0.3%
OCEAN ENERGY	0.3%
TRISTAR	0.3%
STABEX	0.3%
TIBA	0.3%
PETROCAM	0.3%
BANODA	0.2%
HELLER	0.2%
HASHI	0.2%
FINE JET	0.2%
FAST NETT	0.1%
PRIME REGIONAL	0.1%
OILCOM	0.1%
AXON	0.1%
JAGUAR	0.1%
ILADE	0.1%
EON ENERGY	0.1%
GLOBAL	0.1%
BRAIN FIELD	0.1%
OTHERS	0.1%
TOTAL	**100.0%**

STATISTICS

OVERAL MARKET SHARE(INCLUDING EXPORTS) JANUARY- DECEMBER 2018	
VIVO	14.3%
KENOL KOBIL	14.0%
TOTAL	13.8%
GULF ENERGY	5.8%
OLA ENERGY	5.3%
PETRO	4.3%
NOCK	4.3%
HASS	3.2%
BE ENERGY	2.7%
GAPCO	2.6%
ROYAL	2.3%
GALANA	2.0%
TEXAS	1.6%
TOSHA PETROLEUM	1.5%
FOSSIL FUEL	1.4%
DALBIT	1.3%
STABEX	1.2%
ORYX	1.0%
ENGEN KENYA	1.0%
AINUSHAMSI	1.0%
RH DEVANI	0.9%
CITY OIL	0.9%
TRISTAR	0.9%
EAGOL	0.8%
ONE PETROLEUM	0.8%
ASPAM	0.8%
OLYMPIC	0.8%
RIVAPET	0.7%
LUQMAN	0.7%
MOGAS	0.6%
LAKE OIL	0.5%
LEXO	0.5%
FINE JET	0.5%
OCEAN ENERGY	0.5%
KENCOR	0.5%
ILADE	0.4%
ASTROL	0.4%
REGNOL	0.4%
AXON	0.4%
TOWBA	0.4%
BANODA	0.4%
RANWAY	0.2%
TIBA	0.2%
PETROCAM	0.2%
FUTURES	0.2%
BRAIN FIELD	0.2%
GLOBAL	0.1%
ASHARAMI	0.1%
MS OIL	0.1%
AMANA	0.1%
OILCOM	0.1%
HASHI	0.1%
PRIME REGIONAL	0.1%
GASLINE	0.1%
HELLER	0.1%
BUSHRA	0.1%
BACHULAL POPATLAL (K) LTD	0.1%
SAVANAH ENERGY	0.1%
JAGUAR	0.1%
EON ENERGY	0.1%
HARED	0.1%
OIL ENERGY	0.1%
ELIORA	0.1%
OTHERS	0.2%
TOTAL	**100.0%**

KENYA PETROLEUM SALES MARKET SHARE JANUARY-DECEMBER 2018	
VIVO	18.7%
TOTAL	16.7%
KENOL KOBIL	14.7%
OLA ENERGY	6.9%
NOCK	5.6%
GULF ENERGY	5.0%
PETRO	3.3%
BE ENERGY	2.6%
GAPCO	2.5%
GALANA	1.8%
HASS	1.8%
ENGEN KENYA	1.3%
TOSHA PETROLEUM	1.3%
DALBIT	1.3%
RH DEVANI	1.1%
ORYX	1.1%
ONE PETROLEUM	1.1%
TEXAS	1.0%
FOSSIL FUEL	0.8%
ASPAM	0.8%
EAGOL	0.7%
LAKE OIL	0.7%
AINUSHAMSI	0.7%
LEXO	0.6%
RIVAPET	0.6%
ASTROL	0.6%
KENCOR	0.5%
ROYAL	0.5%
OLYMPIC	0.5%
TOWBA	0.5%
OCEAN ENERGY	0.4%
LUQMAN	0.4%
MOGAS	0.4%
REGNOL	0.3%
PETROCAM	0.3%
STABEX	0.2%
BANODA	0.2%
TIBA	0.2%
AMANA	0.2%
ILADE	0.2%
OILCOM	0.1%
HASHI	0.1%
BRAIN FIELD	0.1%
HELLER	0.1%
PRIME REGIONAL	0.1%
AXON	0.1%
FUTURES	0.1%
BACHULAL POPATLAL (K) LTD	0.1%
FINE JET	0.1%
SAVANAH ENERGY	0.1%
JAGUAR	0.1%
EON ENERGY	0.1%
BUSHRA	0.1%
GLOBAL	0.1%
ASHARAMI	0.1%
TRISTAR	0.1%
OTHERS	0.2%
TOTAL	**100.0%**

LUBRICANTS MARKET SHARE JANUARY - DECEMBER 2018	
TOTAL	38.6%
VIVO	35.6%
OLA ENERGY	11.6%
KENOL KOBIL	10.4%
NOCK	1.4%
ORYX	0.8%
GALANA	0.7%
HASS	0.3%
FUTURES	0.3%
ENGEN KENYA	0.2%
AINUSHAMSI	0.1%
OTHERS	0.1%

STATISTICS

SECTOR SHARE

Sector Sales January - December 2018

CIVIL AVIATION MARKET SHARE	
KENOL KOBIL	47.7%
GULF ENERGY	20.2%
BE ENERGY	14.7%
OLA ENERGY	8.8%
VIVO	4.0%
TOTAL	2.6%
HASS	1.0%
FINE JET	0.8%
HELLER	0.2%
TRISTAR	0.0%
TOTAL	**100.0%**

RETAIL OUTLETS MARKET SHARE	
VIVO	28.0%
TOTAL	23.2%
KENOL KOBIL	10.0%
NOCK	7.6%
OLA ENERGY	6.9%
PETRO	3.9%
GULF ENERGY	2.6%
GALANA	1.6%
LEXO	1.4%
TOSHA PETROLEUM	1.3%
ASTROL	1.2%
ENGEN KENYA	1.2%
RIVAPET	1.1%
LUQMAN	0.8%
HASS	0.8%
LAKEOIL	0.8%
BACHULAL	0.7%
AINUSHAMSI	0.6%
BE ENERGY	0.6%
STABEX	0.5%
MOGAS	0.4%
EAGOL	0.4%
TIBA	0.4%
PETROCAM	0.4%
GAPCO	0.3%
AFTAH	0.3%
ILADE	0.3%
AMANA	0.3%
ORYX	0.3%
OLYMPIC	0.3%
ASPAM	0.3%
OILCOM	0.2%
SAVANAH ENERGY	0.2%
TOWBA	0.2%
TEXAS	0.2%
AXON	0.2%
HASHI	0.1%
EON ENERGY	0.1%
ELIORA	0.1%
HELLER	0.1%
OTHERS	0.1%
TOTAL	**100.0%**

RESELLERS MARKET SHARE	
TOTAL	10.8%
GAPCO	9.7%
PETRO	6.5%
VIVO	5.0%
KENOL KOBIL	4.7%
OLA ENERGY	4.4%
ORYX	4.0%
TEXAS	3.9%
GALANA	3.6%
ENGEN KENYA	3.4%
FOSSIL FUEL	3.3%
NOCK	3.1%
TOSHA PETROLEUM	3.0%
ASPAM	2.7%
HASS	2.5%
GULF ENERGY	2.3%
DALBIT	2.2%
KENCOR	2.2%
ROYAL	2.2%
EAGOL	2.0%
AINUSHAMSI	1.9%
TOWBA	1.6%
OLYMPIC	1.6%
LAKEOIL	1.5%
REGNOL	1.4%
ONE PETROLEUM	1.4%
AFTAH	1.1%
BE ENERGY	0.9%
OCEAN ENERGY	0.9%
TRISTAR	0.9%
BANODA	0.8%
BRAIN FIELD	0.6%
FUTURES	0.5%
PRIME REGIONAL	0.4%
MOGAS	0.4%
PETROCAM	0.3%
GLOBAL	0.3%
HASHI	0.3%
JAGUAR	0.2%
BACHULAL	0.2%
ILADE	0.2%
AXON	0.2%
HAMMEX	0.2%
FASTNET	0.2%
OILCOM	0.1%
CITY OIL	0.1%
BUSHRA	0.1%
ASHARAMI	0.1%
AMANA	0.1%
TIBA	0.1%
OTHERS	0.2%
TOTAL	**100.00%**

TOP INDUSTRY CONSUMERS	
RETAIL OUTLETS	44.8%
RESELLER	23.2%
CIVIAL AVIATION	14.3%
MANUFACTURING	5.8%
TRANSPORT & COMMUNICATION	2.9%
ENERGY	1.7%
BUILDING & CONSTRUCTION	1.3%
AGRICULTURE	0.6%
MINING	0.5%
GOVERNMENT	0.3%
TOURISM	0.4%
MILITARY	0.1%
OTHER COMERCIAL	4.1%
TOTAL	**100.0%**

PUMP PRICES

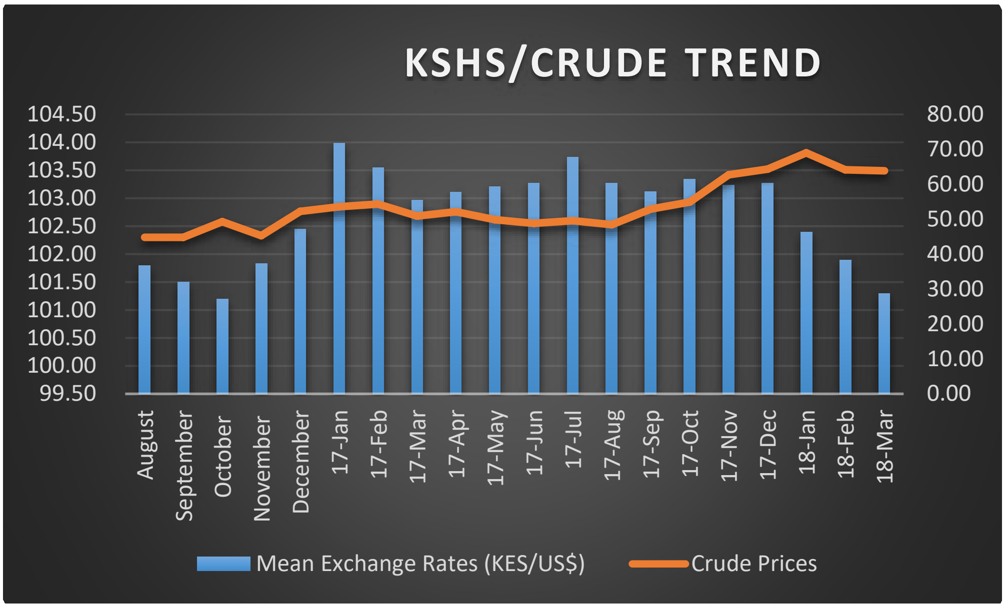
Maximum pump prices (15th September to 14th October 2018)					
PRODUCT	**MOMBASA**	**NAIROBI**	**NAKURU**	**ELDORET**	**KISUMU**
Super Petrol	114.15	116.79	117.25	118.26	118.25
Automotive Diesel	105.5	108.12	108.81	109.81	109.81
Kerosene	105.78	108.41	109.1	110.09	110.09
Maximum pump prices (15th August to 14th Septmber 2018)					
PRODUCT	**MOMBASA**	**NAIROBI**	**NAKURU**	**ELDORET**	**KISUMU**
Super Petrol	124.49	127.8	128.46	129.64	129.71
Automotive Diesel	111.78	115.08	115.97	117.15	117.22
Kerosene	94.61	97.41	98.22	99.29	99.29
Maximum pump prices (15th July to 14th August 2018)					
PRODUCT	**MOMBASA**	**NAIROBI**	**NAKURU**	**ELDORET**	**KISUMU**
Super Petrol	108.9	112.2	112.87	114.05	114.12
Automotive Diesel	99.96	103.25	104.14	105.32	105.39
Kerosene	82.94	85.73	86.54	87.61	87.61
Maximum pump prices (15th June to 14th July 2018)					
PRODUCT	**MOMBASA**	**NAIROBI**	**NAKURU**	**ELDORET**	**KISUMU**
Super Petrol	105.51	108.81	107.86	109.05	109.11
Automotive Diesel	100.31	103.6	99.54	100.72	100.79
Kerosene	81.31	84.1	79.05	80.12	80.12
Maximum pump prices (15th May to 14th June 2018)					
PRODUCT	**MOMBASA**	**NAIROBI**	**NAKURU**	**ELDORET**	**KISUMU**
Super Petrol	103.88	107.17	107.86	108.71	108.78
Automotive Diesel	95.35	98.64	99.54	99.94	100.01
Kerosene	75.44	78.22	79.05	78.63	78.62
Maximum pump prices (15th April to 14th May 2018)					
PRODUCT	**MOMBASA**	**NAIROBI**	**NAKURU**	**ELDORET**	**KISUMU**
Super Petrol	103.54	106.83	107.53	110.67	110.74
Automotive Diesel	94.57	97.86	98.76	105.67	105.74
Kerosene	73.94	76.72	77.56	85.99	85.98
Maximum pump prices (15th March 2017 to 14th April 2018)					
PRODUCT	**MOMBASA**	**NAIROBI**	**NAKURU**	**ELDORET**	**KISUMU**
Super Petrol	100.89	104.7	104.88	106.06	106.13
Automotive Diesel	89.17	92.44	93.66	94.54	94.61
Kerosene	68.65	71.42	72.77	73.34	73.34
Maximum pump prices (15th Novemebr 2017 to 14th December 2017)					
PRODUCT	**MOMBASA**	**NAIROBI**	**NAKURU**	**ELDORET**	**KISUMU**
Super Petrol	99.42	102.7	103.42	104.6	104.67
Automotive Diesel	89.13	92.41	93.32	94.51	94.57
Kerosene	68.46	71.23	72	73.15	73.15
Maximum pump prices (15th October 2017 to 14th Novemeber 2017)					
PRODUCT	**MOMBASA**	**NAIROBI**	**NAKURU**	**ELDORET**	**KISUMU**
Super Petrol	98.39	101.67	102.39	103.57	103.64
Automotive Diesel	85.44	88.71	89.64	90.82	90.89
Kerosene	63.41	66.18	67.04	68.12	68.11
Maximum pump prices (15th september 2017 to 14th october 2017)					
PRODUCT	**MOMBASA**	**NAIROBI**	**NAKURU**	**ELDORET**	**KISUMU**
Super Petrol	95.08	98.3	99.04	100.22	100.29
Automotive Diesel	83.63	86.86	89.04	88.98	89.04
Kerosene	61.63	61.63	66.3	66.3	66.3

Maximum pump prices (15th August 2017 to 14th September 2017)					
PRODUCT	**MOMBASA**	**NAIROBI**	**NAKURU**	**ELDORET**	**KISUMU**
Super Petrol	92.86	96.08	96.83	98.01	98.09
Automotive Diesel	82.63	85.86	86.8	87.98	88.04
Kerosene	60.69	63.42	64.3	65.37	65.37
Maximum pump prices (15th July 2017 to 14th August 2017)					
PRODUCT	**MOMBASA**	**NAIROBI**	**NAKURU**	**ELDORET**	**KISUMU**
Super Petrol	93.87	97.1	97.84	99.02	99.09
Automotive Diesel	81.24	84.46	85.41	86.59	86.66
Kerosene	59.83	62.56	63.44	64.51	64.51
Maximum pump prices (15th June 2017 to 14th July 2017)					
PRODUCT	**MOMBASA**	**NAIROBI**	**NAKURU**	**ELDORET**	**KISUMU**
Super Petrol	95.47	98.73	99.47	100.65	100.72
Automotive Diesel	83.63	86.89	87.83	89.01	89.08
Kerosene	62.29	65.35	65.92	66.99	66.98
Maximum pump prices (15th April 2017 to 14th June 2017)					
PRODUCT	**MOMBASA**	**NAIROBI**	**NAKURU**	**ELDORET**	**KISUMU**
Super Petrol	96.32	99.59	100.32	101.5	101.57
Automotive Diesel	84.79	88.05	88.95	90.16	90.23
Kerosene	62.52	65.28	66.15	67.22	67.22
Maximum pump prices (15th March 2017 to 14th April 2017)					
PRODUCT	**MOMBASA**	**NAIROBI**	**NAKURU**	**ELDORET**	**KISUMU**
Super Petrol	97.63	101.05	101.78	102.96	103.03
Automotive Diesel	87.04	90.44	91.36	92.54	92.61
Kerosene	65.11	67.9	68.83	69.9	69.88
Maximum pump prices (15th February 2017 to 14th March 2017)					
PRODUCT	**MOMBASA**	**NAIROBI**	**NAKURU**	**ELDORET**	**KISUMU**
Super Petrol	96.85	100.27	101	102.18	102.25
Automotive Diesel	85.87	89.26	90.19	91.38	91.44
Kerosene	64.64	67.19	68.06	69.13	69.12
Maximum pump prices (15th January 2017 to 14th February 2017)					
PRODUCT	**MOMBASA**	**NAIROBI**	**NAKURU**	**ELDORET**	**KISUMU**
Super Petrol	92.6	96.01	96.76	97.94	98.01
Automotive Diesel	80.53	84.23	85.18	86.36	86.43
Kerosene	60.6	63.44	64.32	65.39	65.39
Maximum pump prices (15th December 2016 to 14th January 2017)					
PRODUCT	**MOMBASA**	**NAIROBI**	**NAKURU**	**ELDORET**	**KISUMU**
Super Petrol	90.8	94.2	94.96	96.14	96.21
Automotive Diesel	83.83	87.22	88.16	89.34	89.4
Kerosene	67.1	63.56	64.43	65.8	65.5
Maximum pump prices (15th November 2016 to 14th December 2016)					
PRODUCT	**MOMBASA**	**NAIROBI**	**NAKURU**	**ELDORET**	**KISUMU**
Super Petrol	91.53	94.94	95.7	96.88	96.95
Automotive Diesel	78.79	82.17	83.12	84.3	84.37
Kerosene	59.31	62.16	63.04	64.11	64.1
Maximum pump prices (15th October 2016 to 14th November 2016)					
PRODUCT	**MOMBASA**	**NAIROBI**	**NAKURU**	**ELDORET**	**KISUMU**
Super Petrol	88.16	91.56	92.33	93.51	93.58
Automotive Diesel	78.74	82.12	83.07	84.25	84.32
Kerosene	55.87	58.71	59.6	60.67	60.62

CRUDE OIL PRICE TREND

STATISTICS

Crude Oil Analysis		
Month -2016	**Mean Exchange Rates (KES/US$)**	**Crude Prices**
August	101.80	44.87
September	101.50	45.04
October	101.20	49.30
November	101.83	45.26
December	102.45	52.26
17-Jan	103.99	53.59
17-Feb	103.55	54.35
17-Mar	102.97	50.90
17-Apr	103.11	52.16
17-May	103.21	49.89
17-Jun	103.27	48.86
17-Jul	103.74	49.56
17-Aug	103.28	48.45
17-Sep	103.12	52.95
17-Oct	103.35	54.92
17-Nov	103.24	62.71
17-Dec	103.28	64.32
18-Jan	102.4	69.08
18-Feb	101.9	64.15
18-Mar	101.3	63.91
18-Apr		63.22
18-May		68.43
18-Jun		65.81
18-Jul		65.54
18-Aug		66.94
18-Sep		
18-Oct		
18-Nov		
18-Dec		



STATISTICS

ERC PETROLEUM PRICES

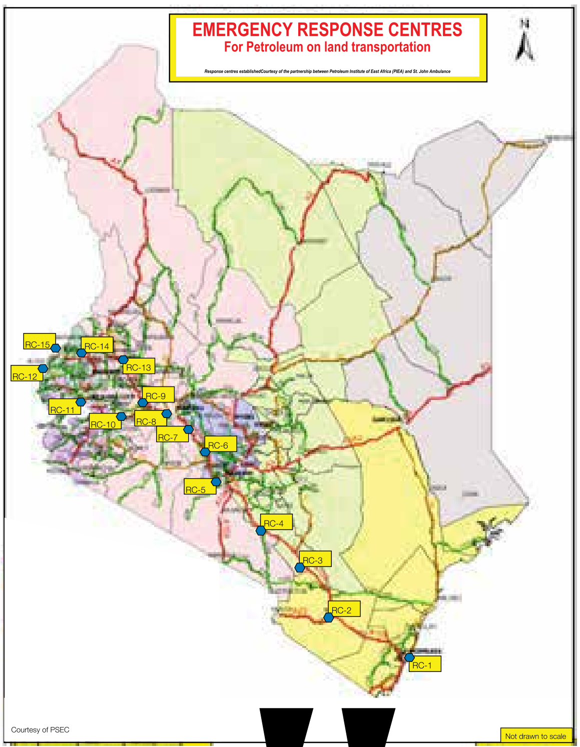
Breakdown of the costs of Super Petrol (PMS, Diesel (AGO) and Kerosene (DPK) in Nairobi 15th March 2019 - 14th April 2019				
Cost Item		**Super Petrol**	**Diesel**	**Kerosene**
		KShs/Litre	**KShs/Litre**	**KShs/Litre**
Lande Costs (a)		42.57	47.09	51.01
Pipeline Transport (Msa-Nrb)		2.35	2.35	2.35
Road Transport (Msa-Nrb) - Bridging		0.00	0.00	0.00
Pipeline Losses		0.09	0.08	0.08
Depot Losses		0.41	0.23	0.25
Delivery within 40kms of Nrb		0.54	0.54	0.54
Distribution and Storage (b)		**3.39**	**3.20**	**3.22**
Importers Margin		7.00	7.00	5.57
Dealers Margin		3.89	3.89	3.89
Oil Marketing Companies's (OMC) Margin(c)		**10.89**	**10.89**	**9.46**
Excise Duty	Tax	19.90	10.31	10.31
Road Maintenance Levy	Levy	18.00	18.00	0.00
Petroleum Development Levy	Levy	0.40	0.40	0.40
Petroleum Regulatory Levy	Levy	0.25	0.25	0.25
Railway Development Levy	Levy	0.61	0.67	0.74
Anti-adulteration Levy	Tax	0.00	0.00	18.00
Merchant Shipping Levy	Levy	0.02	0.03	0.02
Import Declaration Fee	Levy	0.81	0.90	0.98
Value Added Tax (VAT)	Tax	4.51	4.87	5.07
Taxes and Levies (d)		**44.50**	**35.43**	**35.77**
Retail Prices in Nairobi (a) + (b) + (c) + (d)		**101.35**	**96.61**	**99.46**
Summary		**Super Petrol**	**Diesel**	**Kerosene**
		KShs/Litre	**KShs/Litre**	**KShs/Litre**
Products Costs (a)		42.57	47.09	51.01
Distribution and Storage Costs (b)		3.39	3.20	3.22
OMC Margins (c)		10.89	10.89	9.46
Taxes and Levies (d)		44.50	35.43	35.77
Retail Prices in Nairobi		**101.35**	**96.61**	**99.46**

SOURCE: ERC

Updates on HERP Centres management

Training of emergency response teams is complete for the following centres:

1. Nairobi (Kangemi) - Vivo Energy
2. Kinungi - Kenol Kobil Limited
3. Sachangwan - Gulf Energy
4. Sultan Hamud- National Oil
5. Kericho - Hass Petroleum
6. Mombasa - Total Kenya
7. Voi - Petro Oil
8. Naivasha - Galana Oil
9. Kisumu - Oryx Energies
10. Kyumvi - Engen
11. Mtito Andei - Libya Oil
12. Salgaa - Total Kenya
13. Malaba – Hashi
14. Busia - Trojan
15. Eldoret - KPC
16. Webuye - Vivo Energy



		Centre in-charge			Container		Equipment	
	Response Centre Location	Company	Name	Response Team Leader (St. John) Name	Available	Branded	Inventory build and short fall established	Equipping
1	Jomvu	Total Kenya	Francis Saha	Paul Osiolo	YES	YES	YES	YES
2	Voi	Petro Oil	Saul Amuhaya	Donald Makhala	YES	NO	NO	NO
3	Mtito Andei	Oilibya	George Aika	Beatrice	YES	YES	YES	NO
4	Sultan Hamud	National Oil	Freda Mbogo	Titus Nyamai	YES	YES	YES	YES
5	Kyumvi	Engen	Musyoki Ngumii	Tobias Taiwan	YES	YES	NO	NO
6	Kangemi	Vivo Energy	Stephen Muchoki	Judith	YES	YES	YES	YES
7	Kinungi	Kenol Kobil	James Mutisya	John Karanja	YES	NO	NO	NO
8	Naivasha	Galana	Samuel Githinji	Francis Kingori	YES	YES	YES	YES
9	Sachangwan	Gulf Energy	Job Arasa	Kennedy Kiptur	YES	YES	YES	YES
10	Molo (Salgaa)	Total (K) Ltd	Francis Saha	Kennedy Kibet	YES	YES	YES	YES
11	Kericho (Kaitui)	Hass Petroleum	Andronico Ngiela	Davies	YES	NO	NO	NO
12	Kisumu (Awasi)	Oryx Energies	Edward Ruto	Charles Okoko	NO	NO	NO	NO
13	Busia	Trojan International	Johnson Sunyai	Ernest Omusula	NO	NO	NO	NO
14	Eldoret (Burnt Forest)	KPC	Immaculate Musangi	Meshack	NO	NO	NO	NO
15	Webuye	Vivo Energy	Stephen Muchoki	Philip Wekesa	YES	YES	YES	YES
16	Malaba	Hashi Energy	**Damaris Mutua**	Kenoz	YES	NO	NO	NO

Source; PIEA

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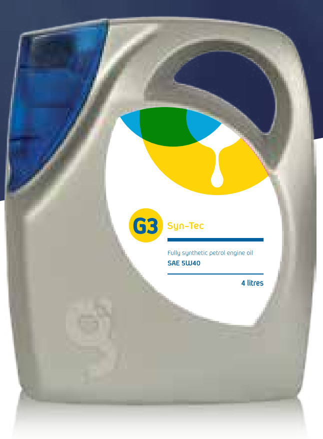

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