

Petroleum INSIGHT

3rd Quarter, July - September, 2026

DIGITISATION



THE MAGAZINE OF THE PETROLEUM INSTITUTE OF EAST AFRICA



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 Varun Sharma
 Jacob Opiyo

Editorial, Production & Advertising

Jay and Jey Media Consultants
 Off Namanga Road
 P.O. Box 374-00241, Kitengela
 Tel - 0712 734 110 / 0780 652 011
 Email: info@jayandjeyconsultants.com
 www.jayandjeyconsultants.com

Editorial Board

Wanjiku Manyara, Vivienne Ayuma and Jennifer Kibiru

Contributors

Wanjiku Manyara, Vivienne Ayuma, Alfred Mungai, Jennifer Kibiru, Dorice Itebaluk.

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Petroleum Institute of East Africa

Fourth Floor, Bruce House | P.O. Box 8936-00200 Nairobi

Phone: 254-20-2249081, 3313046, 3313047

Mobile: 0722 221120 | Fax: 254-203-313048

Email: admin@petroleum.co.ke | Website: www.petroleum.co.ke

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Breaking The Silence: Ending Mental Health Stigma in The Workplace



Wanjiku Manyara
General Manager
Petroleum Institute of East Africa

September is Suicide Prevention Month, and World Mental Health Month is observed in October, making mental health a key area of focus in the third quarter.

As the World Health Organisation says, there is no health without mental health. One of the biggest misconceptions about mental wellness is that mental health and mental illness are the same thing. Everyone has mental health, just as everyone has physical health. To know whether we are on the right path to destigmatising mental illness, we must first understand that mental well-being is much like physical health; the key difference is that visible symptoms are not always easy to identify.

When we address mental health, we are talking about our mental well-being: our emotions, thoughts and feelings, ability to solve problems and overcome difficulties, social connections,

and understanding of the world around us. Over the course of a lifetime, not everyone will experience a mental illness, but everyone will face struggles or challenges with their mental well-being, just as we all experience challenges with our physical well-being from time to time.

We should also highlight how we can improve our mental health on a day-to-day basis, helping to prevent situations where challenges escalate into illnesses that may require medical intervention, treatment, or admission to a mental health facility. A mental illness affects how we think, feel, behave, or interact with others. There are many different mental illnesses, each with symptoms that can affect people's lives in different ways.

We are all encouraged to have regular mental health checkups to assess the state of our minds, just as we go for dental, optical, or

general body checkups, especially if we work in high-pressure or stressful environments. The same applies to young children. This is why early medical diagnosis is crucial in supporting recovery and ensuring that quality of life is not negatively affected.

This quarter has brought to the fore the stigma, often driven by misinformation, associated with people who have died by suicide because of mental ill health.

It is now widely understood that suicidal thoughts and behaviours can be signs of a mind in deep distress. It is therefore unsettling to have observed situations where blame games or attempts to conceal the cause of death have reinforced stigma and missed opportunities for healthy public discourse. Such conversations are essential in encouraging people experiencing mental illness to speak up and seek help.

While I am not a medical professional in this field, I am a certified mental health, recovery and community inclusion advocate and a mental health champion.

I am actively involved with others in promoting awareness and education about mental illnesses with the aim of supporting and addressing mental ill health needs and gaps for the furtherance of mental health.

Let's create safe spaces at work where we can speak up without fear of punishment and, in so doing, gradually eliminate stigma, thus freeing us all from myths that dehumanise people directly affected by mental illness, as well as their loved ones and caregivers.

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Health, Time and Climate Benefits Dominate Africa LPG Summit Talks



Dr Faith Wandera
Director Renewable Energy
State Department for Energy
Ministry of Energy and Petroleum



Kenya's drive to expand access to clean cooking is increasingly placing liquefied petroleum gas (LPG) at the centre of efforts to address household air pollution, reduce pressure on forests and improve the economic welfare of households.

The issue featured prominently at the 2026 PIEA Africa LPG Summit and Exhibition held on August 6 at Iconic Plaza Hotel Nairobi, which brought together government agencies, LPG industry players, representatives of small-scale traders and students. Discussions at the summit highlighted both the progress made in LPG adoption and the barriers that continue to prevent more households from switching from charcoal, firewood and other polluting cooking fuels.

Data presented by Dr Faith Wandera, Director of Renewable Energy at the State Department for Energy, Ministry of Energy and Petroleum, showed a significant difference in LPG uptake between urban and rural Kenya. LPG is currently the primary cooking solution for 63.3 per cent of urban households, compared with only 9.4 per cent of rural households, with Nairobi County having the highest penetration of 82.9 per cent of households owning at least one LPG stove. Health institutions are also increasingly using LPG, with 61.2 per cent already relying on the fuel for cooking.

The figures pointed to a market with considerable room for growth, particularly outside major urban centres. Kenya's per capita LPG consumption increased from 2.3 kilogrammes in 2012 to 7.5 kilogrammes in 2022. Under the National LPG Growth Strategy, the government is targeting a further increase to 15 kilogrammes per person by 2030.

"LPG is central to saving lives, empowering women, and unlocking billions in investment, but affordability must be solved to achieve universal access," Dr Wandera said.

The National Cooking Transition Strategy (KNCTS) provides the wider policy framework for this expansion. It targets universal access to clean cooking by 2030, while LPG is expected to account for 50 per cent of household adoption under the Composite Policy Scenario.

However, the transition is not simply a question of increasing supply. High upfront costs, price volatility, illegal cylinder refilling and last-mile distribution remain significant constraints. Substantial infrastructure investment remains a challenge. It was noted that bulk storage and handling infrastructure needed to meet LPG demand by 2030 could cost KES32 billion, with a further KES16.8 billion potentially required for cylinders and cylinder cages. The LPG value chain represents an estimated investment opportunity of KES91.9 billion.

Health and Environmental Gains

Beyond fuel substitution, the clean cooking transition has implications for public health. Household dependence on charcoal and wood exposes users to high levels of air pollution, with women and children often bearing a disproportionate share of the burden because of their roles in cooking and fuel collection.

Evidence presented at the summit indicates that PM2.5 concentrations can fall from more than 1,000 microgrammes per cubic metre in households using charcoal or wood to below five microgrammes per cubic metre with LPG. In Nairobi's Mukuru informal settlement, exclusive pay-as-you-go LPG users recorded a 49.1 per cent prevalence of respiratory symptoms, compared with 61.7 per cent among partial users.

The wider health implications are also substantial. The clean cooking transition is estimated to avert 622,782 disability-adjusted life years by reducing respiratory infections, stroke and cardiovascular disease. The reduction in health-related costs could save the government an estimated KES2.6 billion annually, according to the material presented at the summit.

Environmental benefits are another major consideration. Kenya's biomass fuels contribute an estimated 22 million tonnes of carbon dioxide equivalent annually, representing approximately 30-40 per cent of national greenhouse gas emissions. Implementing the national clean cooking strategy is projected to avoid 16 million tonnes of carbon dioxide equivalent annually.

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LPG is central to saving lives, empowering women, and unlocking billions in investment, but affordability must be solved to achieve universal access

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The forestry implications are equally significant. The KNCTS aims to avoid 4.3 million tonnes of unsustainable wood harvesting each year, equivalent to protecting approximately 466,543 hectares of forest. The summit presentation also estimates that moving away from charcoal and firewood could save approximately 54 million trees.

LPG's higher energy density also contributes to its efficiency. The presentation puts LPG at 47.5 megajoules per kilogramme, compared with 30.5 megajoules for charcoal and 15 megajoules for firewood.

Yet the transition has an important economic dimension. The estimated annual household cooking cost is KES 26,000 using LPG, compared with KES 34,000 for charcoal and KES 58,000 for kerosene. The potential savings are accompanied by major time benefits, particularly for women and girls who spend considerable time collecting firewood or managing traditional cooking systems.



A household adopting a clean cooking solution can save approximately 789.7 hours annually, while total annual time savings across Kenya are estimated at 606.8 million hours. In Nairobi informal settlements, 58 per cent of female heads of households surveyed reportedly used time saved through LPG adoption for additional employment.

Financing and Community Participation

While the economic and environmental case for clean cooking is increasingly clear, financing remains a central question. The Office of Kenya's Special Envoy for Climate Change represented by the Head of the Clean Cooking Delivery Unit Benson Ireri presented carbon finance as one component of a broader financing structure rather than a standalone solution.

Other proposed financing stack include government policy frameworks, development finance institutions, domestic financial institutions, climate finance and green funds, carbon markets, private capital and institutional investors, as well as consumer demand.

Ireri noted that Kenya has established new Guidelines for Strategic Engagement in Carbon Markets in 2026, alongside Carbon Trading Regulations introduced in 2024 with the intention of providing a framework for participation in carbon markets and support projects that are sufficiently investment-ready to attract financing.

At the community level, the KPC Foundation highlighted another dimension of the transition: changing perceptions and behaviours. The foundation, established in 2016, has traditionally focused on areas including education, environment, health, water and sanitation, sports and humanitarian assistance. Its clean energy work is increasingly linking environmental conservation with the underlying causes of deforestation.

Kenya's tree-planting campaigns, the foundation observed, can exist alongside continued household dependence on charcoal and firewood, creating what it described as a disconnect between conservation efforts and everyday energy consumption. Many consumers do not directly

associate charcoal use with tree loss, particularly where charcoal is perceived as coming from other counties. Myths and misconceptions surrounding LPG can also persist even where cost is not the primary barrier.

The foundation's work with 200 households in Jomvu and Mukuru Viwandani has therefore focused on awareness, practical training, demonstrations of LPG safety, and connections with reliable community distributors. Women are viewed as important change agents in the transition.

"Women are critical change agents in the LPG transition journey," noted the Kenya Pipeline Company Foundation Managing Trustee and Foundation Manager Rachel Gathoni, emphasising the need for community-level engagement alongside infrastructure and financing.

The summit discussions also extended beyond household cooking to transport and commercial fuel networks, with autogas identified as another potential area of LPG use. Integrating autogas into retail fuel networks, however, faces challenges including capital requirements, limited space at existing sites, safety and risk management, regulatory approvals, supply infrastructure and customer awareness.

For Kenya, the clean cooking transition will therefore depend on more than LPG availability. Affordability, reliable distribution, safety, consumer education and financing will all determine how quickly households can move away from traditional fuels.

Discussions at the summit suggested that LPG can deliver measurable gains in health, household economics, time use and environmental conservation. The challenge that remains now is translating those benefits into sustained adoption, particularly among lower-income and rural households. Achieving the 2030 clean cooking ambition will therefore require coordinated action across government, industry, financial institutions and communities, with the transition designed around the practical realities facing consumers.

TotalEnergies Cuts Carbon Emissions by 3,700 Tonnes Annually



TotalEnergies unveiled a fully renewed transport fleet, achieving a 100% fleet modernisation across the country. This milestone is expected to reduce transport-related carbon emissions by an estimated 3,700 tonnes annually, while strengthening road safety and operational efficiency.

With 161 modern specialised vehicles now operating on Kenya's transit corridors, the investment demonstrates how sustainability and business performance can go hand in hand. The new fleet delivers improved fuel efficiency, helping lower emissions while supporting Kenya's climate ambitions.

Equally significant is the contribution this investment is making to road safety.

The fleet incorporates advanced safety technologies including AI-powered driver monitoring, fatigue and distraction alerts, enhanced driver assistance systems, certified underride protection and high-visibility safety markings. These innovations are reinforcing our commitment to protecting drivers, communities and critical infrastructure.

As Kenya continues to pursue safer transport systems and climate-smart growth, investments in modern infrastructure will play an increasingly important role in supporting national development.



KPC Deepens Its Role in Petroleum Logistics

Kenya Pipeline Company (KPC) has strengthened its position in the country's petroleum logistics chain after its wholly owned subsidiary, Kenya Petroleum Refineries Limited (KPRL), signed a long-term crude oil storage and handling agreement with Gulf Energy E&P B.V.

Through a public announcement, KPC said that under the contract, KPRL will provide facilities and services for the receipt, storage, handling and delivery of crude oil for export through Kipevu Oil Terminal II (KOT II), according to a public announcement dated August 26, 2026.

The agreement is expected to unlock greater commercial value from KPRL's existing and upgraded infrastructure while expanding KPC's participation in petroleum logistics. KPC estimates that the contract could generate gross revenue of about KES 93.68 billion over its 25-year duration, based on projected throughput and tariff assumptions.

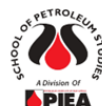
In the same statement, KPC announced that the company and the Kenya Ports Authority (KPA) have revised their Service Level Agreement covering operations and maintenance at KOT II. The terminal, owned by KPA, serves as the

principal marine interface through which petroleum products enter KPC's pipeline and storage network.

The revised agreement is intended to improve accountability, performance monitoring, maintenance coordination and business continuity at the terminal.

Together, the two agreements are expected to support the optimisation of KPRL assets, strengthen KPC's role in serving Kenya and regional petroleum markets, and provide a platform for more diversified and sustainable revenue generation.

Photo Credit:KPC



Total Professeurs Associés (TPA) has partnered with the School of Petroleum Studies to offer a wide range of courses in the form of webinars and training workshop. TPA is an Association with a talent pool of professors and professionals from TotalEnergies with cross-cutting experience and knowledge in the renewable and oil and gas sectors.

The objective of this collaboration through webinars and training workshops is to promote relations between the world of energy and universities, engineering schools, or Business Schools through technical, economic, scientific, legal or marketing presentations by expert professors in their fields of expertise.

Cost: The fee varies per training since some courses take between 8 hour to 15 hours to be completed. (We can share upon enquiry)

Format of training delivery: Virtual via Microsoft teams

Time: 9.30 a.m-12.30 p.m.

Minimum quorum: 8 Students

(In cases where the number of students is below the quorum we charge a special rate as a virtual express training)

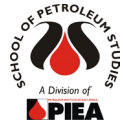
For enquiries email: school@petroleum.co.ke

MEMBERSHIP FORUMS WEBINARS

Course name	Date
Carbon capture and storage (ccs) and its role for climate change mitigation	21/OCT/2026 9.30 a.m-12.30 p.m.
Conventional energies and energy transition	3/OCT/ /2026 9.30 a.m-12.30 p.m.
Power point the basics to master your communication	18/SEP/2026 9.30 a.m-12.30 p.m.
Crisis management and crisis communication	10/SEP/2026 9.30 a.m-12.30 p.m.

Course name	Date
Low carbon hydrogen: techno-economics overview	16/JAN/2027 9.30 a.m-12.30 p.m.
Energy, climate, geopolitics, where are we?	21/MARCH/2027 9.30 a.m-12.30 p.m.
Human resource and international: strategies and practices for engaging cultural diversity	28/OCT/2026 9.30 a.m-12.30 p.m.
The EU emission trading system: Reduce CO2 emissions	4/MAY/2027 9.30 a.m-12.30 p.m.





CODE	COURSE TITLE	DURATION	DATE
(A) LEGAL & REGULATORY COURSES			
SPS 001A	Petroleum sector legal and regulatory framework	1 day	17/NOV/2026
SPS 002A	Managing Construction Occupational Health and Safety (OHS)	1 day	25/NOV/2026
SPS 003 A	Petroleum sector regulatory training on LPG Bulk storage facilities	1 day	14/OCT/2026
SPS 004A	Petroleum sector HSSE regulatory training requirements	1 day	26/NOV/2026
SPS 005A	Legal and Regulatory Framework: Highlights of the impact of the 13 new petroleum regulations	Half day	8/OCT/2026
(B) OIL AND GAS RETAIL AND MARKETING COURSES			
SPS 001B	Petroleum product storage and retail facilities maintenance and management for technicians	5 days	7-11/SEP/2026
SPS 002B	Service Station Accounting Course for Dealers	5 days	17-21/OCT/2026
SPS 003B	Service station management course	5 days	21-25/SEP/2026
SPS007B	Strategic customer service course	5 days	26-30/OCT/2026
SPS 008B	Stocks management Level 1	5 days	19-23/OCT/2026
SPS 009B	Stocks management Level 2	5 days	5-9/OCT/2026
SPS 010B	Retail Territory managers competency course	3 days	30 NOV-2 DEC/2026
SPS 011B	Lubricants Territory managers competency course	3 days	3 OCT-4 SEP/2026
SPS 012B	LPG Territory managers competency course	3 days	24-26 OCT/2026
SPS 013B	Distribution/Commercial Territory managers competency course	3 days	14-17/ SEP/2026
SPS 014B	Autogas Service Station management course level1	3 days	3-6/OCT/2026
SPS 015B	Autogas Service Station management course level2	3 days	15-17/SEP/2026
(C) HEALTH SAFETY SECURITY AND ENVIRONMENT COURSES			
SPS001C	Petroleum sector occupational health, safety & security (HSSE) management course	5 days	20-24 /SEP/2026
SPS 002C	Petroleum sector Contractor & Service providers health, safety, security, and environment (HSSE) course	5 days	10-14/OCT/2026
SPS 003C	Occupational health and risk assessment	2 days	10-11 /NOV/2026
SPS 004C	Emergency response plan (ERP)	2 days	25-26/ NOV/2026
SPS 005C	Contractor safety management course Level 1	5 days	5-9/OCT/2026
SPS 006 C	Contractor safety management course Level 2	4 days	7-11/DEC/2026
(D) AVIATION FUEL MANAGEMENT			
SPS003D	Aviation operations & management course	5 days	16-20/NOV/2026
(E) LPG OPERATIONS SALES & MARKETING COURSES			
SPS001E	LPG sales, operations and marketing management	5 days	9-13/NOV/2026
SPS 006 E	LPG Installers course	5 days	9-13/NOV/2026
SPS 007 E	LPG HSSE Course (Practical course for LPG refilling and cylinder operations handling personnel)	3 days	10-12/ NOV/2026
(F) RISK MANAGEMENT COURSES			
SPS 001F	Risk management in the oil and gas sector course	5 days	12-16/OCT/2026
SPS002F	High level insurance and risk management training for directors, chief executive officers, managing directors and heads of departments (HOD's)	1 day	3/DEC/2026
SPS003F	Emergency response planning and preparedness	5 days	7-11/DEC/2026
SPS 004F	Occupational Health and risk assessment	3 days	21-23/SEP/2026
SPS 005F	Joint Incident Command System training course Level 1	5 days	21-25/SEP/2026
(G) PETROLEUM PRODUCTS LOGISTICS & HANDLING COURSES			
SPS003G	Petroleum depots operations & distribution management	5 days	14-19/SEP/2026
SPS004G	Introduction to the Oil & Gas Sector	5 days	7-11/ SEP/ 2026
SPS003M	EA oil and gas transportation and management	4 days	16-19/SEP/2026
SPS002M	Petroleum Stocks management level 1	5 days	2-6/NOV/2026
SPS 005M	Petroleum road and transportation management	5 days	17-21/OCT/2026
SPS 006M	Petroleum tanker driver certification	5 days	30 NOV-4/DEC/2026
SPS 007M	Liquefied Petroleum Gas (LPG) tanker driver certification	5 days	2-6/NOV/2026
SPS 008M	First Aid competency and highway emergency response plan course (Drivers/Emergency responders)	3 days	26-28/OCT/2026
SPS 009 M	Oil and Gas Fire Marshalls course	5 days	17-21/OCT/2026 23-25/NOV/2026
(H) LUBRICANTS COURSES			
SPS001H	Lubricants Competency Course	5 days	23-25/NOV/2026
(J) EXECUTIVE MANAGERIAL COURSES			
SPS001J	Highlights of The Amendments to The Companies Act, 2015 by the statute Law (Miscellaneous Amendment Act 2019)	1 day	5/NOV/2026
SPS002J	Executive Introduction to the East Africa Oil and Gas sector (for Boards of Directors and Senior management)	1 day	4/NOV/2026
(K) HUMAN RESOURCE MANAGEMENT COURSES			
SPS 001K	Employee relationship management	2 days	12-13/NOV/2026
SPS 002K	Supervision leadership and management	2 days	26-27/OCT/2026
SPS 003K	Executive People centered leadership course	Half day	3/SEP/2026
(L) PERSONAL DEVELOPMENT COURSES			
SPS001L	Reinventing yourself at the workplace	1 day	30/SEP/2026
SPS002L	Mental health Champions at the Work place	Half day	15/SEP/2026
SPS 003L	Work life Balance in the context of Time management	1 day	27/OCT/2026
SPS 004L	Work life Balance in the context of Technology devices usage	1 day	27/OCT/2026
(M) FINANCING OIL AND GAS PROJECTS			
SPS001M	Financing Oil and Gas Projects	1 day	26/NOV/2026

TRAINING CALENDAR FOR YEAR 2026 (SEPTEMBER - DECEMBER)

(IN-PERSON ATTENDANCE TRAINING SESSIONS)

LOCATION

- New York
- Washington
- Dubai
- London
- New Delhi
- Paris
- Kinshasa
- Khartoum
- Addis Ababa
- Nairobi
- Nakuru
- Naivasha
- Eldoret
- Kisumu
- Busia
- Mombasa
- Kampala
- Dare-es-Salaam
- Kigali
- Juba
- Johannesburg
- Cairo
- Accra
- Abidjan
- Lilongwe
- Lusaka
- Ouagadougou
- Mogadishu
- Tunis
- Monrovia
- Harare
- Freetown
- Pretoria
- Windhoek
- Djibouti
- Gaborone
- Laayoune
- Yamoussoukro
- Dodoma
- Malabo
- Port Louis
- Saint-Denis
- Maseru
- Praia
- Mamoudzou
- Sao Tome
- Moroni
- Victoria
- Maputo
- Tripoli
- Asmara
- Bangui
- Libreville
- N'Djamena
- Yaounde
- Kampala
- Antananarivo
- Abuja
- Dakar

ADDITIONAL INFORMATION

Charges for physical training:

Open courses:

5-day course

PIEA member Kshs. 49,000+VAT (USD \$ 563)

PIEA non-member Kshs. 62,500 +VAT (USD \$ 718)

3-day course

PIEA member Kshs. 35,000 +VAT (USD \$ 402)

PIEA non-member Kshs. 40,000 +VAT (USD \$ 460)

1-2-day course

PIEA member Kshs. 25,000 +VAT (USD \$ 287)

PIEA non-member Kshs. 30,000 +VAT (USD \$ 345)

Training charges indicated are per person basis.

The dollar rate used is subject to change depending on current foreign exchange rate fluctuation.

The minimum number required to form quorum for training is at least 10 individuals.

We also have online courses available and are scheduled in calendar.

For enquiries:

Kindly contact school@petroleum.co.ke or

call +254722 221 120 / +254 020 224 9081



ONLINE TRAINING CALENDAR MODULAR SESSIONS
TRAINING CALENDAR FOR YEAR 2026 (VIRTUAL MODULAR SESSIONS)
Online via Microsoft teams/Google Meet

CODE	COURSE TITLE	DURATION		DATE
(A) OIL & GAS LEGAL & REGULATORY FRAMEWORK COURSES				
SPS 001A	Petroleum sector legal and regulatory framework	2 hours	Module 1: Petroleum Act 2019: What you need to know	23-26/NOV/2026
			Module 2: Petroleum Act 2019: Unpacking the LPG Segment	10.00 a.m-12.30 p.m.
			Module 3: Petroleum Act 2019: Unpacking the Supply Chain	
(B) OIL AND GAS RETAIL AND MARKETING COURSES				
SPS 003B1	Service Station Management course (Part 1)	3 hours	Module 1: Product knowledge	17-18/OCT/2026
			Module 2: Petroleum product supply chain	10.00 a.m-12.30 p.m.
			Module 3: Licensing and legal requirements	
			Module 4: Retail Service station layout and design	
			Module 5: Retail service station operations	
SPS 003B2	Service Station Management course (Part 2)	3 hours	Module 1: Staff management	10-11/ OCT/2026
			Module 2: Service station wet stock management and security	10.00 a.m-12.30 p.m.
			Module 3: Service station HSSE	
			Module 4: Service station merchandising, advertising and promotion	
			Module 5: Service station practical session	
SPS007B1	Strategic customer service course	3 hours	Module 1: Strategic customer service models	21-22/SEP/2026
			Module 2: Customer service vs Quality Customer Service	10.00 a.m-12.30 p.m.
			Module 3: Citizens Service Charter	
			Module 4: Customer service process	
			Module 5: Handling customer complaints	
SPS 008 B1	Stocks Management Level 1	3 hours	Module 1: Overview of the Oil & Gas sector	28-29/SEP/2026
			Module 2: Refining operations	9 a.m. - 12.30 p.m.
			Module 3: Legal & regulatory framework	
			Module 4: Imports custody transfer	
			Module 5: Terminal designs & Importing Infrastructure	
			Module 6: Product measurement & measurement equipment	
SPS 009B2	Stocks Management Level 2		Module 1: Product receipts, costing and pricing	13-14/OCT/2026
			Module 2: Stocks audit controls and procedures	9.30 a.m-12.30 p.m.
			Module 3: Contracts & agreements	
			Module 4: Risk management	
			Module 5: Stocks accounting Systems	
			Module 6: Work control documentation and procedures	
			Module 7: Practical session (Depot/Service station visit)	
(C) HEALTH SAFETY SECURITY AND ENVIRONMENT COURSES				
SPS001C1	Occupational Health, Safety, Security, and Environment (HSSE) course (Part 1)	2 hours	Module 1: HSSE Legislation, Standards and regulatory framework	2-3/DEC/2026
			Module 2: OSHA Principles Policies and Development for petroleum	9.15a.m-1.15 p.m.
			Module 3: Risk assessment and management	
			Module 4: Incident investigation and reporting	
(E) LPG OPERATIONS SALES & MARKETING COURSES				
SPS 004E	Introduction to the LPG sector	2 hours	Module 1: Product knowledge & legal regulatory framework	11-12/NOV/2026
			Module 2: LPG infrastructure and business models	12.30 pm-1.30 pm
			Module 3: LPG inMARCHatons & emerging opportunities	
			Module 2: Legal and regulatory framework	
			Module 3: Petroleum product importation and storage management	
(H) LUBRICANTS COURSES				
SPS001H1	Lubricants Competency Course (Part 1)	2 hours	Module 1: Fundamentals of lubricants and lubrication	6-8/SEP/2026
			Module 2: Lubes blending operations and base oil classification	12.30 pm-1.30 pm
			Module 3: Coolants, special and general-purpose greases	
			Module 4: Lubricants safe handling, storage and disposal (HSSE)	
SPS001H1	Lubricants Competency Course (Part 2)	2 hours	Module 1: Lubricant's standards legal and regulatory framework	4-6/OCT/2026
			Module 2: Automotive, Synthetic and industry specific lubricants	12.30 pm-1.30 pm
			Module 3: Lubricant's market, supply chain and distribution	

ADDITIONAL INFORMATION BELOW:

Online training charges:

Scheduled calendar training sessions:

Cost per person per module: *US \$ 74* / Kshs. 7,500+VAT only

Alternative for scheduled calendar training sessions:

Executive Private/Group Sessions:

Cost per person per module: *US \$ 148* / Kshs. 15,000+VAT only

(Under the Executive Private/Group Sessions we offer individual or group sessions which are designed to fit your time and date schedule.)

Training charges indicated are per person basis and have a minimum no. of trainees.

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N/B: Scheduled calendar training sessions: -The training take place as scheduled in the calendar dates/time as listed above.

Executive Private/Group sessions: The training is delivered as per trainee's request depending on their availability.

The courses listed which have (Part 1) and (Part 2) annotation means that the training participant has to complete both parts to be awarded the certificate.

The courses listed with the annotation Level 1 and Level 2 means that the trainee will be awarded a certificate upon completion of each level.

*The price indicated in \$ USD is subject to currency fluctuations USD/KSHS*currency exchange



LPG Cylinder

Technological Solutions to Curb Illicit Refilling



Deshan Wickramasinghe

MBA/BSc/CPM/CBA

Senior Manager

Surge Energy Limited, Kenya



Investment and maintenance are critical factors for sustainable growth and economic development in any industry. The African region, including Kenya, is one of the growing markets attracting investors for various reasons, including the increasing ease of doing business.

Although the LPG industry is experiencing rapid growth and high demand, several challenges remain within the market. One of the major issues affecting the Kenyan LPG market is unauthorised filling, cross-filling, and decanting, which have persisted over decades. These practices discourage investors from investing in LPG cylinders due to low returns on investment (ROI) and a lack of effective control over their cylinders once they enter the market.

Without an effective, self-regulated cylinder management system, LPG distributors risk losing the opportunity to recover the value of their investments every time another operator refills their cylinders. This situation negatively affects all stakeholders and could slow the growth of the LPG industry, ultimately hindering Kenya's efforts to achieve its national LPG penetration targets.

This article provides insight into modern practices and emerging technologies in the LPG sector, with particular focus on viable solutions for addressing unauthorised filling, cross-filling, and decanting. By introducing technologically advanced cylinder management solutions, LPG distributors can gain greater visibility and control over their cylinder assets, maintain accurate records, improve operational efficiency, and increase their return on investment. Such solutions can help bring illegal filling practices under control and contribute to the sustainable growth of Kenya's LPG industry.



What are OMCs Losing?

Based on available market intelligence, the average annual return rate for a 13 kg LPG cylinder is estimated at only two times per year. However, under normal household consumption patterns, the minimum expected return rate could be approximately six times per year, assuming a four-member household consuming LPG for two to three meals per day.

Taking into account that the cylinders required across the supply chain, including cylinders in company stock, in transit, at distributors and dealers, and also one cylinder in use at the consumer's premises, the expected circulation rate should be significantly higher than the current observed level.

This indicates a potential shortfall of approximately four refill cycles per cylinder per year. This gap represents a significant financial leakage for LPG cylinder investors and reduces the incentive to invest in additional cylinders.

For example, if the average margin from a 13 kg cylinder refill is assumed to be KSh 750, four missed refill cycles would represent a potential annual loss of: $4 \times \text{KSh } 750 = \text{KSh } 3,000$ per cylinder per year. For a company with 100,000 cylinders in circulation at consumer premises, the potential missed refill opportunities would be: $100,000 \text{ cylinders} \div 4 \text{ missed refills} = 400,000$ refill opportunities per year. At an assumed profit margin of KSh 750 per refill, this represents a potential annual profit opportunity of approximately: $400,000 \times \text{KSh } 750 = \text{KSh } 300 \text{ million}$ per year. This illustrates the scale of the economic impact when cylinders do not return to their rightful brand owners for refilling. Furthermore, assuming a 1:1.3 ratio between monthly cylinder sales and the total cylinder pool, a company selling approximately 100,000 cylinder refills per month may require a total pool of around 130,000 cylinders.

Reliable Assumptions

Assumed Avg sales per month: 100,000

Daily sales 3,333

Cylinders at end user's place 100,000

3 days' stocks at plant 10,000

3 days' stock at Distributor place 10,000

3 days' stocks at dealer point 10,000

Approximate lowest total cylinder pool to generate 100,000-cylinder sales per month considering dealer distributor channel model is 130,000 and potential loss of filling chances are approximately 400,000 times a year. Therefore, improving cylinder return rates and ensuring that cylinders are refilled by their rightful brand owners could unlock significant additional economic value while improving the return on investment in LPG cylinder assets.

How Can Brand Owners Mitigate The Chances of Losing Cylinder Refilling?

In the modern era, most Oil Marketing Companies (OMCs) are increasingly concerned about protecting their investments and improving operational efficiency by adopting various business models and technologies. However, effective implementation and enforcement of regulations continue to play a vital role and remain one of the most crucial factors in accelerating LPG market penetration, particularly as Kenya is one of the major economic hubs in the region.



I would like to share some emerging practices for improving LPG cylinder management, enhancing operational efficiency, and maintaining accurate cylinder records, as outlined below.

Bar Code System

Barcodes are widely used across various industries, particularly in the FMCG sector. However, this technology can also be effectively applied to the LPG industry to improve cylinder management and record-keeping. Barcode-based systems can maintain important profile information, such as the manufacturing date, batch number, manufacturer, and other relevant details. They can also capture operational information, including whether a cylinder is full or empty, its filling date, and the last recorded physical location based on scanning activity. This provides LPG operators with greater visibility, traceability, and control over their cylinder assets.



How Does This Work?

A barcode can be fixed on the cylinder collar or the guard ring so that users can scan the code easily. This can be done in two ways: barcode welding or barcode rebitting. Bar code welding is quite hard work and better in durability.

Once the code is fixed, basic cylinder profile details can be created in the system and assigned to the cylinder. Every time we scan it, cylinders will be identified from the system and give the operational status. For example, if we scan at the filling plant after filling, this will be recorded as filled gas and the scan location as the filling plant. In the same way, when it's delivered, the scan will provide the last scanned location.

These barcodes are heat-resistant and can be used for long periods of time. A few LPG distributors are already using this system as it is efficient, effective and simple to implement, though it cannot totally control unauthorised filling in totally.

Smart Valves System

The main issue of illegal filling comes due to compatibility of filling guns and universal valve systems. However, without disturbing the valve outlet dimension, there is a valve which comes with an RFID that communicates only with the assigned filling gun to open for filling gas.

This includes the cylinders, valves, filling and supporting equipment. To eradicate cross-filling, decanting and illegal filling. This will enable the brand owner to refill his cylinder without allowing others to refill. First stage: Introduction of Intelligent valves and a filling head is mainly to avoid unauthorised gas filling/ cross filling and decanting using a smart valve which is connected to a filling gun backed by an information storage. Key elements involved in the system are smart valves with RFID intact, a filling head which permits only the cylinders with known valves and an intelligent filling scale.

In the second phase, it comes with a system which enables you to manage and track cylinders using software which involves scanning the last location and online payments if connected; however, it's quite a higher investment to protect a cylinder and applicable only for bigger level of OMCs. The quick on valves can stop misuse of cylinders.

RFID Tag enables reading, writing, and storing some amount of data while an anti-removal device able to stop removing valves without authorisation. The user can remove the valve at the time of revalidation with specific means supported by the manufacturer, and the filling restrictions device restricts filling gas without authorisation.

Filling Gun/Head and Its Role

This device communicates exclusively with valves that have an RFID chip and are already registered in the system, allowing users to fill gas into the cylinder.

Cylinder Profile Creation

This method has been focused on stopping cross-filling without pre-authorisation; however, it won't be a system to monitor the live location of the system.

Smart Meter

A smart meter is another model to control unauthorised access to cylinders. This involves a smart meter with a regulator built in, where the meter will open only with authorisation. Every cylinder must be handled by its own staff as it must be scanned for connecting and disconnecting. The main advantage is that the brand owner has details such as exact location, gas quantity, and an alert will come if someone tampers with the meter or if gas is about to finish.



Limitation of New Applications

Though everyone is eagerly looking for sustainable solutions, we are as a growing industry, still have less confidence on accepting new things as LPG is dangerous product to deal with concerning if there is loop pole in safety. In this background, introducing even simple things is challenging. However, it's a fact that nothing can be perfect and we must build our own systems. All the above mechanisms have their own drawbacks as well. When it comes to barcode and smart valves, they do not provide live location, so cylinder movements after the last scan will not be possible. However, smart valves will provide higher safety to the cylinder and guarantee refill than the barcode.

Smart meters are great in the protection of business, despite also having some limitations, including the higher cost and technical errors that can disturb the whole ecosystem, which is common in the IT sector. But all in all, smart meters are workable on a large scale if we can bring the cost down.

Looking at market trends toward protecting the gas refill, investors are trying to go with modern concepts as much as they can; however, these all come into play as they fear someone will take the brand owner's filling chance. This is an indication of the soft legal and regulatory framework. Hence, whatever technology may come, strict legal and regulatory implementation is paramount, as safety is non-negotiable in the LP Gas industry.



Digital Solutions

Strive to Transform LPG Cylinder Management

By Jennifer Kibiru

Africa's liquefied petroleum gas (LPG) sector is increasingly turning to digital technology to address structural problems that have slowed the expansion of cleaner cooking fuels, particularly among low-income households.

Industry players have identified several challenges, including the high cost of LPG cylinders, losses within distribution networks, limited visibility of cylinders once they leave bottling facilities, weak connections between suppliers and end consumers, and reliance on delayed or fragmented sales information.

These issues are significant because cylinders represent a substantial capital investment for LPG companies. Speaking during the 2026 PIEA Africa LPG Summit held in August, Mercy Kimalat, Chief Executive Officer of the Association of Startup and SMEs Enablers of Kenya (ASSEK), said that as much as 70 to 80 per cent of operational capital expenditure in the LPG business can be tied up in physical metallic cylinders.

The result is a business in which companies must continually balance the need to expand their cylinder fleets with the risk that those assets may not return to the formal supply chain.

Kimalat argued that startups and small and medium-sized enterprises (SMEs) play a vital role in addressing these challenges because of their ability to develop technology around specific market problems.

"Entrepreneur Support Organisations, incubators, accelerators, and innovation hubs, are the connective tissue that turns individual founders into a scalable LPG ecosystem," Kimalat told delegates.

She places entrepreneur support organisations at the centre of efforts to develop a stronger LPG ecosystem, adding that "such organisations can provide incubation and training, help early-stage businesses validate their ideas, connect SMEs with regulators and financiers, and create linkages between entrepreneurs and established players in the LPG value chain."

Cylinder Losses A Major Industry Challenge

Cylinder shrinkage is one of the major persistent obstacles to the growth of LPG distribution. Unlike many digital transactions, the physical movement of a cylinder is difficult to monitor once it leaves a bottling plant. Cylinders can move through distributors, retailers and other third-party operators before reaching consumers, creating multiple points at which ownership and location can become unclear.

Other sources of asset leakage include illegal cross-filling, competitor hoarding and cylinders remaining in households for extended periods without generating recurring LPG sales.

Kimalat also noted that for companies operating large fleets, such losses can have a direct financial impact as money spent replacing missing cylinders could otherwise be used to expand distribution networks, improve logistics or reach new customers.

"The traditional LPG distribution network creates a gap between the supplier and end consumer. Distributors often sit between the LPG

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The traditional LPG distribution network creates a gap between the supplier and end consumer. Distributors often sit between the LPG company and the final customer, making it difficult for suppliers to establish direct relationships with households

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company and the final customer, making it difficult for suppliers to establish direct relationships with households" she said.

For an industry dependent on physical inventory, that information gap can translate into operational inefficiencies.

Mukira Gitonga, Founder and Chief Executive Officer of LIPA Gas, added that the sector's digital visibility has not kept pace with the value of the assets moving through its networks.

"The second a cylinder leaves, it enters a black hole," Gitonga said, describing the lack of visibility over cylinders moving through third-party distribution networks.

The problem extends beyond tracking the cylinder itself. Companies may also struggle to establish which customers have stopped buying, where demand is strongest and which distribution routes generate the greatest returns.

This creates a disconnect between commercial data and physical assets. A company may know how much LPG it has sold, but not necessarily where its cylinders are, how long they have remained with particular distributors, or whether customers are continuing to refill them.

Lowering The Cost of Access

While asset tracking is one side of the digitalisation debate, technology is also being applied to the consumer affordability problem.

The upfront cost of acquiring an LPG cylinder and related equipment has traditionally been a barrier for households seeking to shift from more polluting cooking fuels. For lower-income consumers, paying the full cost of a cylinder and gas refill at once can be difficult even where LPG is available.

Pay-as-you-go models attempt to address that challenge by allowing consumers to purchase cooking energy in smaller increments. Smart meters linked to mobile money platforms can facilitate payments based on consumption rather than requiring a large upfront payment.

The approach has been adopted by companies such as M-Gas and LIPA Gas, according to the presentations.



Nick Quintong, Managing Director of M-Gas, outlined a model based on smart meters and smaller payments, arguing that consumers should be able to access LPG without having to meet a high initial cost.

"We offer a safe solution and convenience," said Quintong while describing the company's pay-as-you-cook approach and its use of smart meters and mobile payments.

M-Gas reported that approximately 400,000 households are using its model, around 300,000 transactions per day and a network of 38 depots. These figures are company-presented rather than independently verified statistics, but they illustrate the scale at which digital payment and metering models are being deployed in the LPG market.



Smart Meter technology by MGas

The significance of the approach lies not only in payment flexibility. A digitally connected cylinder can also generate information about consumption patterns.

That data has potential implications for inventory management, demand forecasting and customer retention. If a supplier can see how much gas is being consumed and where consumption is taking place, it can potentially anticipate demand rather than relying exclusively on historical sales reports.

Digital connectivity therefore brings together two problems that have traditionally been treated separately: consumer affordability and cylinder management.

A metered cylinder can become both a means of delivering LPG in smaller quantities and a source of information about the asset and the customer using it.

From Tracking Assets To Managing The Last Mile

The final stage of the LPG supply chain is often where visibility becomes weakest. Distributors and delivery agents interact directly with consumers, yet information generated at this point may not flow immediately back to the LPG company.

Automation identifies customer ownership, vendor accountability, revenue growth, visibility and data as areas where the traditional distribution model faces difficulties.

Digital handovers using technologies such as one-time passwords and QR codes are proposed as a way of creating a time-stamped record of cylinder movements. Such systems can establish when an asset changed hands and provide an electronic record that can be reconciled with inventory systems.

Automated alerts could also be used to identify delayed returns, discrepancies between reported and physical inventory, or unusual movement patterns.

The broader objective is to create an end-to-end digital record extending from the bottling plant to the consumer.

LIPA Gas proposes an operating system that links tracking, logistics, customer orders and vendor management. Its consumer-facing component allows customers to place orders through familiar digital platforms rather than requiring them to download a separate application.

The system then distributes delivery requests to verified vendors and records completion of the transaction.

From an industry perspective, the more important development is the data architecture behind such systems. Connecting orders, payments, inventory and delivery information can give LPG companies a more complete picture of their distribution networks.

This approach could help reduce stock-outs, identify areas of high demand and improve route planning. It could also give suppliers better information about consumer behaviour, an area where traditional LPG distribution models have often depended heavily on intermediaries.

However, digital systems are not a substitute for sound physical logistics, regulation and enforcement. Technology can record a cylinder's movement, but its effectiveness depends on distributors, retailers and consumers using the system consistently.

The sector will therefore need to consider interoperability between digital platforms, existing enterprise systems and regulatory requirements.

This ecosystem approach reflects a broader recognition that LPG innovation cannot depend solely on individual companies. Distribution infrastructure, consumer awareness, regulation and technology need to develop alongside one another.

Digitalisation is consequently emerging as a tool rather than an end in itself.

For the LPG industry, the immediate question is whether technology can make the physical supply chain more transparent, reduce avoidable asset losses and lower the barriers that prevent households from adopting LPG.

Speakers at PIEA Africa LPG Summit suggested that there is considerable scope to use real-time information to improve these areas. But the scale of the opportunity will ultimately depend on how effectively digital platforms integrate with existing industry systems and whether the data generated is translated into better operational decisions.

As Africa seeks to expand access to cleaner cooking energy, the economics of the LPG cylinder will remain an important part of the equation. If companies can reduce the amount of capital tied up in lost or inactive cylinders while making LPG more affordable and accessible to consumers, digital tools could help address two longstanding constraints at the same time.

The transition, however, will require more than software. It will depend on cooperation among LPG companies, distributors, technology startups, financiers, regulators and consumers. The emerging digital ecosystem is therefore best understood as part of a wider effort to modernise the LPG value chain, improve accountability and make cleaner cooking energy more accessible.



Emerging Technologies and Innovations Shaping Regulation For The Future



Brian Mureithi

Assistant Director, Digital Communications
Energy and Petroleum Regulatory Authority



Kenya's energy sector is entering a period of rapid transformation, from the increased adoption of renewable energy technologies and e-mobility to smart grids and emerging fuel technologies such as green hydrogen. Technology is fast changing, not just how energy is produced and consumed but also how the energy sector must be regulated.

As Kenya's energy sector regulator, EPRA sees this transformation as both a responsibility and an opportunity. The regulator must continue to protect consumers by ensuring safety, affordability, and accessibility, while also ensuring fair competition among investors and traders, and taking cognisance of emerging technologies and business models that emerge after regulations have been developed and enacted.

As these innovations emerge, the future of regulation will heavily rely on the nexus of policy formulations, technology adoption and public interest to promote sustainable energy practices. The increased use of digital technologies is key to integrating renewables into electricity systems, improving the reliability of power grids, and reducing the cost of electricity access, thereby contributing to a more just and equitable energy transition.

One of the outstanding developments is the adoption of smart-grid technology that uses digital automation and data analytics to provide real-time monitoring for the generation, transmission, distribution and consumption of electric power.

To the consumers, this portends an opportunity to receive accurate electricity billing and better moderation of electricity consumption, thereby increasing their energy efficiency output. To the utilities such as Kenya Power involved in electricity retail to consumers, this will help in real-time detection of power outages, improved demand forecasting, and improved reliability, thereby averting commercial losses.

EPRA is quickly adapting to these rapid technological shifts with key innovations such as net-metering and mini-grid frameworks. In consideration of the importance of smart meters in the digital energy transition, EPRA enacted the Energy (Net-Metering) Regulations, 2024, which govern systems of 1MW and below and inter alia require meters used in net metering to be smart and provide time-of-use metering.

Further, as more consumers increasingly generate their own alternative energy sources through renewable technologies such as solar, wind and hydro sources, the smart metering regulations become more relevant. The regulations permit eligible consumers to generate excess energy and feed it to the national grid and use the credited energy later.

This, in essence, enables a consumer to also become a producer, thereby reshaping tariff structures and grid management. It is, however,

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One of the outstanding developments is the adoption of smart-grid technology that uses digital automation and data analytics to provide real-time monitoring for the generation, transmission, distribution and consumption of electric power.

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imperative to underscore that this is subject to the prescribed power limits and requirements and that regulations do not permit monetary trading.

While digital transition in energy is inevitable, the regulator has no choice but to develop and adopt systems that guarantee real-time data gathering and address challenges such as cyber security, data privacy and accurate real-time data analysis.

Besides smart metering, the gradual transition to Electric Mobility (EV) is another sub-sector that portends regulation on account of changing technology. As electric vehicles replace the demand for petroleum products with electricity demand, the charging infrastructure becomes part of the entrenched national infrastructure in the country, as more charging stations in towns, along highways and various strategic points will be required.

E-mobility therefore requires the regulator to be ahead of the market demand by recognising that electricity, transportation and digital infrastructure of the future will have to be interconnected. This therefore means that the regulator will have to work in concert with other stakeholders such as transporters, utilities and even the consumers to create an enabling environment for the sector to reach its potential.

Another emerging opportunity is green hydrogen as a form of renewable energy whose benefits will not just complement the electricity generation output but support other sectors such as agriculture through production of fertiliser, boost manufacturing and create more investment opportunities.

Kenya Green Hydrogen Roadmap and Strategy identifies the country's renewable energy sources as a foundation for developing green hydrogen and its derivatives as a foundation whose benefits will also boost



environmental sustainability. The strategy also establishes standards and incentives to attract private investment for decarbonising heavy industries like cement, steel, and agriculture.

Technology is also permeating the petroleum sub-sector, with technologies such as digital fuel monitoring, data analytics and real-time tracking of petroleum tankers creating opportunities for advanced regulatory oversight.

Adapting to evolving technologies such as Artificial Intelligence and blockchain could help in breaking down and analysing large data to identify potential risks, unusual market patterns and irregularities and other areas of regulatory intervention.

While technology will always keep evolving, the need for tech-savvy regulation becomes more needful to keep up and move ahead of the innovations. This will ensure moving from a reactive type of regulation to a more proactive regulation that creates opportunities for investments to thrive while protecting the interests of the public.

The future regulation must therefore be agile and versatile to respond to emerging innovation and participatory to keep everyone involved. Opportunities like EPRA's annual research and innovation conference become more important as it afford policymakers, innovators, investors, researchers and other stakeholders an opportunity to witness and discuss innovations shaping the energy and petroleum sectors. This is one of the proactive strategies by the regulator to keep up with current innovations and plan for future innovations that emerge in the sector.

At the end, energy transition is not just about technology but about the consumers, ensuring that energy remains accessible, reliable, affordable and safe for all, whether at the household level or at commercial enterprises.

This ensures that the regulator works for all the stakeholders to ensure that innovations benefit all the players. By investing in technology coupled with responsive regulation, the country can build an energy sector that is clean, smart, more inclusive and ready for the future.

Automation

Developments at The Forecourt

In 2018, Vivo Energy Kenya embarked on a mission to automate its retail network covering Forecourts and Convenience stores.

One of the key motivations for this transformation is the impact digitisation has on retail businesses in keeping pace with changing technology.

Some of the benefits presented by digitisation include remote access to data and visibility of retail operations.

With a large network of retail stations, other benefits envisaged included improved customer value proposition, standardisation of support as well as readiness for expanded ERP integration.

What are the key enablers for Retail Automation?

To achieve desired results for automation, significant investment is required in the areas of site automation infrastructure that include special hardware, civil and mechanical retrofitting of existing sites or installation during site construction.

Reliable internet connectivity is key to full realisation of automation benefits, especially with respect to remote access and visibility.

Effective change management is another key enabler to site automation. Users and beneficiaries of the solution must appreciate the benefits to be realised and deal with teething problems that may be experienced in the transition period that may cause resistance to change.

Automation Journey

The automation transformation journey is phased out in three segments, namely, Automate, Integrate & Transform.

Automation is mainly the initial stages of the journey involving infrastructure deployment, setting up point of sale, setting up supporting

servers, setting up master data platforms and the unavoidable telecommunications infrastructure.



Typical Forecourt and Back-Office Set Up

This first phase is the backbone of the automation process and will provide a wide range of benefits. This affords an organisation opportunities in data collection and analysis, remote site support and visibility.



The Second Phase of The Journey is Integration.

Essentially, this is to link the automation infrastructure laid out in phase one to other services, especially ERPs, for seamless data transfers and solution integration. Additionally, other business processes like price management and inventory management.

With growing automation and ERP development by organisations, including government institutions, there is an opportunity to have seamless integration of systems outside one organisation. For example, with recent developments in the VAT tax management platform, e-TIMS, at the Kenya Revenue Authority, service stations that have automation installed or some form of automation deployed have had a good and quick opportunity to integrate with the KRA e-TIMS platform, affording such organisations savings in time and money.

The Third Phase in The Automation Journey Speaks to 'Transformation'.

This is the goal of realising the benefits of automation; it goes beyond data collection, remote access and visibility. At this stage, business processes are changed to make the most of automation. Remote operations at service stations, for example, are linked to ERPs for order processing, invoicing, payment systems and reporting with minimal human intervention.

At this stage, data analytics go a notch higher; systems are developed to extract data from day-to-day operations to trigger actions, prompts for actions, give alerts/warnings, and issue reports for decision-making.

Parameters like customer behaviour, trend analysis, predictions, among other indicators coming out of automated systems, become the norm in the day-to-day running of business.

Investment

Automating systems requires significant and intentional investment in the following key areas, which include infrastructure, software, connectivity and supporting human resources.

The investment runs into tens of thousands of dollars per service station.

Investment in infrastructure for retail petrol stations involves remediation works for civil, mechanical, electrical and networking scope. This is followed by specialised hardware ranging from Forecourt Controllers (FCC), Automatic Tank Gauging (ATG) systems, Point of Sale Systems (POS) and Back Office Systems (BOS).

Software solutions to support the systems are largely proprietary, attracting significant license fees. With a growing technological knowledge base and skilled personnel, there is growing opportunity for homegrown/inhouse software development. These present good opportunities for localisation or customisation to meet organisational needs as well as quick response to changes in the business environment and legislation.

Internet service providers have significantly increased in numbers, reach, and versatility, providing good connectivity and support to automation. Internet reach to urban and remote locations in Kenya has significantly improved. This is a key enabler of retail automation.

Human resources training is key for retail automation. This encompasses skills for deployment, maintenance & support, information technology, as well as training.

Benefits

Retail automation brings a lot of benefits that go beyond remote access and visibility.

Data analytics present a wide range of benefits, including analysis of customer behaviour, trend analysis, projection, asset optimisation and staff performance analysis.

Solutions can be built or configured to meet specific needs, giving flexibility in a changing business environment and situational assessments.

The Future

With evolving technology, the future of retail automation is looking bright.

Technology is getting more versatile and affordable with increasing value addition. For example, dispensing pumps come with a lot of inbuilt equipment and solutions for quick deployment and integration.

Software development for retail automation is gaining quick traction from local developers to meet localised needs and ease adjustments for legislative compliance. This should create opportunities for medium-sized oil marketing enterprises with limited resources to procure proprietary solutions and hardware.

With increasing integration of services from different government institutions and business enterprises, there is an opportunity for increased retail service station operations to be integrated with government services like the KRA e-TIMS system that is already in progress.





Nicholas Otieno
Managing Director
Murban Engineering Limited



Tracking Tanks

Through Digital Twin Technology

COVER STORY

A storage tank looks like the most static object on a terminal. It is not. It settles, tilts, and changes shape throughout its working life. Digitised as a 3D model, the tank becomes an asset you can version: one scan tells you where it is, two tell you where it is going, and that trajectory is the information that protects both the asset and the balance sheet.

Tanks Move. The Question Is Whether Anyone Is Watching.

Every large storage tank moves. A 27-metre diameter tank filled with diesel places roughly ten thousand tonnes on the ground beneath it, and no foundation carries that load without responding. Soils compress, water tables shift with the seasons, and the load itself cycles every time the tank fills and empties.

Uniform settlement, where the whole tank sinks evenly, is largely harmless. The trouble starts when settlement is uneven. A tank that settles more on one side than the other begins to lean and distort, and a distorted shell is a different structure from the one the designer calculated. Floating roofs can bind against the shell, nozzles and pipework pick up loads they were never meant to carry, and in the worst cases the bottom-to-shell junction, the most critical weld on the tank, is pushed towards failure.

What API 653 Annex B Actually Measures

API 653, the standard governing storage tanks in service, addresses this in its Annex B. It separates tank movement into distinct components, because each has a different consequence. Uniform settlement is tracked but rarely acted on. Planar tilt, where the tank leans as a rigid body, affects product gauging and shell stresses and carries its own limit.

Out-of-plane settlement, where the shell rim deforms into a wave rather than a plane, is

the dangerous component: it introduces stresses the shell was never designed for, and Annex B sets the criteria for how much is tolerable. Edge settlement and localised bottom depressions near the shell complete the picture.

The important word in all of this is measured. None of these components can be judged by eye. A tank can look perfectly upright from the gantry and still be outside its Annex B limits.

One Scan is A Snapshot. Two Scans are A Story

Modern 3D laser scanning has changed what is practical. A scanner captures millions of survey points across the shell and rim in a few hours, with the tank in service, producing a complete digital twin of the tank, a geometric model accurate to millimetres. Checked against Annex B criteria, a single scan answers the compliance question: is this tank within tolerance today?

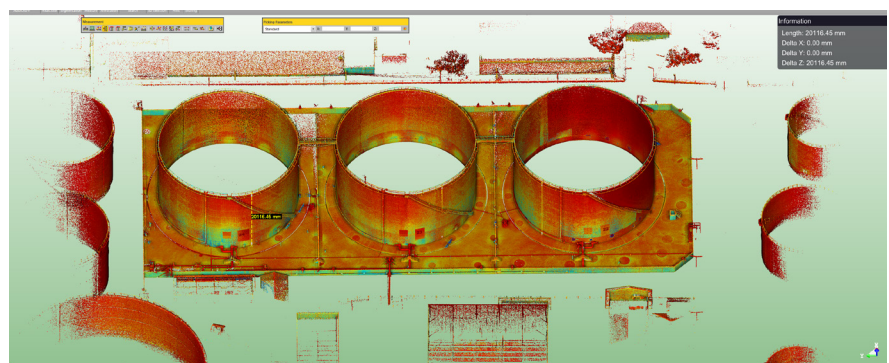
The more valuable question is answered by the second scan. Comparing two scans of the same tank reveals direction and rate: is the settlement stable, or is it progressing, and how fast? Rate is what data analytics adds to inspection: it turns a one-off finding into a forecast, and a forecast is what moves an operator from reactive repair to predictive, planned maintenance, scheduling an intervention years in advance instead of reacting to a crisis.

The Digitisation Chain: From Point Cloud To Prediction

Seen this way, settlement trending is a small, complete example of what digitisation actually means for an operating asset. The scan digitises the physical tank into data. Successive scans build a versioned record, a living history of the structure rather than a drawer of one-off reports. Analytics interrogate that record for direction and rate. The output is a prediction an engineer can defend and a manager can plan around. Point cloud to digital twin to trend to decision: that chain is the energy booster the sector keeps talking about, applied to the least glamorous but most valuable asset on the terminal, the tank itself. The scanner is not the point; the compounding data asset behind it is.

A Tank in Mombasa

We recently completed exactly this exercise on a 27-metre diameter floating roof tank at a marine terminal in Mombasa. The tank, built in 2012 and storing diesel, was laser scanned twice, roughly four months apart, and the two geometric models were compared point by point against the design geometry and Annex B criteria.



The trend analysis did something a single survey cannot: it separated whole-tank behaviour from local effects. A measured tilt of 0.12 degrees on a 22-metre shell predicts about 46 millimetres of lean at the top of the tank. Once that rigid-body tilt was accounted for, the remaining deviations were local plate distortion, a different problem with different remedies, and a far less alarming one than the raw numbers first suggested.

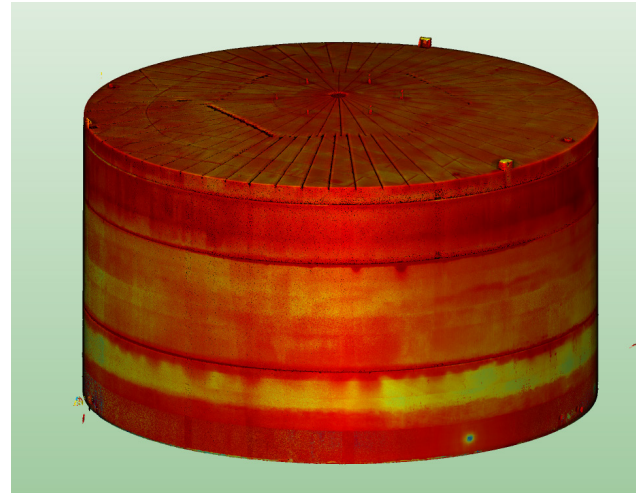
The outcome was a joint technical review with the operator and its engineering partners, and a defensible decision: continued operation with monitoring, on a six-month scan cadence, with clear triggers for when intervention becomes necessary. No shutdown, no emergency repair, no guesswork.

The Discipline Behind A Trustworthy Trend

Trend analysis is only as good as its repeatability. Comparing two scans is meaningful only if both used the same instrument class, the same survey datum and comparable fill and temperature conditions, because a shifted datum can manufacture apparent improvement, or apparent deterioration, out of nothing. When exceedances appear at different locations from one scan to the next, the first question is measurement, not miracle recovery. That discipline is the difference between a trend and a coincidence, and it is why the survey methodology deserves as much scrutiny as the results.

The Boardroom Case

For a terminal operator, the economics are not subtle. A scan campaign costs a fraction of a single day of lost terminal throughput. Re-leveling a tank foundation is a major but plannable undertaking; a settlement-driven failure



is an unplanned one, priced in lost product, soil remediation and regulatory attention. Trending moves the operator from the second category to the first.

There is also the audience beyond the fence line. Insurers, financiers and joint venture partners increasingly ask how asset integrity is demonstrated, and a digital settlement-trend record, showing not just today's condition but its trajectory, is a bankable answer. The right question for a leadership team is no longer whether a tank is within tolerance today. It is where the tank will be in five years, and whether anyone is watching it move.

From Reactive to Predictive Maintenance



Michael Obingo
Lubricants Manager
Hass Petroleum Group



From the era of clanging and knocking sounds from an engine to bright orange check engine lights, drivers and machine operators of all ages dread the devastating effects of machine downtime. We have striven for ages to predict any sort of catastrophic failure involving machines and equipment that our lives or livelihoods desperately depend on.

The following article seeks to enlighten readers on the journey from reactive, then preventive, and lately predictive maintenance of equipment.

Reactive Maintenance

This is the one we all find intuitive. Something breaks, you fix it, right? The challenge is that the machine will always break down when you most need it! Imagine this: it is 2 am and the production line stops due to machine failure. Not only will your pressure rise, but so will the price that you will pay for emergency machine parts, emergency labour and any other emergency supplies. This is the most expensive way to maintain your machine because the maintenance time is out of your routine. You don't decide when to fix your machine; instead, your machine decides for itself. This is where the next model comes in: preventive maintenance.

Preventive Maintenance

Instead of waiting around for equipment failure, you are setting your own schedule ahead of time for maintenance based on a calendar or the equipment manufacturer's recommendation. The challenge here is that many machine parts will be removed and replaced purely on expected lifespan and not the actual lifespan. A drive belt or machine oil can be replaced way before its actual lifespan, while it still has some usable life left in it. For example, it doesn't matter that the belt has sixty or more days left in it because of current machine conditions; when preventive maintenance says it is time, then you have to pull the belt out. In addition, for safety-sensitive equipment, you cannot afford to cut it close; hence, the preventive maintenance schedule will be done



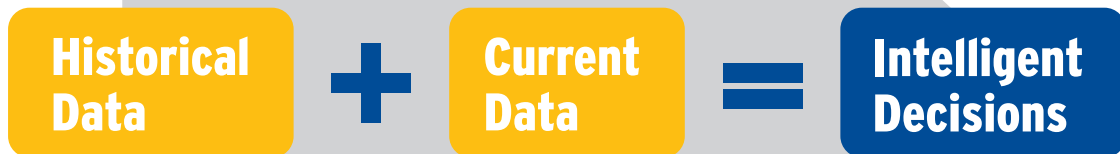
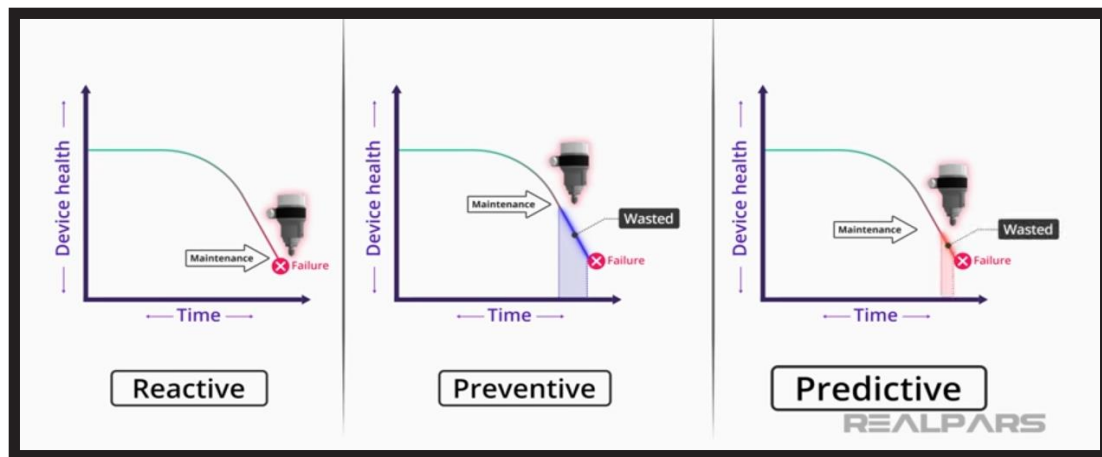
much earlier just to play it safe. Multiply these costs across the entire organisation over a period of time. These costs can be staggering, and this is where predictive maintenance comes in.

Predictive Maintenance

Imagine if your car could warn you days before it breaks down; that is what AI is doing in oil and gas! By predicting equipment issues early,

AI is cutting downtime and keeping operations running smoothly, like a supercharged check engine light for all equipment, from batteries, tyres, pumps, to pipelines. AI-driven maintenance means fewer breakdowns and savings. The future of Oil and gas just got smarter.

Predictive maintenance comes in to close the gap between when the maintenance work is done and when it actually needs to be done. This is the critical point at which the data tells us the machine is about to fail.



Devices and machines are expected to fail over time; the standard preventive maintenance wastes some equipment life, as shown in the figure above. On the other hand, predictive maintenance reduces the time and equipment lifespan wasted by providing just-in-time maintenance.

How it Works:

Equipment manufacturers install online data collection sensors that collect individual machine information like vibrations, temperature, humidity, pressure, oil analysis, rotations per minute, mileage and run time. This data is collected from similar machines from across the world to form the historical data. This historical data is used to spot small changes or strange patterns to determine equipment health indicators and severity rankings from other machine breakdowns. Now, data from your current machine is also collected and cross-referenced to the historical database to give you a prediction of the severity ranking. The computer then issues alerts or automatically generates work orders. This is commonly referred to as AI, or Artificial Intelligence.

Key Benefits of Predictive Maintenance

- Less downtime: Machines do not stop working by surprise.
- Save money: Fixes happen only when needed, avoiding waste.
- Longer life: Parts are used fully without failing early.

Main Challenges

- Time- and resource-intensive, unsuitable for simpler machines
- Best for machines that run continuously.
- Online presence, exposure to machine hacking and interference.

Conclusion

Each maintenance approach has its place, depending on the value, complexity, and operational importance of the equipment:

- Reactive maintenance is best suited to low-cost, stand-alone equipment where breakdowns have limited impact and repairs are inexpensive. For example, your vehicle's headlights, brake lights and wipers
- Preventive maintenance is useful for integrated machines that need scheduled part changes or servicing to keep operations running reliably. For example, oil changes, oil filters, cabin filters, brake pads, tyre changes and radiator coolant changes. However, there are modern cars that now have predictive maintenance for such parts as we start developing driverless cars. Though, this is currently on the expensive side.
- Predictive maintenance is most valuable for critical equipment where unexpected failure can cause major downtime, high repair costs, or significant operational disruption. For example, large fleet operators, expensive mining equipment, power plants and automated production facilities.

Lastly, for old-school thinkers like myself, involving machine operators in the AI software creation process is critical in predictive maintenance. Operators have firsthand experience with the machinery and can provide valuable insights into its maintenance needs. Involving them in the software creation process ensures that practical and relevant tasks are included, making the checklist more effective and user-friendly. Engaging with operators can also increase adherence to both the maintenance schedule and predictive alerts, as they feel a sense of ownership and responsibility for the machinery.



How Digitisation is Transforming Kenya's Energy Sector



Angela Mwirigi

Director of Digital Financial Services
KCB Bank Kenya



Digitisation of the economy is a key driver of growth and supports socio-economic development, offering a path towards shared prosperity. By leveraging digitisation, a country can achieve sustainable economic growth and structural change.

The adoption of digital technologies across all sectors has been observed to positively impact economic growth by increasing productivity, improving access to global value chains, and enhancing efficiency and transparency.

Moreover, access to emerging technologies such as mobile money, Artificial Intelligence (AI), and cloud computing is desirable as drivers of digital and financial inclusion, which in turn supports human development.

The energy sector is undergoing a major transition with the rapid growth in renewable energy deployment and new additions of decentralised energy systems.

This major transformation has come with new levels of complexity for the sector. It has also created an opportunity to create new business models and find additional revenue streams for players in the sector should they embrace digitisation.

In 2025, a comprehensive digital blueprint aimed at transforming the country's energy landscape through the power of innovation, smart technology, and sustainability was launched. The "Digitisation White Paper for the Energy Industry" introduced a four-pronged strategy designed to reshape the energy sector through digital integration.

”

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It proposes the establishment of digital green power plants powered by end-to-end digital twins and remote intelligent control, as well as intelligent grid inspections enabled by automation and smart monitoring.

These advancements are intended to make power generation and management more efficient, responsive, and environmentally sustainable. A major highlight of the blueprint is the development of multi-source, self-healing distribution networks that can autonomously detect and recover from faults using advanced digital systems.

The framework also encourages the coordination of multiple energy sources, including smart campuses, to optimise overall energy distribution and ensure reliable access to electricity. This approach aligns with Kenya's ambitions to meet its growing energy needs sustainably while minimising carbon emissions.

This will accelerate the country's shift toward clean, intelligent, and data-driven energy systems. This is in addition to data infrastructure, which will enhance operational efficiency, reliability, and grid performance, with sustainability supporting national commitments to green energy and climate resilience.

Additionally, this offers an opportunity to investors, government and local businesses. For investors, they can explore opportunities in renewable energy, modernising power grids and developing smart energy technologies. For the government, it can use technology to improve power systems, strengthen infrastructure and support sustainable development. And for the local businesses, including banks, they can benefit by providing energy-related financial solutions, Information and Communication Technology (ICT) services, data analytics, equipment maintenance, and other technical solutions.

Digital Transformation

Digital transformation is being supported by distinct regulations and proven operating models, and the sector players are working within a defined compliance framework overseen by the Energy and Petroleum Regulatory Authority (EPRA).

This has created room for systems to operate with confidence, and operators can structure transaction records, have traceable inventory movement, and consistent reconciliation across depots and stations. It has also led to faster access to operational data during audits.

This is in alignment with broader national policy, the country's digital economy agenda, which is backed by the government, signalling clear support for enterprise digital systems across critical infrastructure sectors.

According to McKinsey's (<https://www.mckinsey.com/>) analysis on digital operations, companies or even sectors that tie digital investment to control outcomes see faster payback than those focused only on efficiency metrics.



Financial Institutions

Along the way, banks have emerged as a key partner in the provision of digital financial solutions in the energy sector value chains, providing cashless payments, digital credit and data solutions to Oil Marketing Companies (OMCs), distributors, dealers and retailers.

Currently, about 80 per cent of cash handling in the petroleum sector has shifted to digital channels, driven by tools such as till numbers and internet banking. Dealers and distributors can also access stock financing digitally via USSD and mobile apps, with funds credited directly to OMCs or distributors, easing working capital pressure and guaranteeing timely payments.

KCB has emerged as a critical catalyst in the digitisation of the sector's value chain. The bank has developed digital payments, credit, and data intelligence to modernise how the sector operates. From OMCs, last-mile retailers to consumers, the bank is replacing cash-heavy, manual processes with seamless, technology-driven solutions that support both efficiency and growth.

The bank is also transforming how money is moving across the petroleum value chain. Tools such as tills and internet banking transfers have helped shift an estimated 80 per cent of petroleum sector cash handling into digital channels. Since high volumes and thin margins characterise the sector, KCB has built its digital proposition around reliability and cost-efficiency.

Beyond moving money, the bank is also digitising the information layer of the energy ecosystem. KCB has built a business intelligence

KCB Bank Kenya team during the 2026 PIEA Africa LPG Summit and Exhibition on 6th August at the Iconic Plaza Hotel, where KCB Bank Kenya was the Platinum Sponsor.

”

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capability that maps the full hierarchy of the value chain linking OMC to its distributor, and each distributor to its network of retailers. This mapping is within both the digital payments platform and KCB's core banking systems, creating a clear end-to-end view of how product and capital flow through the sector. In addition, leads and potential clients are managed through a digital tool, while data from both digital and traditional products is fed into a central data repository.

From this data repository, KCB can generate reports and an insights dashboard that describe the business and help in influencing the strategy. Additionally, the bank uses the insights to keep the ecosystem within its space, identifying opportunities to cross-sell additional solutions such as cash management, asset financing, broader lending products and foreign exchange services for various operators in the value chain.

In doing so, KCB has positioned itself not just as a financier, but as a digital partner enabling a more connected, transparent and data-driven energy sector value chain.



Importance of Timely Access To Capital



Welsey Cheruiyot Ruto

Senior Trade Finance Specialist

Absa Bank Kenya



Access to capital fuels business growth, and timely access to capital often determines whether opportunities are realised or lost. Recognising this, financial institutions have developed an energy sector customer value proposition that combines bespoke funding solutions with digital capabilities that simplify transactions and improve efficiency. As Kenya's energy sector continues to evolve, businesses in the sector operate in an environment where speed, reliability, and efficiency increasingly determine competitiveness; as such, financiers are helping businesses keep pace with the rapidly transforming value chain.

For the energy sector businesses, the operating environment is becoming increasingly complex with volatile commodity prices occasioned by shifting trade patterns and geopolitical uncertainty. While growth opportunities remain strong, businesses in the sector struggle to access working capital quickly enough to respond to market opportunities. Businesses that are able to unlock their working capital needs efficiently emerge as winners.

“As Kenya's energy sector continues to evolve, businesses in the sector operate in an environment where speed, reliability, and efficiency increasingly determine competitiveness; as such, financiers are helping businesses keep pace with the rapidly transforming value chain.”

Effective working capital financing must align with business operational realities and dynamically bridge funding gaps in order to offer businesses the required flexibility to pursue growth opportunities. This thinking underpins financial institutions such as Absa Bank's working capital financing approach,

which focuses on customised solutions around the cash conversion cycles to accommodate operational nuances across the sector instead of applying standardised lending products. Whether supporting supplier, inventory, contract or receivables financing, the objective remains the same: to ensure that lack of liquidity does not become a barrier to opportunity.

Absa's recent enhancements across the Bank's Trade Finance offerings demonstrate this commitment. Expanded access to financing, broader eligibility criteria and faster turnaround times have been introduced to reduce operational friction and enable businesses to respond quickly and confidently in a dynamic marketplace.

Ultimately, beyond banking products, a strong financial partner must understand the industry dynamics and its unique challenges. Absa's experience in the Kenyan energy sector enables us to support businesses in effectively unlocking their working capital and driving growth.

Petroleum Insight is the official quarterly journal of the Petroleum Institute of East Africa (PIEA). Over the last 25 years, Petroleum Insight has been a consistent and reliable chronicler of developments in the oil and energy industry.

These issues include Production, Storage, Transportation, Distribution of oil and Petrochemicals, LPG, Lubricants, Governing concerns of the Environment, Taxation, Capital and Investment, and Exploration. The journal also features other auxiliary industry issues that are of interest to other East African players.

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Petroleum Institute of East Africa
Fourth Floor, Bruce House
P.O. Box 8936-00200 Nairobi
Phone: 254-20-2249081, 3313046, 3313047
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1. A shared commitment to turning dialogue into action saw PIEA pay a courtesy call to the Office of Kenya's Special Envoy for Climate Change (OSECC), housed within the Executive Office of the President on August 19. PIEA Chairman Solomon Osundwa alongside the GM Wanjiku Manyara engaged OSECC Special Envoy Amb. Ali Mohamed and Head of the Clean Cooking Delivery Unit Benson Ireri on areas of collaboration to advance clean cooking, accelerate LPG uptake, promote clean mobility, strengthen partnerships, and expand access to cleaner, safer and affordable cooking energy.
2. The Principal Secretary, State Department for Petroleum, Ministry of Energy and Petroleum, Phillip Kello Harsama, CBS, visited Proto Energy's state-of-the-art LPG facility in Kabati On July 24, hosted by Proto Energy's CEO Joel Kamau alongside PIEA GM Wanjiku Manyara. He toured LPG cylinder manufacturing and filling operations, reviewed quality assurance processes, and witnessed OTOGAS vehicle conversion technology. The engagement reaffirmed government-industry collaboration to strengthen the LPG value chain, expand clean energy access, reduce biomass dependence, and advance sustainable development.
3. PIEA courtesy call on Gulf Energy on Monday 27th July 2026: The meeting focused on strengthening the longstanding partnership between

PIEA and the Gulf Energy Group on the evolving energy landscape and exploring opportunities for greater collaboration to advance a sustainable, innovative, and resilient petroleum industry in Kenya.

4. On July 20, OLA Energy Kenya's General Manager, Mohamed Elhoderi, who also serves as the PIEA Vice Chairman PIEA engaged PIEA General Manager Wanjiku Manyara on shared priorities and the continued growth of Kenya's energy sector. With them is Thomas A., Customer service, supply & logistics manager, OLA Energy.
5. PIEA team paid a courtesy call to Stanbic Bank, a PIEA Associate Member, on July 15, reaffirming commitment to stronger collaboration, strategic partnerships and initiatives supporting sustainable energy-sector growth, while exchanging insights, strengthening institutional ties and aligning on shared priorities.
6. Representatives from across East Africa participated in the UNEP Regional Workshop on Addressing Vehicle Emissions through Cleaner Fuels and Vehicle Standards, held on 8-9 July 2026. The Petroleum Institute of East Africa (PIEA) represented Kenya's downstream petroleum industry, reinforcing its commitment to evidence-based policy advocacy and stakeholder collaboration in the development of cleaner fuels, vehicle emissions standards, and sustainable transport solutions for the region.





7

7. August was a milestone month for Oryx Energies Kenya as it launched 4 stations in Isaju, Ngewa, Maragua, and Salama. The new service stations will serve more customers with quality products, convenience, and exceptional service.
8. Kenya's Cabinet Secretary for Energy and Petroleum Opiyo Wandayi EGH and Rwanda's Minister of Trade and Industry Antoine Marie Kajangwe



8

signed three landmark agreements, the Memorandum of Understanding (MoU), Tripartite Agreement (TPA) and Transport & Storage Agreement (TSA) on June 29, that established a Government to Government framework for Rwanda's importation of Bulk Refined Petroleum Products through the Northern Corridor. The maiden cargo (RNEC 001/2026) is expected at the Port of Mombasa between 4 and 6 September 2026.

LPG SUMMIT PICTORIAL



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1. George Kiluva, Head of Trade Finance, KCB Bank Kenya addressed LPG stakeholders during the 2026 PIEA LPG Summit, Exhibition where KCB Bank Kenya was the Platinum Sponsor.
2. Benson Ireri, Head of the Clean Cooking Delivery Unit, Office of Kenya's Special Envoy for Climate Change (OSECC) spoke on scaling clean cooking through carbon finance: Building sustainable models for climate and community impact.
3. PIEA Secretariat alongside presenters from OLA Energy, Proto Energy and Kenya Pipeline Company Plc. After fruitful discussions at the summit.
4. Participants following the 2026 PIEA LPG Summit, Exhibition proceedings keenly.





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1. James Ochieng (Blue Shirt), Richard Gitahi (Grey Suit), and Anthony Muhoro (holding the Golf Trophy) were the 2026 overall winners, playing under the Vivo Energy Kenya Umbrella. They are flanked by the Principal Secretary for Petroleum Kello Harsama (2nd from right), PIEA Chairman Solomon Osundwa (Left), PIEA Membership Committee Chairman Varun Sharma (Right), Muthaiga Golf Club representative David Ombisi, and Stanbic Bank Executive Vice President, Public Sector, Thomas Bisonga, where Stanbic Bank was the event's Title Sponsor.

2. Central Bank of Kenya Governor Kamau Thuge displays his golfing prowess during the 2026 PIEA Corporate Golf Day, held at Muthaiga Golf Club on July 3.

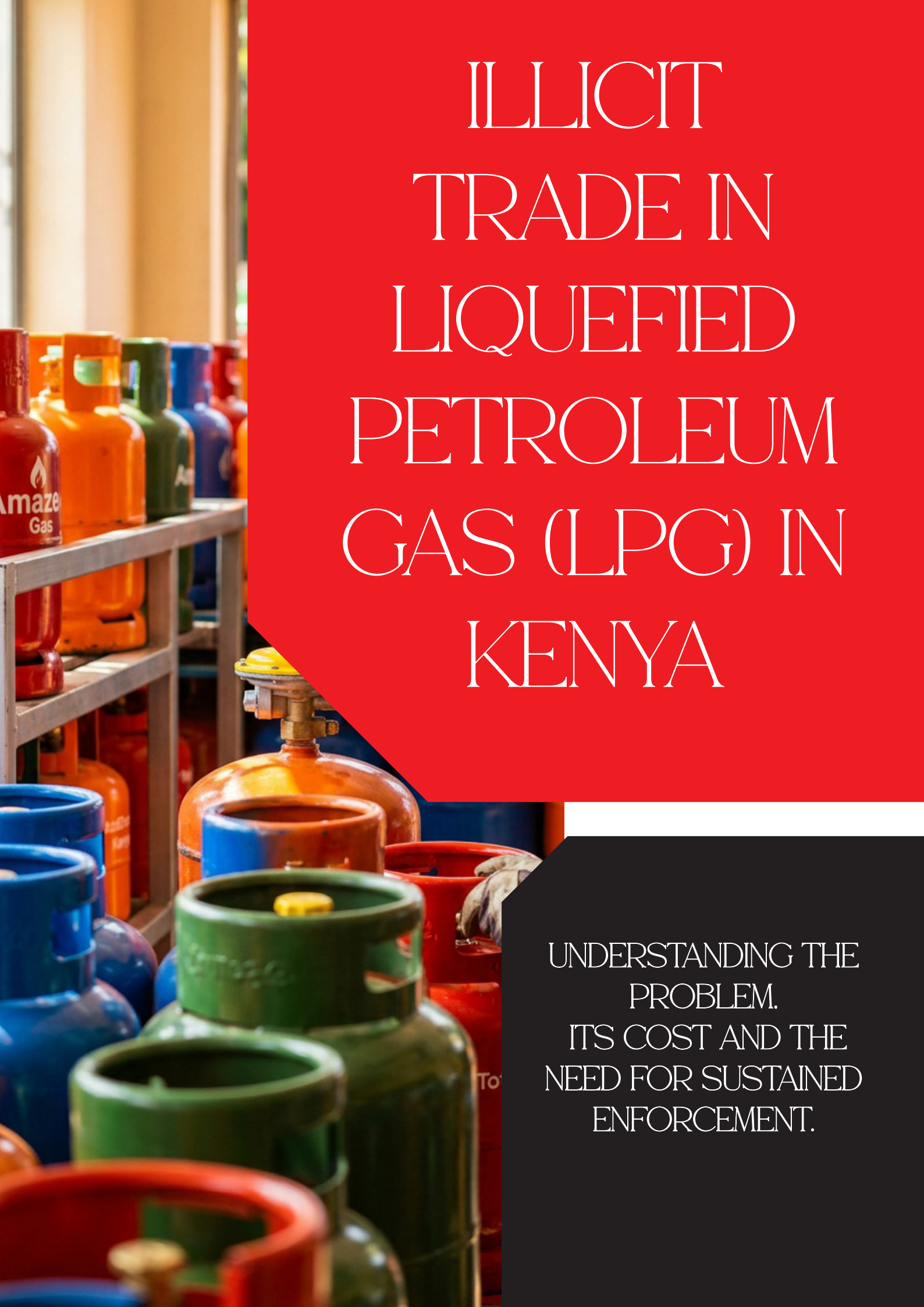
3. Caroline Ribui of Stanbic Bank prepares to tee off during the tournament, where she went on to claim the Lady Runner-up title.

4. Playing under the PIEA umbrella, Catherine Mburungu receives her prize as the Overall Ladies' Winner from George Were of E3 Energy.

5. Principal Secretary Kello Harsama presents Fredrick Wagura of the KRA team with the Overall Man of the Match award in recognition of his outstanding performance.

6. Guests applaud the winners during the prize-giving ceremony.





ILLICIT TRADE IN LIQUEFIED PETROLEUM GAS (LPG) IN KENYA

UNDERSTANDING THE
PROBLEM.
ITS COST AND THE
NEED FOR SUSTAINED
ENFORCEMENT.

A. WHAT IS ILLICIT LPG TRADE?

Illicit trade in LPG involves the illegal and/or unlicensed refilling and sale of LPG Cylinders and in other LPG value chains such as transportation. The LPG segment has a robust regulatory framework¹.

Illicit trade practices undermine the safety controls built into the legitimate LPG value chain and create an unfair advantage for operators who do not bear the costs of regulatory compliance.

B. WHAT ARE THE COSTS OF ILLICIT LPG TRADE?

LPG: A Health Product and Environmental Conservation Enabler

LPG is more than a transition clean cooking fuel-it is a health product, a public-health intervention that can save both approximately **KShs. 13billion** medical bill spent on preventable illness and the **over 26,000 deaths that occur annually**² from household air pollution that causes pneumonia, asthma, bronchitis, cancer and eye illnesses children under five years and women being most affected.

LPG is an environmental conservation and climate change intervention enabler-it is the most accessible alternative to firewood and charcoal both of which are derived from our forests contributing to the **25 thousand acres of forest cover annually lost** in Kenya hence adversely impacting on food production, that enables food security and wildlife habitation thereby putting sustained tourism attraction at risk.

REAL LOSS OF LIFE, HOMES AND BUSINESSES

The magnitude of the result of untamed illicit LPG trade came home in Miradi, Embakasi, Nairobi when an explosion occurred in an illegal LPG refilling facility, killing 13 people at the scene, more than 300 people hospitalized and homes, businesses and property destroyed.

WIDE SOCIO- ECONOMIC COST- THE CONSEQUENCE OF ILLICIT TRADE HAVE RAMIFICATIONS THAT ADVERSELY AFFECT:

Continued deployment of safe cylinders by legitimate investors, consumer confidence in using LPG, rate at which Kenya meets the set clean cooking access targets to combat preventable respiratory illness and to drive afforestation targets through conservation as well as increase in employment and entrepreneurial opportunities across the LPG value chains which then provide the much needed tax revenue for the government.

Illicit trade undermines legitimate businesses, mocks the regulatory framework and threatens public order, public health and public safety.

This vice must be confronted with sustained enforcement by the Regulators as their work is clearly cut out; it is to legally arbitrate between illicit LPG players whose illegal activities stifle universal LPG access and legitimate LPG players who have invested in the LPG value vide compliance with the law.

¹ Regulation 47 of the Petroleum (Liquefied Petroleum Gas) (No.2) Regulations, 2025.

² Kenya's Economic Survey 2026 and Kenya's Household Air Pollution Strategy

Implementation of The School Of Petroleum Studies Training Subscription For PIEA Members



Alfred Mungai
Training Manager
School of Petroleum Studies
Petroleum Institute of East Africa



Background and Approval

Following the Petroleum Institute of East Africa (PIEA) Annual General Meeting (AGM) held on 19th November 2025, members ratified the adoption of the School of Petroleum Studies (SPS) Training Subscription Income Relief "take-or-pay" model for Senior, Junior, and Associate members.

The adoption was after an industry wide survey for PIEA members and the results which were later tabled to the PIEA SPS School Management Committee to create a sustainable strategy which led to the emergence of the training subscription model.

This training subscription model was later tabled to the PIEA Board for Approval and adoption on 14th November 2025 as part of the SPS recovery strategy, to ensure consistency of profitability, with the worst-case scenario being a break-even position.

The proposal was subsequently approved by the Board for presentation and adoption during the PIEA AGM held on 19th November 2025, and it was approved by all members during the AGM.

What This Means for Your Organisation

As a

- **Senior Corporate Member:** your annual SPS Training Subscription is Kshs. 196,000 + VAT for the period 1st July 2026 to 30th June 2027.
 - The subscription provides your organisation with four (4) training nomination slots annually.
- **Junior Corporate Member:** your annual SPS Training Subscription is Kshs. 147,000 + VAT for the period 1st July 2026 to 30th June 2027.
 - The subscription provides your organisation with three (3) training nomination slots annually.
- **Associate Member:** your annual SPS Training Subscription is Kshs. 98,000 + VAT for the period 1st July 2026 to 30th June 2027.
 - The subscription provides your organisation with two (2) training nomination slots annually.
- The subscription provides your organisation with the above training nomination slots, which may be utilised by different employees during the subscription period for courses offered under SPS's NITA-accredited training programmes; in addition NITA compliant/eligible employers may also claim reimbursement for qualifying training expenses.
- The model is designed to move training away from an ad-hoc, course-by-course approach towards a structured annual workforce-development commitment.

The Value of The Training Subscription

- The subscription provides organisations with a more efficient and predictable approach to workforce development across all levels of management. Instead of processing separate training requests, approvals and payments every time an employee requires training, the organisation makes one annual training subscription and can then nominate employees for relevant courses throughout the subscription period, in this case 2026/2027.
- Once an organisation exhausts its training subscription, they will pay for the additional trainees at a fee which is already subsidised for PIEA member organisations.
- Kindly note that any unused subscription benefits will expire at the end of the subscription year. In this case, the validity period is 1st July 2026 to 30th June 2027 and is renewable every year for PIEA members.

This Training Subscription Provides The Following Benefits:

- **Reduced approval delays:** Once the annual subscription has been approved and budgeted for, relevant employees can be nominated without having to initiate a new approval and payment process for every individual course, subject to the organisation's internal policies and delegated authorities.
- **Predictable expenditure:** The annual subscription provides greater certainty over training expenditure and supports more effective budget planning and utilisation.
- **Flexibility:** Different employees can be nominated for relevant courses as technical, operational, regulatory or safety needs arise during the year.
- **Reduced administrative workload:** HR, Training, Finance and Procurement teams spend less time processing multiple individual training requests, approvals and payments.
- **Continuous workforce development:** The model encourages organisations to plan and develop employee competencies throughout the year rather than relying on ad-hoc training.
- **Improved programme certainty:** A committed pool of trainees enables SPS to plan courses more effectively and helps minimise cancellations or postponements arising from insufficient enrolment/quorum.
- **Strengthened safety culture & enhanced self-regulation:** Continuous professional development contributes to employee competence, operational excellence and a stronger culture of safety and self-regulation.

A Strategic Workforce Investment

The SPS Training Subscription is therefore an annual investment in workforce capability rather than simply a training expense. The model allows an organisation to make one annual commitment to training, establish its entitlement, and then deploy that entitlement throughout the year based on evolving business and workforce needs. This can reduce repetitive approval processes, shorten administrative lead times, improve utilisation of training budgets and enable employees to access relevant training when required.



Supporting PIEA's Self-regulation Objective Through Capacity Building

The Training Subscription Model is an important component of PIEA's commitment to self-regulation and the sustenance of a holistic safety culture.

By encouraging member organisations to systematically invest in the competence of their people, the model strengthens the industry's

capacity to manage risks, maintain professional standards and continuously improve safety and operational performance.

We encourage all Human Resource managers/training managers to reach out to the School of Petroleum Studies Coordinator, Alfred Mungai, via school@petroleum.co.ke for any additional information.

Dangote Sets September 30 for Lamu Refinery Groundbreaking



Aliko Dangote GCON

Founder, President, and
Chief Executive Officer
Dangote Group



the second-largest on the continent after Dangote's facility in Lagos, Nigeria.

The Lamu plant is expected to supply refined petroleum products to Kenya and neighbouring markets, including Uganda, Tanzania, South Sudan and the Democratic Republic of Congo. The project is expected to take up to three years to complete and is intended to reduce the region's dependence on imported fuels.

The estimated cost of the development has been revised down to about \$16 billion from an earlier \$17 billion estimate. Dangote attributed the reduction to efficiencies gained from the construction of the Lagos refinery, faster construction timelines and lower financing costs.

About 70% of the investment, equivalent to roughly \$11.2 billion, is expected to be financed through debt, while shareholders will provide the remaining 30%, or about \$4.8 billion.

Dangote has also offered Kenya, Ethiopia and Rwanda a combined 30% equity stake valued at approximately \$1.5 billion. Kenya's proposed 10% share is worth about \$500 million.

The wider development could extend beyond refining. Kenya is planning an industrial complex around the facility, including a 1,000-megawatt power plant and a special economic zone. President Ruto has said the development could create about 60,000 jobs and provide a major boost to Lamu County's economy.

Construction of Dangote Group's planned oil refinery in Lamu, Kenya, is set to begin on September 30, 2026, in a project that could reshape the East African petroleum products market.

Aliko Dangote, chairman of Dangote Group, confirmed the groundbreaking date while addressing investors and analysts during a visit to Botswana. The announcement brings forward an earlier timeline in which construction was expected to start by October.

"We are launching it on September 30," Dangote said, according to Reuters.

The proposed refinery will have a processing capacity of 700,000 barrels of crude oil per day, making it the largest refinery in East Africa and



Tanzania and Uganda Advance Regional Energy Hub

Tanzania, Uganda and global energy trader Vitol Bahrain signed a Memorandum of Understanding (MoU) in August to develop the Tanga Regional Energy Hub, a move that could reshape petroleum trade, infrastructure and energy security across East Africa.

The agreement, signed in Dar es Salaam in the presence of Tanzanian President Samia Suluhu Hassan and Ugandan President Yoweri Museveni, brings together the Uganda National Oil Company (UNOC), Tanzania Petroleum Development Corporation (TPDC) and Vitol Bahrain E.C. under a framework aimed at expanding petroleum refining, storage, logistics, petrochemicals and cross-border energy infrastructure.

For Uganda, the initiative comes as the country advances towards commercial crude oil production and prepares to export its waxy crude through the 1,443-kilometre East African Crude Oil Pipeline (EACOP) to the Port of Tanga. Pipeline construction is nearing completion, with first exports targeted for later this year.

The proposed hub would take Tanga beyond its role as an export terminal, creating an integrated platform for petroleum storage, blending, logistics, marine services and fuel trading, with officials saying the broader objective is to ensure East Africa captures more value from its petroleum resources rather than relying predominantly on imported refined products and overseas trading centres.

"EACOP transports molecules. The Tanga Regional Energy Hub transforms those molecules into prosperity," said Tanzania's Energy

Minister Deo Ndejemi while capturing the ambition of the project.

The development is also being positioned as complementary to Uganda's planned Hoima Oil Refinery. While Hoima is intended primarily to meet Uganda's domestic refining requirements, the Tanga hub is envisaged as a regional industrial and logistics platform serving markets across East and Central Africa.

"The Tanga Hub, together with Uganda's Hoima Refinery, will ensure that our petroleum resources create more value through refining, storage, logistics and manufacturing instead of exporting raw materials", said President Museveni.

The proposed investment could exceed US\$20 billion if fully implemented, potentially making the project one of Sub-Saharan Africa's largest integrated energy developments. Beyond petroleum, Uganda and Tanzania are also pursuing studies for a bidirectional refined petroleum products pipeline and a cross-border natural gas pipeline.

The agreement builds on more than a decade of bilateral energy cooperation, including arrangements underpinning EACOP. It also fits within the East African Community's broader push for regional infrastructure, integrated energy markets and cross-border investment.

Vitol's participation adds significant commercial weight to the initiative. The energy trader already has commercial ties with Uganda through petroleum supply, storage and downstream logistics, and its global market reach could support access to financing, technical expertise and international petroleum markets.

For Uganda, improved access to Tanga could strengthen fuel supply chains and reduce logistics costs, while Tanzania aims to reinforce its position as a regional energy and logistics gateway.

However, the hub is likely to face scrutiny over environmental safeguards, climate resilience, local content, regulatory compliance and commercial viability. EACOP itself has faced criticism from environmental organisations and campaigners over biodiversity, emissions, land acquisition and community impacts.

The Tanga project therefore represents both an industrial opportunity and a significant test of East Africa's ability to translate petroleum infrastructure into broader economic value.

"The partnership will build on the success of EACOP and strengthen regional energy security, industrialisation and trade", as President Museveni puts it.

Uganda's President Yoweri Kaguta Museveni and Tanzanian President Samia Suluhu Hassan witness the signing of a landmark Memorandum of Understanding (MoU) between the Uganda National Oil Company (UNOC), the Tanzania Petroleum Development Corporation (TPDC) and Vitol Bahrain E.C. to develop the Tanga Regional Energy Hub, Dar es Salaam, Tanzania





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South Sudan Oil & Power Makes a Comeback in NOVEMBER

The South Sudan Oil & Power (SSOP) will return to Juba on November 24-25, 2026, bringing together government, investors, operators and energy leaders to advance partnerships that unlock South Sudan's energy potential and support nationwide economic development.

Held under the theme "Resource Renaissance - Energy-Fueled Growth for a New Generation," SSOP 2026 marks the return of the country's flagship energy investment event at a pivotal moment for the industry. As South Sudan works to maximize the value of its natural resources, strengthen energy and export infrastructure and expand economic opportunities beyond the upstream sector, the conference will serve as a platform for securing the partnerships and investment needed to support long-term industrial growth, energy security and national development.

London to Host the 3rd The Wider African Energy Summit



A panel discussion at a past event.

The Wider African Energy Summit(WAES) will return for its third year in London on 1 and 2 December 2026. Now in its most ambitious edition yet, WAES aim to bring together Africa's energy sector and the international supply chain at a moment of genuine inflexion: capital is returning to African upstream, regulatory reform is opening new markets, and the partnership imperative has never been more urgent. This is not a conference about what might happen.

Every session, every forum and every structured meeting at WAES is designed around a single purpose: the deals, contracts and partnerships that turn African energy potential into production reality.

For operators and NOCs, WAES will provide direct access to the technology providers, service companies and financiers who can execute. The supply chain will have the single most concentrated opportunity to meet the procurement decision-makers who control African upstream spend, while for the financiers, the event will bring bankable projects and the teams delivering them into the same room.



Petroleum Taxes

	Import Duty	Former Rate of Excise Duty Kshs/Litre	Current Rate of Excise Duty Kshs/Litre	VAT	Road Maintn. Levy	Petroleum Devel. Levy Kshs/Litre	Current Rate of Import Decl. Fee	Railway Development Levy	Remission Kshs/Litre	Adulteration Levy Kshs/Litre
Motor Spirit (Gasoline) Regular	-	20.5095	21.5227	8%	25.00	5.40	2.50%	1.50%	0.45	-
Motor Spirit (Gasoline) Premium	-	20.9196	21.9530	8%	25.00	5.40	2.50%	1.50%	0.45	-
Aviation Spirit	-	20.9196	21.9530	8%	-	0.40	2.50%	1.50%	0.45	-
Spirit Type Jet Fuel	-	20.9196	21.9530	8%	-	0.40	2.50%	1.50%	0.45	-
Special Boiling Point & White Spirit	-	8.9378	9.3793	8%	-	-	2.50%	1.50%	0.30	-
Other Light Oils and Preparations	-	8.9378	9.3793	8%	-	-	2.50%	1.50%	0.30	-
Partly refined (including topped crudes)	-	1.5247	1.6000	8%	-	-	2.50%	1.50%	0.30	-
Kerosene type Jet Fuel	-	6.0514	6.3503	8%	-	0.40	2.50%	1.50%	0.45	-
Illuminating Kerosene (IK)	-	10.8357	11.3710	8%	-	0.40	2.50%	1.50%	0.45	18.00
Other Medium oils and preparations	-	5.5730	5.8483	8%	-	0.40	2.50%	1.50%	0.30	-
Gas Oil (automotive, light, amber for high speed engines)	-	10.8357	11.3710	8%	25.00	5.40	2.50%	1.50%	0.30	-
Diesel Oil (ind heavy, black for low speed marine and stationery engines)	-	3.8906	4.0827	8%	-	0.40	2.50%	1.50%	0.30	-
Other Gas Oils	-	6.6245	6.9517	8%	-	0.40	2.50%	1.50%	0.30	-
Liquefied Petroleum Gas (LPG)				0%	-	0.40	Exempt	Exempt	0.30	
Residual Fuel oils 125 cst.	-	0.3155	0.3310	8%	-	0.40	2.50%	1.50%	0.30	-
Residual Fuel oils 180 cst.	-	0.6309	0.6621	8%	-	0.40	2.50%	1.50%	0.30	-
Residual Fuel oils 280 cst.	-	0.6309	0.6621	8%	-	0.40	2.50%	1.50%	0.30	-
Other residual fuels	-	0.6309	0.6621	8%	-	0.40	2.50%	1.50%	0.30	-
Lubricating oils	25%			8%	-	-		1.50%		-
Lubricating greases	25%			8%	-	-		1.50%		-
Batching oils	25%			8%	-	-		1.50%		-
Butanes (Petroleum gases)	-			8%	-	0.40		1.50%		-
Petroleum Bitumen	10%			8%	-	0.40		1.50%		-
Bituminous or oil shale and tar sands	10%			8%	-	0.40		1.50%		-
Bituminous mixures	10%			8%	-	0.40		1.50%		-

Pursuant to the Finance Act 2023, the value Added Tax (VAT) on Super Petrol (PMS) Diesel (AGO) and Kerosene (IK) have been revised from 8% to 16% effective 1st July 2023

The Finance Act of 2023 amended the Miscellaneous Fees and Levies Act of 2016 to reduce IDF from 3.5 percent to 2.5 percent and RDL from 2.0 percent to 1.5 percent

Reinstatement of Zero VAT rate on Liquefied Petroleum Gas (LPG) as well exemption from charges of IDF and RDL fees took effect following the Finance Act 2023 in on the 1st of July 2023.

Energy and Petroleum Cabinet Secretary Davis Chirchir on February 15, 2024 published the Energy (Energy and Petroleum Regulatory Authority Petroleum Levy) Regulations, 2024 giving effect to an

increase of the **Petroleum Regulatory Levy to Sh0.75 per litre up from Sh0.25**

On July 14, 2024, EPRA announced an increase in the RML from Sh18 to Sh25 per litre.

Pursuant to Legal Notice No. 70 dated 15th April 2026, the Cabinet Secretary for National Treasury has revised the Value Added Tax rate from 13% to 8%.

The Government has extended the application of the reduced 8% Value Added Tax (VAT) rate on petroleum products for a further three months, from 15 July 2026 to 14 October 2026, pursuant to Legal Notice No. 128 of 2026



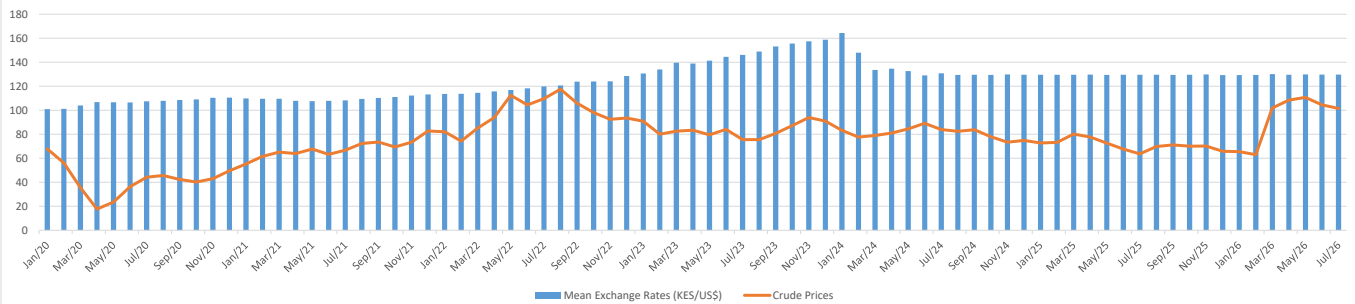
Crude Oil Price Trend

Month / Year	Dec/23	Jan/24	Feb/24	Mar/24	Apr/24	May/24	Jun/24	Jul/24	Aug/24	Sep/24	Oct/24	Nov/24
Mean Exchange Rates (KES/US\$)	158.81	164.42	148.02	133.54	134.63	132.72	129.06	130.83	129.42	129.61	129.49	129.88
Crude Prices	91.00	83.32	77.68	79.06	80.99	84.52	89.14	83.93	82.52	83.8	77.94	73.41

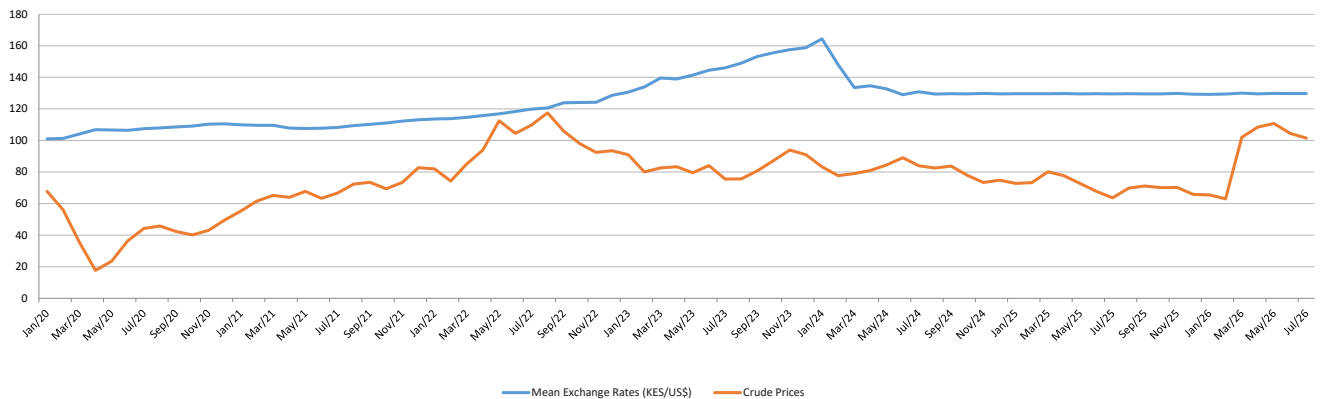
Month / Year	Dec/24	Jan/25	Feb/25	Mar/25	Apr/25	May/25	Jun/25	Jul/25	Aug/25	Sep/25	Oct/25	Nov/25
Mean Exchange Rates (KES/US\$)	129.58	129.61	129.64	129.66	129.78	129.52	129.62	129.58	129.62	129.52	129.54	129.81
Crude Prices	74.87	72.81	73.28	80.22	77.62	72.63	67.73	63.62	69.81	71.12	70.10	70.22

Month / Year	Dec/25	Jan/26	Feb/26	Mar/26	Apr/26	May/26	Jun/26	Jul/26
Mean Exchange Rates (KES/US\$)	129.28	129.27	129.44	130.08	129.56	129.82	129.72	129.74
Crude Prices	65.79	65.53	63.06	102	108.5	110.75	104.44	101.48

USD/KSHS and CRUDE OIL TREND



USD/KSHS and CRUDE OIL TREND



NOTE:

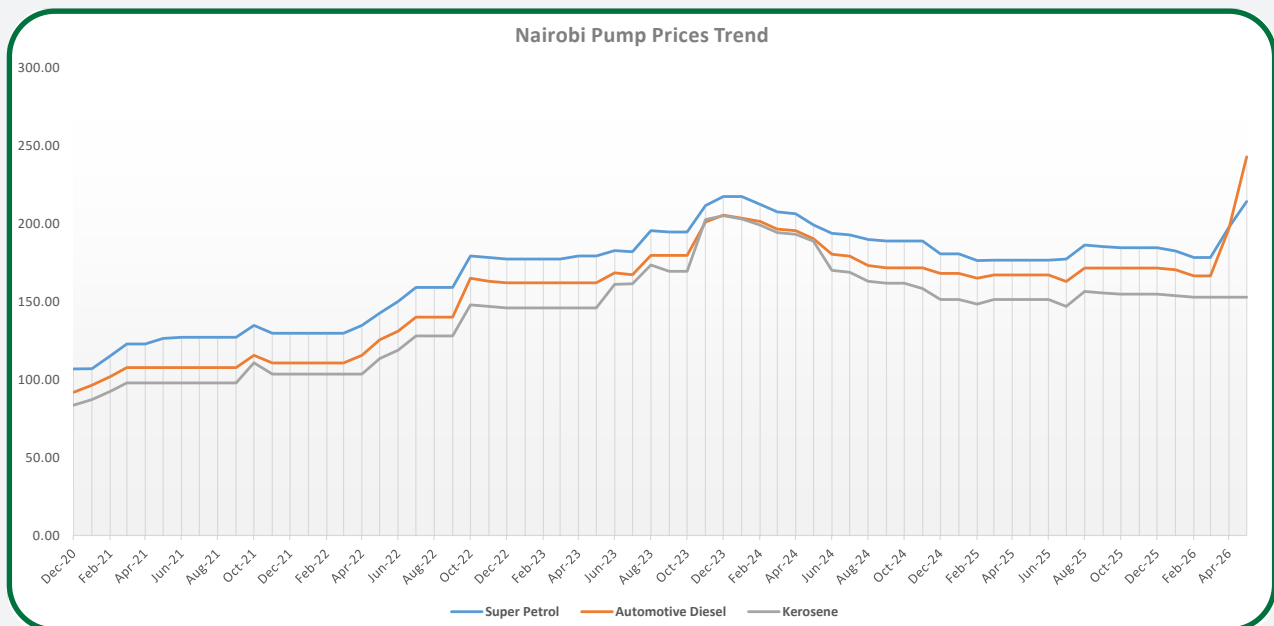
Murban crude oil prices for March-July 2026 are estimated based on prevailing international crude oil market trends and available market data, pending publication of official monthly averages by EPRA.



Pump Prices

PRODUCT	MOMBASA	NAIROBI	NAKURU	ELDORET	KISUMU
Maximum pump prices (15th August 2026 to 14th September 2026)					
Super Petrol	210.87	214.03	212.92	213.69	213.69
Automotive Diesel	214.58	217.86	217.27	218.09	218.08
Kerosene	188.09	191.38	190.81	191.63	191.63
Maximum pump prices (15th July 2026 to 14th August 2026)					
Super Petrol	210.87	214.03	212.92	213.69	213.69
Automotive Diesel	219.58	222.86	222.27	223.09	223.08
Kerosene	188.09	191.38	190.81	191.63	191.63
Maximum pump prices (15th June 2026 to 14th July 2026)					
Super Petrol	210.87	214.03	212.92	213.69	213.69
Automotive Diesel	219.58	222.86	222.27	223.09	223.08
Kerosene	188.09	191.38	190.81	191.63	191.63
Maximum pump prices (15th May 2026 to 14th June 2026)					
Super Petrol	211.09	214.25	213.15	213.92	213.91
Automotive Diesel	239.64	242.92	242.33	243.15	243.14
Kerosene	149.49	152.78	152.21	153.03	153.03
Maximum pump prices (16th April 2026 to 14th May 2026)					
Super Petrol	194.32	197.60	196.66	197.48	197.48
Automotive Diesel	193.35	196.63	196.04	196.86	196.85
Kerosene	149.49	152.78	152.21	153.03	153.03

PRODUCT	MOMBASA	NAIROBI	NAKURU	ELDORET	KISUMU
Maximum pump prices (15th March 2026 to 14th April 2026)					
Super Petrol	175.00	178.28	177.34	178.16	178.16
Automotive Diesel	163.26	166.54	165.95	166.77	166.76
Kerosene	149.49	152.78	152.21	153.03	153.03
Maximum pump prices (15th February 2026 to 14th March 2026)					
Super Petrol	175.00	178.28	177.34	178.16	178.16
Automotive Diesel	163.26	166.54	165.95	166.77	166.76
Kerosene	149.49	152.78	152.21	153.03	153.03
Maximum pump prices (15th January 2026 to 14th February 2026)					
Super Petrol	179.24	182.52	181.56	182.38	182.37
Automotive Diesel	167.19	170.47	169.87	170.68	170.68
Kerosene	150.49	153.78	153.21	154.03	154.03
Maximum pump prices (15th December 2025 to 14th January 2026)					
Super Petrol	181.24	184.52	183.56	184.38	184.37
Automotive Diesel	168.19	171.47	170.87	171.68	171.68
Kerosene	151.49	154.78	154.21	155.03	155.03
Maximum pump prices (15th October 2025 to 14th November 2025)					
Super Petrol	181.24	184.52	183.56	184.38	184.37
Automotive Diesel	168.19	171.47	170.87	171.68	171.68
Kerosene	151.49	154.78	154.21	155.03	155.03



- a) In accordance with Section 101(y) of the Petroleum Act 2019 and Legal Notice No. 192 of 2022, after taking into account the weighted average cost of imported refined petroleum products, the Energy and Petroleum Regulatory Authority (EPRA) calculated the maximum allowed petroleum products pump prices.

NOTES In the period under review (15th August to 14th September 2026), the maximum allowed petroleum pump prices for **Diesel decreased by KShs.5.00** per litre while the price of **Super Petrol and Kerosene remain unchanged** due to additional Government Stabilization Support Measures of KShs.938 million.

The prices are inclusive of the Value Added Tax (VAT), in line with the VAT Act, 2013, the Finance Act, 2023, the Tax Laws (Amendment) Act 2024 and the revised rates for excise duty adjusted for inflation as per Legal Notice No. 194 of 2020.

The Authority calculated the prices basis **8% VAT on petroleum products** pursuant to Legal Notice No.70 dated 15th April 2026.

Followed by an extension of the application of the reduced 8% Value Added Tax (VAT) rate on petroleum products for a further three months, from 15 July 2026 to 14 October 2026, pursuant to Legal Notice No. 128 of 2026.

In the period under review (15th July to 14th August 2026), the maximum allowed petroleum pump prices for **Super Petrol and Diesel remained unchanged** from the previous 15th June to 14th July 2026 period.

In the period under review (15th June to 14th July 2026), the maximum allowed petroleum pump prices for **Super Petrol and Diesel decreased by Kshs. 0.22/litre and Kshs. 10.00/litre respectively** while the price of **Kerosene** remained unchanged from the previous 15th May to 14th June 2026 period.



EPRA Petroleum Prices

*"Breakdown of the costs of Super Petrol (PMS), Diesel (AGO) and Kerosene (DPK) in Nairobi:
15th August 2026 to 14th September 2026"*

Cost Item	Cost Description	Super Petrol	Diesel	Kerosene
		Kshs/Litre	Kshs/Litre	Kshs/Litre
Landed Cost (a)	Weighted average cost for all imports	123.87	111.08	118.46
Pipeline Transport (Msa - Nrb)	Pipeline (100% PMS, AGO & IK)	2.87	2.87	2.87
Road Transport (Msa-Nrb) - Bridging	Road (0% PMS, AGO & IK)	0.00	0.00	0.00
Pipeline Losses	Pipeline (0.25%)	0.01	0.01	0.01
Depot Losses	0.5% PMS, 0.3% For DPK & AGO)	0.91	0.48	0.46
Delivery within 40kms of Nairobi	Delivery to petrol stations	1.18	1.18	1.18
Storage and distribution (b)		4.97	4.54	4.52
Supplier Margins (C)		19.55	19.47	19.40
Price Stabilization Surplus/(Deficit) (d)		-8.64	19.28	-0.89
Excise Duty	Tax	21.95	11.37	11.37
Road Maintenance Levy	Levy	25.00	25.00	0.00
Petroleum Development Levy	Levy	5.40	5.40	0.40
Petroleum Regulatory Levy	Levy	0.75	0.75	0.75
Railway Development Levy	Levy	2.35	2.13	2.30
Anti-adulteration Levy	Levy	0.00	0.00	18.00
Merchant Shipping Levy	Levy	0.03	0.03	0.03
Import Declaration Fee	Levy	2.94	2.67	2.87
Value Added Tax (VAT)	Tax	15.86	16.14	14.18
Taxes and Levies (d)		74.29	63.50	49.90
Retail Prices in Nairobi (a) + (b) + (c) + (d)		214.03	217.86	191.38

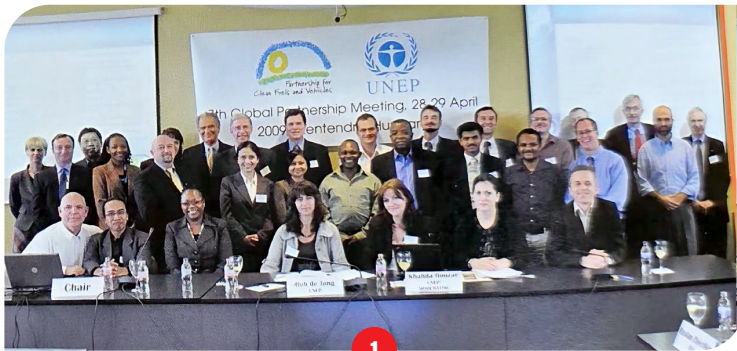
Summary	Super Petrol	Diesel	Kerosene
	KShs/Litre	KShs/Litre	KShs/Litre
Product Costs (a)	123.87	111.08	118.46
Distribution and Storage Costs (b)	4.97	4.54	4.52
Margins (c)	19.55	19.47	19.40
Price Stabilization Surplus/(Deficit) (d)	-8.64	19.28	-0.89
Taxes and Levies (e)	74.29	63.50	49.90
Retail Prices in Nairobi	214.03	217.86	191.38

SOURCE: EPRA

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1

1. 2009: Participants of the Partnership for Clean Fuels and Vehicles 7th Global Partnership meeting in Budapest, April 2009.
2. 2009: Richard Jory, General Manager Shell Aviation for Middle East, Africa, Central and South Asia with Ermet Erdem Country Chairman Kenya Shell at the launch of new aviation lubricant, Aero Shell Turbine Oil (ASTO 500). The new Kenya Shell Aviation offices at Wilson Airport were also opened on the same day.
3. 2009: East African Breweries Foundation Manager Jean Ngumo (left) and Chevron's Retail and Merchandise Coordinator, Sitoyo Lopokoioit (right), watch a pump attendant fill up a car during the unveiling of a Road Safety Partnership campaign between the two companies.



2



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