

The Fueling MAGAZINE

Energy on the Move

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Issue 5 Volume 5



AI



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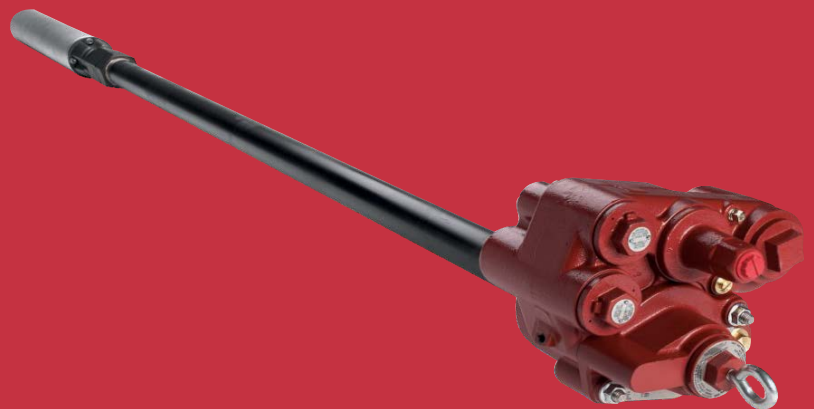
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WORD



FORE



John Njogu

CEO & National Coordinator, Petroleum Outlets Association of Kenya

The long awaited AfriFueling Expo 2025 which brings together all players in the region's thriving fueling industry is finally here.

The event is coming as a new era dawns on the industry globally defined by a more conscious consumer. In Kenya and the larger East Africa's fueling supply chain - LPG, CNG, biofuels and electricity are increasingly taking their share of the mobility space. The traditional petroleum sector, which has grown impressively since the mid-20th century, now finds itself at a pivotal juncture.

The change is driven by a new type of customer. One who is more conscious of existential issues like climate change and the impact of our collective actions and behaviours to the environment. Sustainability has also moved to the heart of every conversation with every well-meaning person concerned with how they use resources and whether they shall leave a better world for the next generation or one depleted and uninhabitable.

The traditional fueling industry has for all intents and purposes served reliably. For instance, since the first fuel station after Kenya's independence opened in 1966, the sector has grown to a documented 4,800 plus stations in 59 years. During this time, the supporting infrastructure has been continuously built and improved to meet new demands of a growing economy.

Growth that once used to be powered by only multinational companies has morphed to include more indigenous companies. The country now has a healthy mix of multinational, regional, and national brands serving across the region.

However, winds of change have been blowing on all sectors of the economy driven by environmental, social, geopolitical and technological factors and the fueling sector has not been spared. For example, during COP 21 in 2015, Kenya committed to cut 32% of greenhouse emissions by 2030. This was followed by a raft of policy changes and plans like the National Adaptation Plan (NAP) 2015 and Energy Transition & Investment Plan (ETIP) 2023. The plans look at how to substitute fossil fuels with alternatives that are sustainable and preserve our environment.

This has opened a door for e-mobility and the possibility of LPG as a transport fuel. Both of these alternatives have been tested here in Kenya and neighbouring East Africa countries. For example, the public transport services piloted the use of EV buses in commuter routes and it has been a resounding success. The Matatu Owners Association (MOA) who are partners at the Afrifueling Expo 2025 are driving this adoption with a further demand of electrifying 5% their fleet which translates to a total of 10,000 units in 5 - 7 years.

The 2 wheeler and 3 wheeler segment is also one that is undergoing a rapid transformation. With breakthroughs in battery swapping technologies, we have seen a surge in adoption and one can see swapping stations units in different service stations. The Tuk Tuk Network Association are also partners at the expo and are supporting their members to acquire EV bikes and rickshaws.

Kenya adopted Liquid Petroleum Gas (LPG) as a transition fuel primarily for clean cooking but it soon found a solid user base in the transport sector. Due to its pocket friendly prices, fleet users such as taxi services quickly adopted it. With over 20 Autogas

stations in Nairobi alone, the demand for it is growing and new technologies are supporting 3 wheelers (Tuk Tuks) to upgrade their engines to use LPG as well. This is also the case in Tanzania, where the country has abundant Compressed Natural Gas (CNG) and now has put policies in place to create a transport ecosystem that is powered by the gas.

All these changes demand that new technologies are adopted by the fueling supply chain. From new types of equipment, to completely new thinking in engineering, design and construction. We are going to see the rise of hybrid stations, which sell molecules on one side and electrons on the other. In addition, the Health, Safety, Environment and Quality standards (HSEQ) will need to become more prominent and inform on the innovations required to drive the fueling sector forward.

This is the whole essence of the Afrifueling Expo - to create a platform where the industry can launch the next phase of fueling in Africa. It is more than an event, but a convergence of supply and demand ,and the technologies that power it. On May 6 – 8 at Sarit Center Nairobi, we shall connect, engage and discover so that we can face the future more boldly as an industry.

The writer is the CEO, Petroleum Outlets Association of Kenya & also the Convener, Afrifueling Expo 2025. Email; njogu@poak.co.ke

“In Kenya and the larger East Africa’s fueling supply chain – LPG, CNG, biofuels and electricity are increasingly taking their share of the mobility space. The traditional petroleum sector, which has grown impressively since the mid-20th century, now finds itself at a pivotal juncture.”

Fueling a New Future

The Petrol Brand Customer Experience Awards



By James Ngomeli

Chief Energizing Officer, Brands and Beyond Ltd

Every petrol station in Kenya carries a powerful story—journeys initiated, businesses uplifted, and dreams ignited. With over 4,000 stations across bustling Nairobi and the heart of rural communities, the fuel retail sector significantly impacts millions daily. Yet, we face challenges like

soaring fuel prices, inconsistent service, and facilities that need improvement.

The Petrol Brand Customer Experience Awards represent a bold movement for transformation. This initiative is reshaping the fuel retail narrative in Kenya, aiming to uplift standards, celebrate excellence, and inspire a sector that genuinely meets the needs of all Kenyans. Every customer deserves more than just fuel; you deserve warm service, clean environments, fair pricing, easy access, and a variety of conveniences that enhance your experience.

We invite every Kenyan to participate in this transformation through a straightforward 1–5 star rating system. Your voice and experiences are essential in driving the change we all desire.

Stations will be evaluated on what truly matters to you. Friendly Customer Service will shine a light on those places where staff genuinely care. Appearance and Cleanliness will reward stations committed to high hygiene and comfort standards. Fuel Prices and Affordability will focus on those providing fair value, even during tough times. Convenience and Accessibility will recognise stations that simplify your life with optimal locations and speedy service. Lastly, the Range of Products and Facilities will highlight stations beyond fuel to offer snacks, car services, mobile money, and more.

These awards are a call to action. Every participating station will gain invaluable insights into customer experience. Detailed feedback and benchmarks will empower operators to recognise their strengths and

identify areas for improvement, creating a clear path for growth. This effort is about building lasting relationships with loyal customers like you.

Moreover, this initiative presents significant opportunities for brands, sponsors, and technology partners to join a movement that revitalises the industry. The insights collected will be compiled and shared in anonymised reports, equipping businesses with valuable knowledge about customer preferences, regional trends, and innovation possibilities. This information is crucial for any company committed to growth in Kenya's energy, retail, or service sectors.

Importantly, the awards align with national regulatory goals. Kenya's Energy and Petroleum Regulatory Authority (EPRA) is dedicated to ensuring quality, safety, and fair competition. By promoting compliance and rewarding high standards, the Petrol Brand Customer Experience Awards will elevate the entire sector, creating a safer, more trustworthy, and customer-centred environment.

These awards mark the beginning of a new era. Every comment, score, and station evaluation contributes to a stronger fuel retail landscape. Stations are inspired to invest in staff training, enhance cleanliness, adjust pricing, introduce new products, and expand services. The impact transcends the awards ceremony; it lays the groundwork for an industry where customers feel valued, operators flourish, and our nation progresses together.

This is an invitation to be part of something transformative. Your involvement is vital, whether you are a customer, a station owner, a brand partner, or a regulator. Let's celebrate the achievements, tackle the challenges, and create opportunities that drive Kenya toward a brighter future for all.





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Sustainability in the Fueling Industry

AN OBSTACLE OR OPPORTUNITY?

Susan Wacuka



Supply & Trading, National Oil Corporation of Kenya

Climate change – once an unwelcome topic within the fueling industry - has now become a driving force shaping the industry's future. In many instances, the SDG (sustainable development goal) most related to the fueling and energy sector by sustainability enthusiasts is climate change. Science has associated climate change with the buildup of greenhouse gases, especially carbon dioxide, methane, and nitrous oxide, in the atmosphere. These emissions mainly result from burning fossil fuels alongside other like industrial activities, deforestation, and agriculture.

However, it is paramount to remember that the industry's greatest contribution to the SDGs is goal seven - ensuring access to affordable, reliable, sustainable and modern energy for all. The ongoing rebranding from conventional petrol and oil to 'energy' is a purposeful redefinition of identity.

While climate change remains a crucial aspect of sustainability in the fueling industry, true sustainability

requires a balanced and holistic perspective.

Q: What then is sustainability?

A:

Sustainability is the practice of meeting present needs without compromising future generations, balancing environmental, social, and economic goals, easier remembered as the “3Ps” – people, planet, profit. ESG (Environmental, Social, Governance) focuses on responsible business practices, while climate change specifically addresses global warming impacts. Sustainability involves integrating ESG considerations in business or enterprises to promote long-term resilience.

This conversation that sparked hesitation in earlier years is now an opportunity for transformation for those within and outside the sector. It is an opportunity to lead the way toward a more sustainable energy future while doing what we do best – fueling Africa.

Key drivers will shape sustainability considerations in the fueling industry, including:

i. Sectoral Interconnectedness

There are intra- and cross-sector linkages and interactions within the fueling industry from producers, oil marketers, retailers, regulators, logistics and technology providers. Energy production influences agriculture, manufacturing, transportation and health, to name a few. There are intricate functional and economic dependencies in a country hence the discussion should not be approached in silos. Energy serves as a foundational pillar of globalisation, with the sector contributing significantly to global GDP and employment impact in whether in energy production or distribution.

In a bid to manage the industry's negative association with global warming, the interconnectedness of the value chain has often been overlooked. Life cycle analysis (LCA)—a critical tool for assessing the ESG impacts of technologies from cradle to grave—

addresses the one-dimensional approach. Life cycle analysis (LCA), supported by robust policymaking, will ensure that the Net Zero transition enhances Global South prosperity. The goal is to prioritise better sourcing, innovation, and stewardship rather than blanket bans, as financing constraints, infrastructure gaps, and regional development are crucial considerations.

ii. Climate Action

Climate action involves mitigation and adaptation. Climate mitigation refers to actions taken to reduce or prevent the emission of greenhouse gases, intending to limit global warming. Closely related, climate adaptation initiatives refer to the adjustments made to social, economic, and environmental practices to cope with the impacts of climate change, e.g. rising sea levels, extreme weather events like flooding.

In the context of the African fueling industry, some of the mitigation and adaptation initiatives include

- »Renewable Energy Integration. There is an increase in solar-powered fuel stations and depots to lower operational emissions. The fueling industry is also integrating the shift to cleaner alternatives with electric and auto gas vehicles, which offer low-emission transportation options. In Kenya a number of industry players are actively transforming the traditional petrol station to multi-faceted energy and convenience hubs.
- »Resilient Infrastructure – Invest in resilient infrastructure in design to achieve flood-resistant stations which may include climate-proofed storage tanks in conjunction with other storm water management considerations.
- »Water & Waste Management. Advanced oil-water separation and spill prevention systems to protect water resources ---welcome innovations from manufacturers. A growing cross-cutting Circular economy approach (e.g., recycling lubricants, plastic waste from fuel packaging).
- »Emerging technologies
- Emission Controls. Emerging advancements in carbon capture and storage (CCS) technologies present a viable pathway to mitigate emissions from existing energy infrastructure. Continued innovation will be essential to scale these

solutions effectively and achieve meaningful emissions reductions. While nature-based approaches like afforestation play a critical role, their capacity is limited, making CCS a necessary complement in the transition to a lower-carbon future.

- IoT and AI-driven systems for real-time emission tracking and fuel leakage detection. Use of predictive analytics to anticipate supply chain or demand side disruptions with the multiplication of data professionals and tools.

Achieving effective climate mitigation requires a collaborative effort between governments, fueling enterprises, capital providers and consumers, alongside strong policies that incentivise sustainable practices and technologies. Adaptation will also involve developing contingency plans for disruptions in the supply chain. Ultimately, transforming the fueling industry is essential to combating climate change and securing a sustainable future for generations to come.

“Things that have never happened before happen all the time.” – This statement made by professor Scott Sagan should inspire the African fueling industry to embrace innovation and technology, improve operational efficiency, reduce vulnerabilities, hence meet the evolving energy demands.

iii. ESG Compliance

Enterprises globally are increasingly urged to integrate sustainability reporting with financial reporting. Financial reporting has traditionally focused on investor concerns, narrowing in on issues that could affect a company's bottom line, known as financial materiality. However, non-investor stakeholder groups have increasingly pressured companies to report on their environmental, economic, and social impacts (impact materiality). This has led to the double materiality concept, which considers both how sustainability issues affect companies and how companies' operations impact the environment and society at large.

To safeguard their social license to operate, many leading energy companies have embraced voluntary sustainability reporting through globally recognized reporting frameworks such as Global Reporting Initiative (GRI), and the IFRS Sustainability Disclosure Standards (incorporating SASB, CDP and Integrated Reporting), alongside commitments like

the UN Global Compact and strategic alignment with the SDGs. Sustainability reporting serves two critical functions: First, it fosters meaningful engagement with stakeholders, including advocacy groups, policymakers, and regulators, by providing transparency. Second, it enables businesses to build trust and demonstrate their competitive edge to customers, suppliers, and investors. Reporting will hence enable businesses to proactively manage risks and unlock new growth opportunities.

While most guidelines are voluntary, there is an emerging trend of governments legislating ESG disclosures, such as the EU's Corporate Sustainability Reporting Directive (CSRD) for listed companies. Such requirements have a cascading effect, as upstream and downstream business relationships become part of the reporting entity's value chain. Governments will continue shaping the sustainability landscape through policy creation, incentivising sustainable business practices and innovations. Closer home, Kenya's National Energy and Petroleum Policies 2025 – 2034 commit to developing sustainability frameworks and guidelines for the sector operations. Companies should expect strengthened enforcement mechanisms to ensure ESG compliance. Sustainability shapes strategy, execution, and every link in the value chain, from supplier partnerships to final consumer engagement. A forward-looking sustainability strategy unifies critical priorities—climate action, safety, energy efficiency, circular waste systems, ethical governance, local content development, data management, and inclusive growth—while enhancing long-term economic resilience.

Seizing Tomorrow's Opportunities

- Collective action by the fueling industry companies, suppliers, and policymakers will accelerate the mitigation of climate change impacts while advancing sustainable, timely development. Beyond mere compliance, companies in the fueling sector must proactively integrate sustainability into their business strategies and operations to gain a competitive edge. While sustainability investment may include capacity and infrastructure expenditure, the SROI (Sustainability Return on Investment) in increased sales, cost savings and risk reduction is scarcely disputable. IoT and AI-driven systems for real-time emission tracking and fuel leakage detection. Use of predictive analytics to anticipate

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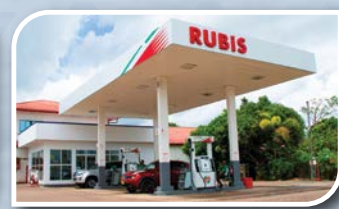
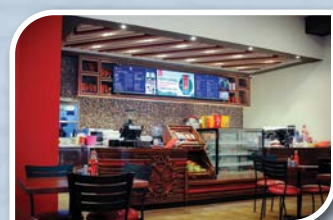
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AFRICA'S E-MOBILITY ECOSYSTEM IN THE WAKE OF TRUMP'S TRADE WARS

Dr. Jackson K. Koimbori



Head of KEPSA Consult | Senior Circular Economy and Climate Change Coordinator

In a world where global politics and economic policy continuously shape the fate of industries, Africa is quietly forging its path toward a greener, smarter, and more resilient future. Headlines are swirling around the resurgence of Trump-era trade wars, marked by aggressive tariffs and disrupted global supply chains. The surge in U.S. protectionist policies has created shockwaves across the global economy. African nations, which have depended on open trade, foreign investment, and international markets for goods and services, are feeling the impact. Yet instead of buckling under pressure, the continent is taking an assertive pivot.

A new strategy is taking root across Africa—one that leverages homegrown solutions to tackle global disruptions and local development goals. Electrified transportation has emerged as one of the most

promising paths forward, offering African economies a rare opportunity to leapfrog outdated fossil fuel infrastructure and design a future-ready, clean, and inclusive mobility ecosystem. The movement speaks not just to transportation reform but to broader themes of climate resilience, job creation, and economic sovereignty across the continent.

Change is increasingly visible in urban centres across Kenya, Rwanda, Nigeria, Uganda, and beyond. Two and three-wheeled electric motorcycles and tuk-tuks are commonplace on city roads and peri-urban routes. These vehicles are more affordable than their petrol-powered counterparts and boast significantly lower maintenance costs, making them an ideal fit for the African context. Meanwhile, four-wheeled electric vehicles, including private cars and commercial fleets, are gaining traction, especially within ride-hailing services that are beginning to transition toward electric options. Local startups are capitalising on this demand by assembling, importing, and distributing electric vehicles while simultaneously creating localised employment opportunities.

National policy frameworks are aligning to support this shift. Kenya's E-Mobility Plan, for instance, provides a forward-looking blueprint to accelerate electric vehicle adoption through regulatory reforms, fiscal incentives, and infrastructure development. These initiatives reflect a growing realisation among African governments that sustainable transport is an environmental imperative and a strategic economic opportunity.

Electric buses are revolutionising public transport in cities like Nairobi and Kigali. They are powered by a variety of technologies, including Battery Electric Vehicles (BEVs), Plug-in Hybrid Electric Vehicles (PHEVs), Hybrid Electric Vehicles (HEVs), and even Liquefied Petroleum Gas (LPG) in so much as

they begin to reshape supply chains across the region. These vehicles offer substantial long-term savings on fuel and maintenance while also significantly reducing urban air pollution and greenhouse gas emissions. The economic rationale is becoming undeniable for public and private sector fleet operators.

The e-mobility sector is emerging as a robust driver of employment, with potential impacts rippling across multiple value chains. The opportunities are vast, from vehicle assembly and battery production to charging station installation, recycling, software development, and maintenance. Recent studies suggest that Africa's e-mobility ecosystem could generate up to 3.3 million green jobs by 2030. What's especially promising is the inclusive nature of this job creation—it spans both rural and urban areas, engaging youth, women, and marginalised groups in technical, administrative, and policy-oriented roles. This people-centred transformation is fostering empowerment through innovation and skill development.

Financing this shift remains a critical challenge, but Africa is proving resourceful. African nations are unlocking access to climate finance mechanisms and carbon markets by capitalising on emissions reductions linked to electric vehicle adoption. Instruments such as green bonds and carbon credits enable governments and private companies to raise the capital needed to build infrastructure, fund research, and incentivise early adopters. Organisations like the Africa E-Mobility Alliance support this transition by fostering partnerships, facilitating knowledge exchange, and guiding investment decisions.

In Kenya, the Kenya Private Sector Alliance (KEPSA) which is the apex body of the private sector in Kenya

with over 2 million members and 45 million members through the International Chamber of Commerce the Kenyan Chapter is at the forefront, working with businesses and government institutions to integrate sustainability, drive innovation, and build public-private coalitions that ensure the e-mobility transition is both inclusive and commercially viable.

National roadmaps like Kenya's "Roadmap to e-Mobility" provide a clear direction for coordinated action. These strategies focus on expanding the charging infrastructure, offering tax incentives, enhancing regulatory clarity, and encouraging private-sector innovation. As solar and wind energy become more accessible across Africa, the synergy between clean electricity and electric transport further strengthens Africa's case for leadership in the global sustainability space.

This transition isn't just about cleaner vehicles, it represents a broader shift toward energy independence, economic resilience, and technological advancement. In a global environment increasingly marked by fossil fuel volatility, supply chain instability, and geopolitical tensions, Africa is presenting a powerful alternative narrative. The continent is not merely responding to external shocks, it is proactively crafting a future rooted in cooperation, sustainability, and continental pride.

Africa isn't waiting for permission to lead. It is already setting the pace. The quiet hum of electric engines on African streets is more than a technical shift—it is a symbol of self-determination, of a people and a region boldly choosing progress on its terms. The road ahead may be long, but Africa is not only moving—it's accelerating.

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Matatus

The Pulse of Kenya

Matatus are more than simple vehicles along Kenya's bustling highways; they are lifelines that connect millions to work, school, markets, and healthcare. These vibrant highway emblems demonstrate our persistence and resourcefulness. However, behind the engine's roar lurks a new challenge: how do we transport passengers without harming the future?

To guarantee that Kenya's PSV industry doesn't fall behind as the world moves toward greener

alternatives, the Matatu Owners Association (MOA) is taking decisive action through our comprehensive clean energy strategy, which aims to turn the industry into a sustainable, low-emission mobility model.

Clean Energy Today

Why it's Important

Transport is one of the world's most polluting sectors. According to the International Energy Agency (IEA), more than 15% of CO₂ emissions worldwide result from motor vehicle usage. In Kenya, this is exacerbated by a rapid increase in the number of vehicles, with Public Service Vehicles (PSVs), particularly older diesel units, making a substantial contribution to air pollution in cities. A 2022 UNEP research states that transport emissions are a major contributor to Nairobi's air pollution, which significantly surpasses the WHO safety guidelines.

"MOA recognizes that we must lead the change for a cleaner, smarter, and more sustainable public transport"

MOA's 3

Track Strategy for a Cleaner Future

Recognizing that change must be inclusive, scalable, and practical, we are adopting a three-pronged strategy for clean energy integration.

Electric Mobility

Electric vehicle (EV) manufacturers such as Roam Motors, BasiGo, and Opibus introduced electric matatus and buses to Kenya's PSV sector. To find alternatives to those currently supplied through leasing and pay-as-you-drive models, industry

participants are actively working to increase the use of EV units within SACCOs. As we embrace the transition to EV choices, we strive to raise awareness among owners and drivers. Sadly, the high cost of procuring EV units impedes the integration's success.

Why it matters

User reports indicate that the electric buses in service in Kenya are saving up to 40% on operational costs. This change proves beneficial to PSV investors who aim to strike a balance between financial gain and environmental responsibility.

Embracing Euro 4 Standards for Cleaner Combustion

MOA champions the transition to cleaner fuel engines even as EV adoption rises. Through collaboration with partners like TATA Africa Holdings and GB Auto, we encourage members to consider Euro 4-compliant units that produce fewer nitrogen oxides and particulate matter than older engines.

Our Goal is to replace aging diesel fleets with cleaner, more efficient combustion vehicles.

Forging Powerful Partnerships

The evolution of sustainable energy requires cooperation. MOA seeks policy and regulatory support from the National Transport and Safety Authority (NTSA) and the Ministry of Transport. To further succeed in this initiative, there's a need for funding and technical assistance

from development partners, including UNEP, USAID, and GGGI. Banks and asset financiers should also offer inexpensive financing options for clean vehicles. To facilitate the rapid adoption of cleaner solutions in Kenya, bus manufacturers, particularly EV bus manufacturers, should consider reducing the price of EV buses.

LPG technology providers and petroleum corporations also contribute by promoting conversions and expanding infrastructure for greener fuels. Partnering with vehicle manufacturers is essential to embrace Euro 4 engine standards and make environmentally friendly solutions more accessible to our members.

"This transition must be affordable and accessible to every PSV owner—from Nairobi to Isiolo"

MOA is not only catching up in its pursuit of sector-wide thought leadership and innovation; we are leading it. A Clean Mobility Taskforce was formed to coordinate research and policy advocacy as part of our clean energy strategy. Through platforms like the Afrifueling Expo, we intend to share our learnings and partner with innovators across the region.

Looking Forward to Greener Roads Ahead

"The clean energy transition is not a trend—it's our responsibility. And we are proud to lead the charge."

As Kenya's matatu sector evolves, we welcome investors to assist Kenyans in adopting clean technology. We urge manufacturers to collaborate with sector players to develop environmentally friendly vehicles suitable for the local market and urge legislators to streamline laws that promote clean energy. More PSV owners and SACCOs should join us in exploring these new frontiers.

The journey may not be easy, but it is one that we must undertake. We are decreasing pollution, safeguarding health, and futureproofing our industry with each collaboration, updated engine, and matatu conversion to cleaner fuel.

For us at MOA, it's more than just clean air. It's about creating good jobs and increasing profitability for PSV investors while creating safer, healthier cities for all.

Together, let's drive towards a greener, cleaner, and more efficient future.

Contact Us

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Follow us on:
Facebook: Matatu Owners Association
X: @MOA_Reloaded



Revolutionising Business in East Africa's Energy Sector

Jesse Muniu



Petropal Africa

In 2003, Jeff Bezos delivered a TED Talk that drew a compelling parallel between artificial intelligence (AI) and transformative technologies like the internet and electricity. He highlighted how these innovations revolutionised industries and daily life, reshaping the world as we know it. Today, AI stands at a similar inflexion point, poised to redefine how businesses operate, particularly in energy sectors. In East Africa, where the energy sector is a critical driver of economic growth, AI's potential to enhance efficiency, reduce costs, and foster innovation is revolutionary.

AI in the Downstream Oil Industry

In the downstream oil sector, AI's potential is significant. Supply chain operations, which typically face challenges like stock-outs or overstocking, can be optimised with AI-driven just-in-time ordering, ensuring fuel availability without excess inventory costs. Equipment maintenance, a constant challenge, benefits from AI's predictive capabilities; by analysing downtime patterns, it flags issues before they escalate, slashing repair costs and operational disruptions.

Customer engagement, too, can get a boost — AI can personalise loyalty programs, tailoring rewards to individual preferences and driving retention.

Operational losses posing challenges in the petroleum sector can be curbed as AI enhances existing technologies. Automated tank gauging systems, for instance, become more precise with AI, reducing discrepancies in fuel measurement. Similarly, 3d laser scanning of tanks, used to assess capacity and integrity, gains accuracy and speed when paired with AI algorithms.

These are just a few examples however, the successful integration of AI requires robust infrastructure. Electricity powers devices, and AI relies on digital infrastructure to function effectively. Investing in this infrastructure is crucial to unlocking AI's full potential.

AI impact on businesses

The integration of AI into business processes offers several advantages:

- 1. Automation of Repetitive Tasks:** AI can handle routine, repetitive tasks, freeing employees to focus on strategic, value-added activities.
- 2. Enhanced Decision-Making:** By analysing vast datasets, AI provides actionable insights that inform better business decisions.
- 3. 24/7 Availability:** AI-driven systems can operate continuously without fatigue, ensuring consistent performance.
- 4. Reduced Errors:** AI minimises human errors, leading to improved accuracy and reliability.

These benefits are particularly relevant in the energy sector, where operational efficiency and precision are paramount.

Petropal's Commitment to AI Integration

At Petropal, we are diligently laying the groundwork for this AI revolution. Our forecourt management system, Petrosoft, utilises AI to analyse daily data, identify trends, and promptly detect issues. Additionally, our collaboration with Zydii leverages

AI to translate digital learning materials into over 40 African languages and can create conversational chatbots trained on company manuals to address queries. Through Mzawadi, we are employing Optical Character Recognition (OCR) powered by AI to read and interpret dispenser pump readings, automating the issuance of loyalty points and eliminating manual entries.

AI is not just a technological advancement; it is a paradigm shift that will redefine how businesses operate. In East Africa's energy sector, AI offers unparalleled opportunities to enhance efficiency, reduce costs, and drive innovation. By embracing this technology, businesses can position themselves as leaders in a rapidly evolving industry.

As Jeff Bezos aptly noted, AI is akin to electricity — a foundational technology that will power the future. For East Africa, the time to invest in AI and the infrastructure that supports it is now. The dawn of AI is here, and its potential to revolutionise the energy sector is limitless.

“At Petropal, we are diligently laying the groundwork for this AI revolution. Our forecourt management system, Petrosoft, utilises AI to analyse daily data, identify trends, and promptly detect issues.”



Fueling a Safer Future

How Kaa Safe Mtaani is Rallying a National Energy Safety Movement

Across Kenya, unsafe use of energy is becoming alarmingly clear and dangerous. Fires blamed on faulty electrical wiring, explosions at makeshift illegal LPG refilling, petroleum-related accidents, and acts of vandalism are no longer isolated incidents; they are persistent threats that continue to claim lives, disrupt livelihoods, and undermine economic progress.

The latest industry report by the Energy and Petroleum Regulatory Authority (EPRA) says 153 petroleum-related incidents were reported in the last financial year, resulting in 98 fatalities and 61 serious injuries. The Energy and Petroleum Statistics Report (2023/2024) adds that electrical incidents increased from 116 cases in 2022/2023 to 153 cases in 2023/2024, signalling a worrying upward trend. These figures paint a stark picture of the urgent need for action.

Recognising the gravity of the situation, EPRA has launched the Kaa Safe Mtaani campaign, a national call to action aimed at embedding a culture of energy safety, compliance, and responsibility at every level of society.

A United Front for Energy Safety

Kaa Safe Mtaani is not just another awareness drive; it is a multi-sectoral movement anchored in consumer protection, public health, and environmental sustainability. EPRA's vision is to build a united front that brings together regulators, energy companies, county governments, private sector actors, transporters, law enforcement agencies, and communities under one banner: advancing safe, responsible use of energy products, whether electricity, petroleum, or LPG.

Already, key partners such as the Ministry of Energy and Petroleum, Kenya Power, KenGen, Kenya Pipeline Company (KPC), the Kenya Bureau of Standards (KEBS), the National Transport, Safety Authority (NTSA) and other private sector players have pledged their support. Their collaboration sends a clear message: safety is not the responsibility of regulators alone; it requires proactive ownership from every player across the energy value chain.

The Petroleum Sector at the Frontline of Change

The petroleum sector, encompassing fuel retail outlets, LPG dealers, and petroleum product transporters, holds a critical position in this movement. Every refill, every dispatch, and every transaction presents an opportunity to either uphold or undermine public safety.

Apart from being petroleum product vendors, petroleum outlets must move beyond basic regulatory compliance and become frontline ambassadors. They must actively champion the values of Kaa Safe Mtaani through safer operational practices, customer education, staff training, and reporting of unsafe activities. Whether ensuring the use of approved LPG cylinders, adopting safe handling protocols, or promoting energy efficiency at the point of sale, every action counts.

Energy safety is no longer just a compliance checkbox; it is a reputational imperative. The public's trust in energy providers - and by extension the broader sector - hinges on visible, tangible demonstrations of safety commitment.

Getting safety practices into homes, estates, petrol



Energy & Petroleum Cabinet Secretary, Opiyo Wandayi (Middle) with the Ministry and EPRA top leadership

stations, and marketplaces is critical to achieving the campaign's vision. It is at these everyday interaction points where energy is used, sold, and transported; where real behaviour change must happen. Grassroots buy-in is not only beneficial for public safety; it is essential for the long-term viability of energy sector businesses.

How the Petroleum Industry Can Lead

Petroleum stakeholders can align with the Kaa Safe Mtaani campaign in several impactful ways:

- »Community Outreach: Promoting safety education through regional and local events.
- »Staff Empowerment: Training frontline workers to proactively identify and mitigate safety risks.
- »Customer Education: Incorporating safety messaging into daily interactions with consumers.
- »Vigilance and Reporting: Reporting illegal activities such as unsafe LPG refilling, siphoning fuel from storage tanks, and vandalism targeting critical infrastructure.

Notably, practices such as siphoning fuel from vehicles or storage tanks remain extremely hazardous.

Beyond the risk of severe injury or death, siphoning can lead to devastating fires, explosions, and environmental damage, reinforcing the urgent need for safe fuel handling practices across the sector.

We commend key players such as the Petroleum

Outlets Association of Kenya (POAK), who have demonstrated strong engagement by supporting the Kaa Safe Mtaani campaign, participating in events, and encouraging their members to embed energy safety principles into daily operations.

Sector associations are critical to scaling awareness efforts, driving best practices, and fostering industry-wide accountability.

The drive toward universal access to modern energy must be matched with an equally strong commitment to universal energy safety.

Through Kaa Safe Mtaani, EPRA is laying the groundwork for a future where safe energy use is not an exception, but the norm. This is a future that can only be realised if every player, from the largest corporation to the smallest household, joins the movement.

Together, we can ensure a safer Kenya by promoting the safe use of energy resources at all levels.

Call the EPRA Complaints Hotline

+254 709 336 000

Email: complaints@epra.go.ke

Visit: www.epra.go.ke

EAST AFRICA'S MOBILITY EVOLUTION

CLEANER, CONNECTED, AND COMPETITIVE

Michael Mazurewicz



Business Development Director, MotorGas

East Africa is entering a bold new chapter in mobility—one driven by electrification, alternative fuels, and renewable energy integration. With over 10 million vehicles (including boda-bodas) across Kenya, Tanzania, Uganda, Rwanda, and Ethiopia, the region is rapidly transforming how people and goods move, unlocking vast potential for investment and industrialisation.

Electric two-wheelers (boda-bodas) are leading the mobility transformation. Battery-swapping networks in Nairobi and Kigali are making electric motorbikes mainstream. Rwanda's solar-powered battery hubs support the transition from petrol to electric bikes. This shift offers riders cleaner, cheaper, and quieter transport, with early positive results in delivery services.

Yet, it's not only about electrification. The region

is also giving internal combustion engines (ICE) a second life. Thousands of vehicles—from private saloons to fleet vans—are being converted to run on LPG. In Nairobi, over 13,000 cars now run on certified LPG systems (specifically the leading STAG GoFast 200 LPG system manufactured in Poland), supported by a fast-expanding network of more than 20 LPG-offering fuel stations. With global LPG prices expected to fall due to market competition, these conversions offer fleet operators an immediate path to lower fuel costs. Currently in Kenya, LPG is around 40% cheaper than petrol, with added environmental benefits such as a 25% reduction in carbon emissions and a 90% reduction in toxic NOx emissions.

Tanzania is leveraging its 57.5 trillion cubic feet of natural gas reserves, with 5,000 CNG vehicles already operational and new filling stations being built in Dar es Salaam. Plans to extend pipelines to neighbouring countries could create a regional CNG corridor, potentially cutting fuel costs in half. This, combined with increased infrastructure spending across East Africa, is paving the way for industrial growth.

The region's renewable energy infrastructure is expanding rapidly, with Kenya's geothermal power, Uganda and Rwanda's hydroelectric projects, and Ethiopia's reservoirs all contributing to national grids. While this renewable energy growth will support the EV sector, high infrastructure costs mean progress will be gradual. The focus is shifting toward practical solutions, including promising opportunities in local green hydrogen production.

Rural mobility is being shaped by the huge untapped potential of biogas (biomethane), particularly important since much of East Africa's transported goods are agricultural produce. Using agricultural waste products like molasses and edible oil derivatives, we're already repurposing old diesel engines to run on locally produced biomethane. Though still at the concept stage, this could reshape how Kenyan counties power their

workhorses (tractors, trucks, etc.) through well-designed circular economies.

East Africa isn't just adopting new technologies—it's building a uniquely African model of mobility transformation, and doing so rapidly. The region's energy transition must be smart to achieve industrial greatness. These developments are accelerating as population, urbanisation, and trade intensify across the region.

As Kenya edges into a decisive chapter of its energy transition, the conversation around mobility must evolve beyond ambition. It's no longer just about how fast we can decarbonise—it's about how affordably, sustainably, and practically we can make that transition happen.

The deeper question is: Are we transitioning in a way that works for East African businesses?

It's easy to get swept up in the excitement of clean energy innovations, especially as international donors, development banks, and global manufacturers rush into the African market with solutions. But East Africa isn't Europe or China—our energy priorities are intertwined with **affordability, availability, and infrastructure readiness**.

- Most businesses here are not looking for headline-grabbing sustainability statements. They're asking much simpler, more urgent questions:
- Can we lower our operating costs next quarter?
- Is this technology reliable in local conditions?
- Will this solution give us fuel independence and security?
- What's the ROI on retrofitting or transitioning our fleet?

Fuel prices in Kenya have soared (from the earlier 120 bob per litre that kept fleets running well), and many companies, from logistics firms to passenger transport operators, are feeling the pressure. Today's fleet operations can't match the growth levels seen just before COVID. Diesel-dependent fleets are no longer viable for scale, while full electrification remains out of reach for most due to

high vehicle costs and underdeveloped, unreliable charging networks.

East Africa's strength lies in its consistent use of reliable Japanese engines—Toyota, Nissan, Isuzu, Mitsubishi, Suzuki, Honda, and Subaru. With Korean engines now entering the market and a limited range of engine variations backed by reliable spare parts providers, we can extend engine life by switching to LPG. Our technology can double their life expectancy, proving the wisdom of East Africa's investment in reliable engine designs.

Kenya's tough terrain has shaped its unique mobility development. The country has sparked a motor upcycle boom, particularly with Land Rovers, Land Cruisers, Isuzu trucks, and all PSVs. Performance teams now specialise in building rugged vehicles that survive extreme conditions. East Africa's appetite for reliable, fit-for-purpose vehicles has put it at the forefront of tough-terrain vehicle upgrades. With its thriving performance motorsport scene (rally, off-road motocross, cross-karts), Kenya is nurturing a new generation of skilled local mechanics. At MotorGas, we collaborate with mobility leaders to enhance technologies that directly benefit companies relying on efficient transportation.

With over 130 trained mechanics, MotorGas partners with East African industry leaders to optimise fleet operations and guide energy transitions. Working with major fleet operators and OMCs, we specialise in LPG/CNG solutions as cost-effective transition fuels. This technology is already proven successful in Eastern Europe, Turkey, India, and South America - now it's time for Kenya to lead Africa's transition.

If you operate five or more vehicles in Kenya, now is the time to reassess your fuel strategy. The cost of inaction is mounting—both financially and environmentally. At MotorGas, we offer practical roadmaps for Kenyan businesses to transition intelligently, balancing cost, impact, and long-term resilience.

The energy transition doesn't have to be expensive. It just has to be smart. Let's move beyond hype and hesitation into action. Cleaner transport is within reach—and it begins with the right fuel choices.

EV Mandates

Africa's Golden Opportunity or a Future Missed?

Warren Odanje



Managing Director Africa E-Mobility Alliance

Africa stands at a critical crossroads as the rest of the world accelerates toward electric mobility. Will the continent seize the moment to lead in electric vehicle (EV) adoption, or will it become a dumping ground for obsolete internal combustion engine (ICE) vehicles? The decisions made now—between 2025 and 2035—will define Africa's energy security, economic resilience, and environmental sustainability for generations to come.

While challenges remain, Africa is not starting from scratch. Forward-thinking policies, such as Ethiopia's bold ICE vehicle ban and Rwanda's transformative shift to electric motorcycles, signal that the continent is already taking steps to shape its future. Yet, to capitalise on this momentum, Africa must embrace supply-side EV mandates that drive local innovation, infrastructure investment, and economic growth. The window of opportunity is narrow but ripe for transformation.

EV Mandates Are Already Here

Ethiopia's ICE Ban

Ethiopia made history in January 2024 by becoming the first country to ban ICE vehicle imports. With annual fossil fuel imports exceeding \$6 billion, over half of which is spent on vehicle fuel, this policy aims to redirect spending toward domestic energy independence¹. Ethiopia's abundant renewable resources—90% of its electricity comes from hydropower—position it to power its transportation system sustainably². However, challenges persist, including limited charging infrastructure and skills gaps among EV mechanics³.

Rwanda's Electric Motorcycle Revolution

In Kigali, motorcycles account for 20% of all urban trips⁴. By January 2025, Rwanda will halt new registrations of petrol-powered motorcycles for public transport and allow only electric models⁵. This policy could save Rwanda up to 9 billion Rwandan francs annually on fuel imports, compared to 14 billion francs needed for domestically produced electricity⁶.

Rwanda's success is underpinned by private-sector innovation. Companies like **Ampersand** are driving the rollout of affordable electric motorcycles and battery-swapping stations⁷. Pilot programs retrofitting existing motorbikes add an affordable, scalable pathway for current operators⁸. Rwanda is proving that targeted policies and collaboration can reshape urban transport and reduce emissions.

What Are Supply-Side Mandates and Why Do They Matter?

Supply-side mandates require automakers to produce and sell a specific percentage of zero-emission vehicles (ZEVs). These policies address market failures by setting clear targets, providing certainty for manufacturers and investors, and driving economies of scale in EV production.

Global examples illustrate their impact:

»**California:** ZEV mandates drove EVs to account for **13.3%** of new car sales⁹.

»**China:** The NEV mandate propelled China to dominate **60% of the global EV market in 2023¹⁰**.

»**European Union:** CO₂ emission standards spurred BEV sales to grow from **1.9% to 5.4% in just one year¹¹**.

Mandates can stimulate investment, innovation, and affordability for Africa while accelerating climate goals.

Why Two-Wheelers and Public Transport Matter for Africa

Two-Wheelers

Motorcycle taxis are essential for daily mobility in cities like Nairobi and Kampala. Transitioning to electric motorcycles can double operators' daily profits, saving over **\$11 per day** in fuel and maintenance costs¹².

Public Transport

In cities where public transport accounts for over **40% of trips**, electrifying buses and minibuses delivers significant savings. For instance, Kenyan operators report **60% lower operational costs** with electric buses than diesel¹³.

These segments are high-emission and high-impact. Electrification benefits the environment, urban air quality, and economic livelihoods.

What Happens When EV Mandates Are in Place?

»**Innovation and Competition:** China's NEV mandate reduced EV battery costs by **85%** between 2010 and 2022¹⁰.

»**Infrastructure Certainty:** California's policies spurred investments in **152,000 public chargers**, with a target of 250,000 by 2025¹⁴.

»**Grid Resilience:** Programs like Oakland's **Vehicle-to-Grid (V2G)** electric school buses provide backup power during peak demand¹⁵.

»**Knock-On Economic Benefits:** Used EV batteries fuel the growing energy storage market¹⁶.

»**Off-Grid Solutions:** Solar-powered charging stations bridge the gap in underserved regions, enhancing rural electrification¹⁷.

What Africa Must Do to Lead

»**Set Long-Term Targets:** Link mandates to **Nationally Determined Contributions (NDCs)** for climate goals.

»**Phased Mandates:** Introduce **time-based, volume-based, and variety-based** targets for EV adoption.

»**Support Infrastructure:** Ensure **charging interoperability** and enforce robust safety and regulatory standards.

»**Reduce Fossil Fuel Dependency:** Quantify savings from reduced imports to strengthen national reserves.

Conclusion

Africa's path to electric mobility is not merely an environmental necessity but an economic opportunity. Countries like Ethiopia and Rwanda have shown that bold supply-side mandates can reduce fossil fuel dependency, stimulate investment, and reshape urban mobility. With the 2025–2035 decade set to define the global transportation landscape, Africa cannot afford to lag. EV mandates will play an important role in accelerating markets globally. Africa must lean on this global momentum to build infrastructure, both physically, economically, politically, and environmentally. The time is now.

"In cities where public transport accounts for over 40% of trips, electrifying buses and minibuses delivers significant savings. For instance, Kenyan operators report 60% lower operational costs with electric buses than diesel."

ROLE OF LEGAL METROLOGY IN LOSS MITIGATION IN FUEL MEASUREMENTS

John Wamwana



Ag Director, Weights and Measures- Kenya

Metrology is the science of measurement, crucial in trade, science, technology, and industry. It has three main branches:

- »Scientific Metrology: Focuses on defining global measurement standards like SI Units to ensure consistency worldwide.
- »Industrial Metrology: Applies measurement science to manufacturing and research, supporting quality control. In Kenya, KEBS oversees this under the Standards Act.
- »Legal Metrology: Ensures accurate measurements in areas like trade, healthcare, and safety, protecting the public and ensuring fairness where measurements are legally regulated.

The Department of Weights and Measures, under Kenya's Ministry of Investments, Trade and Industry, is the legal metrology authority. Legal metrology in Kenya follows the Weights and Measures Act, Cap. 513, and the Trade Descriptions Act, Cap. 505.

Globally, legal metrology is overseen by the OIML (International Organisation of Legal Metrology), of which Kenya is a member. The OIML sets global standards, with its publications guiding legal metrology and technical regulations for all signatories of the World Trade Organization's (WTO's) Technical Barriers to Trade Agreement.

Fuel Measurement and Legal Metrology

Fuel powers economies—driving business, transport, and government revenue. Measuring it accurately? That's critical. Each litre tracked through pipelines or pumps equals money. One small error can impact profits, taxes—or even the taxpayer. From ports to terminals to your tank, every transfer is measured. And where there's big money, there's temptation. Even tiny tweaks can shift profits, which is why legal metrology ensures fairness. In Kenya, fuel measurement happens at every step—from ship deliveries at ports to pipelines, storage, and transport by road or rail to stations nationwide.

In the fuel sector, accurate measurement is legally required to ensure fairness. Every litre counts, and inaccurate readings can lead to lost revenue, tax issues, and damaged trust. That's why custody transfer matters: when fuel changes hands, measurements must be precise, as money and legal responsibility are at stake.

In Kenya, custody transfer instruments must be type-approved and verified by the Weights and Measures Department, with annual re-verification. Faulty instruments are pulled from service, fixed, and re-verified to maintain legal integrity. For high-stakes transactions, global standards like OIML ensure accuracy, reliability, and consistency, removing technical barriers in international trade.

Measuring instruments in the fuel industry under legal control include:

- »Flowmeters in pipelines and road tankers
- »Fixed storage tanks (underground and above

ground) with level gauges

» Tankers (ship, rail, and road) with level gauges

» Dispensing pumps at petrol and autogas stations

Fuel prices fluctuate due to fuel losses, a major issue in Kenya. These losses cut profits, reduce tax revenue, and push pump prices higher. Here's why:

Inaccurate measuring systems: If a meter gives results outside the Maximum Permissible Error (MPE), it can seriously misrepresent the fuel delivered—critical in high-value transactions. Causes include skipped calibration, wrong settings, tampering, or tool mismatch. Some meters drift over time, seeming accurate but proving unreliable. Regular testing ensures consistent accuracy; if a device can't deliver, it needs more checks—or replacement.

» **Transfer losses:** Fuel can be lost during transfers through spills or maintenance. Losses also occur during “wetting,” when product sticks to tank walls after refilling near-empty tanks—especially with volatile fuels—resulting in recorded but undispensed quantities.

» **Poor installations:** Even the best instruments fail if installed poorly. At fuel stations, unqualified setups can distort readings—or cause spills when tanks shift or pipes break. Large depots aren't immune; bad construction can deform tanks and wreck calibration. That's why regulations require approved designs, verified installs, and certified tools like ATGs—for accurate, safe measurement.

» **Theft in transit:** Fuel losses often happen on the road. Unverified tanker systems can be tampered with—using hidden siphons or swapped dipsticks. Drivers may even shift fuel between compartments mid-delivery to fake full offloads. Seals offer little protection if applied by the same people transporting the fuel. Without verified systems and oversight, losses are not leaks—it's loopholes.

» **Inadvertent fuel movement:** After receiving fuel, storage tanks should remain idle for a set time to allow settling and accurate measurement. If fuel is dispatched too soon—before reconciliation—the received quantity can't be confirmed, leading to apparent losses, even if no product is missing.

» **Mismatched measurement systems:** Using different tools with varying accuracy—like a precise flowmeter vs. a less accurate Automatic Tank Gauge (ATG)—can create discrepancies. These mismatches, especially without local oversight, often result in perceived losses or open the door to fraud. Consistent, verified systems are key to fair fuel trade.

» **Fraudulent measurements:** Not all fuel losses come from faulty meters—some are deliberate. Tampered instruments can be secretly altered to siphon fuel, then reset to avoid detection. Unlike normal errors, fraud is hidden, unpredictable, and costly. The solution? Use type-approved, tamper-resistant instruments sealed by regulators. Global standards like OIML D 31:2019 require meters to block unauthorized access. Because every missing litre costs someone—supplier, government, or you. Accurate, secure measurement is essential for fair fuel pricing.

Tenets of a Custody Transfer Measuring Instrument

Custody transfer instruments are built specifically for high-value fuel transactions—regular meters can't be upgraded to meet the standard.

They undergo three key checks:

» Type Approval – Validates the design.

» Initial Verification – Confirms accuracy of each unit.

» Re-Verification – Ensures ongoing reliability.

These checks protect everyone involved.

Conclusion

Fuel losses can come from many sources—faulty setups, fraud, or the wrong tools. That's why staying proactive is key. Some risks are on the buyer, but many can be avoided by working with the Weights and Measures Department. They license certified professionals to install and service custody transfer instruments. Involve them early—during selection, installation, and verification—to ensure compliance and avoid costly mistakes later.



KENYA REVENUE AUTHORITY

The Kenya Revenue Authority (KRA) continues to champion the modernization of tax administration through the adoption of electronic invoicing and the simplification of tax declaration processes. Since 2021, VAT-registered businesses have been required to generate electronic tax invoices using the upgraded tax registers. This marked a pivotal shift toward enhanced compliance and transparency. In 2023, KRA extended the scope of electronic invoicing through the introduction of a complementary software-based approach via Electronic Tax Invoice Management System (eTIMS). This evolution broadened the coverage to include all persons in business, irrespective of VAT registration status. Under the new framework, a compliant electronic tax invoice must now accompany every sale regardless of the value.

The petroleum sector, known for its complex and high-volume operations, was significantly impacted by the transformation above. In response to the unique needs of the industry, KRA officially launched the eTIMS Fuel Station System, designed to streamline operations and address compliance challenges previously encountered with Electronic Tax Registers (ETRs) such as inefficiencies in fuel dispensing environments, resulting in operational disruptions and instances of non-compliance with electronic invoicing for every sale. The new system allows for real-time, seamless invoicing through integration with a fuel station's forecourt controller, computerized sales system, fuel management system, point of sale (POS), and/or printer, depending on the station's automation level. This integration ensures that every transaction is captured electronically and transmitted to KRA in compliance with the law.

Fuel stations stand to gain significantly from adopting the eTIMS system, with key benefits including:

a) Increased efficiency through automation: Technology replaces manual processes, allowing

for real-time transaction recording and streamlined workflows.

b) Faster Service Delivery: Integration reduces delays at the forecourt, enhancing customer experience.

c) Enhanced System Functionality: Compatibility with software tools like PIN capture, mobile payment platforms and loyalty programs supports more robust business operations.

d) Improved accuracy and reconciliation: Electronic invoicing ensures accurate records, reducing errors and disputes.

e) Simplified Tax Compliance: Automated invoicing feeds directly into the recently rolled out simplified VAT returns, minimizing manual effort and enhancing accuracy.

f) Real-Time Validation: Immediate verification of receipts facilitates faster supplier payments and processing of VAT refund claims.

“In response to the unique needs of the industry, KRA officially launched the eTIMS Fuel Station System, designed to streamline operations and address compliance challenges previously encountered with Electronic Tax Registers (ETRs) such as inefficiencies in fuel dispensing environments, resulting in operational disruptions and instances of non-compliance with electronic invoicing for every sale.”

How to Register eTIMS on USSD



STEP 1

Dial
***222#**

STEP 2

Select Option 5
5. Tax Payment (KRA)

5

Click Send

STEP 3

Enter Option 2
2. ETIMS Invoice

2

Click Send

STEP 4

Enter ID Number

1234556789

Click Send

STEP 5

Select Option 5
Enter Year of Birth

1990

Click Send

STEP 6

Confirm your Details
Name:
ID Number:
YOB:

1. Confirm

1

Click Send

STEP 7

Select Option 1 to register

1. Register

1

Click Send

After registration you will receive a message.
You have successfully been registered for eTIMS.
Proceed to raise an eTIMS Invoice.



Recognizing the sector's complexity, KRA has adopted a consultative and phased implementation approach, working closely with Oil Marketing Companies (OMCs), independent fuel retailers and industry associations. Through a series of stakeholder engagements, KRA continuously addresses technical, operational and compliance concerns, fostering a shared understanding of the system's requirements. During the pilot phase, volunteer fuel stations were enlisted for integration, with site visits conducted to assess technical configurations, user compliance, and operational feedback. Lessons learned from the pilot phase informed system enhancements and stakeholder support strategies that will be applicable in the transition to full roll out.

As of April 2025, five third-party eTIMS integrators were certified, with several fuel stations already successfully integrated and many others progressing through various onboarding stages. KRA has set 30th June 2025 as the deadline for all fuel stations to complete their integration with eTIMS. We encourage all fuel stations to onboard eTIMS to avoid enforcement action.

KRA remains dedicated to assisting fuel sector players with training, technical assistance and open lines of communication. Our aim is to simplify tax compliance for the sector. Fuel stations seeking to comply may choose between the following options:

a) Self-integration: Suitable for stations with in-house technical capacity to develop and manage system interfaces.

b) Third-party integration: Stations may engage a certified integrator from the list available on the KRA website. This list is regularly updated as new integrators are certified.

KRA is committed to supporting the petroleum industry throughout this transition. Through shared responsibility and collaboration, we aim to build a tax environment that is efficient, transparent and responsive to the realities of modern business. Let us work together to ensure that every drop counts—not just in fuelling the nation, but in building a compliant and digitally empowered economy.



KENYA REVENUE
AUTHORITY

Tulipe Ushuru, Tujitegemee

Petroleum's Evolving Role in the Future of East Africa's Mobility

Ken Mugambi



CEO, Trinity Energy

As East Africa accelerates its efforts to build cleaner, more connected, and competitive mobility systems, the role of petroleum remains central, particularly in the context of our region's infrastructure, economic development, and energy access challenges. While there is growing momentum around the transition to greener alternatives, it is essential to recognise the current and future relevance of petroleum in supporting mobility across East Africa.

Petroleum and the Mobility Ecosystem

Africa remains significantly energy-deficient. While the rest of the world discusses cleaner alternatives and next-generation mobility ecosystems, our continent continues to struggle with access to conventional energy sources, especially petroleum. For instance, while a single province in South Africa may boast over 12,000 fuelling stations, Kenya has only about 4,500 nationwide. This discrepancy highlights the immense gap in infrastructure and access.

Petroleum still plays a fundamental role in fuelling East Africa's growing economies. As our cities and industries expand, mobility demand is increasing. While alternative energy solutions like electricity and hydrogen will eventually contribute, petroleum will continue to drive mobility for years to come, particularly in underserved and rural areas.

Fuel Prices, Taxes, and Public Transport Pressures

When examining the rising cost of public transport — including frequent fare hikes — it's important to look beyond fuel prices alone. A significant, and often overlooked, driver of these costs is taxation. In many cases, taxes on petroleum products exceed the landed cost of the fuel itself. Recent finance bills have consistently introduced new taxes on fuel, which inevitably pass down to consumers. As a result, the cost of transport must be viewed holistically, including tax policies and infrastructure costs.

Balancing Demand and Transition

Trinity Energy's Approach

At Trinity Energy, our guiding principle is energy access. While we are fully aligned with global efforts to transition to cleaner fuels, we cannot ignore the realities in markets like South Sudan, where electricity access is below 5% and clean cooking fuels are virtually unavailable. In Kenya, access to LPG stands at only about 30%, revealing a substantial gap in clean energy coverage.

To address this, we are pursuing a dual strategy: supplying conventional fuels while actively investing in renewable energy. In South Sudan, we are developing two 20mw solar power projects and exploring mini-grid and off-grid solutions to support localised energy delivery. These initiatives target administrative capitals and rural communities because there is no connected national electric grid.

In addition, we are expanding LPG access and launching our first autogas fuelling station in Nairobi — a key step in positioning LPG as a clean transition

fuel for both domestic and transport use.

Embracing Innovation and Electrification

We recognise that electrification is the future of mobility. Accordingly, Trinity Energy has partnered with technology providers to pilot EV charging stations in Nairobi. We're also collaborating with battery swapping service providers to establish infrastructure at selected retail outlets. While our focus remains on bridging today's energy gaps, we are strategically positioning ourselves to support and benefit from the coming energy transition.

Connectivity Through Technology

The petroleum industry is also undergoing a digital transformation. At Trinity Energy, we are investing in the automation of fuel stations to improve operational efficiency and reduce dependency on manual oversight. With stations spread across Kenya — from Nairobi to Mumias and Mariakani — automation enables real-time monitoring and improved customer service.

We've introduced mobile-based fuel cards and loyalty systems tailored towards transport operators, especially matatu drivers. This digital shift not only improves the consumer experience but also enhances internal controls and transparency. Moreover, industry-wide integration with entities such as the Kenya Pipeline Company and the Kenya Revenue Authority has improved logistical efficiency and compliance.

The EV Disruption and Petroleum's Future

Electric vehicles (EVs) are undoubtedly a global disruptor. China's innovations in this sector have reshaped the automotive industry, and their impact will be felt here as well. However, East Africa's readiness for EV adoption hinges on infrastructure. Charging points and grid reliability remain major challenges. Many regions are still grappling with basic petroleum access, let alone EV infrastructure.

In the short to medium term, I foresee a parallel growth: demand for petroleum will increase in underserved areas while EV adoption gains traction in urban centres. Eventually, a peak in petroleum demand will occur, but not before the region undergoes further economic and infrastructural development.

Opportunities for Smaller Players

Smaller petroleum companies need not be marginalised by the rise of EVs. There is an untapped opportunity in rural and peri-urban areas where conventional fuel access is still limited. Innovative models — such as micro-stations or mobile dispensing units — can serve these communities without the overheads of full-scale infrastructure. Aviation and shipping, which lack practical clean alternatives, will also continue to rely on petroleum for the foreseeable future.

Regulation and the Path Forward

The petroleum sector is heavily regulated, and this will only intensify. As governments implement environmental taxes and enforce global emission standards, companies must adapt or fall behind. For example, new taxes on plastics used in lubricant packaging will directly affect operational costs. At Trinity Energy, we are proactively embracing these changes, aligning our operations with sustainability goals and investing in cleaner energy alternatives.

Conclusion

Petroleum in a Cleaner, Connected Future

While the global energy landscape is changing, petroleum remains integral to East Africa's mobility and economic future. The transition to cleaner systems must be inclusive, pragmatic, and context-aware. At Trinity Energy, we are committed to ensuring energy access while paving the way for a sustainable and connected future — one that serves today's needs and tomorrow's aspirations



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