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The **GRID**

The Kenya Electricity Transmission Company Newsletter





KETRACO
Kenya Electricity Transmission Company Limited
"Stable Power Grid - Mfumo Thabiti wa Umeme"



Stable Power Grid - Mfumo Thabiti wa Umeme

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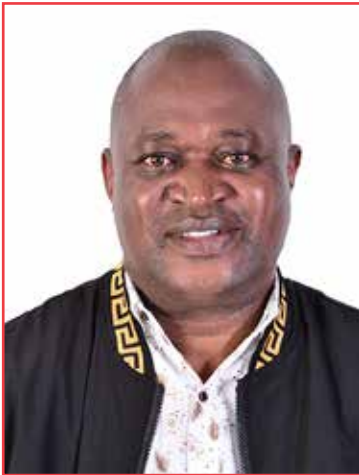
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EDITOR'S NOTE



Welcome to the 13th edition of The Grid! In this issue, we celebrate transformative milestones in electricity grid extension and progress as KETRACO continues to light up Kenya. Our commitment to powering industries, homes, and communities through innovative energy solutions remains unwavering.

This newsletter highlights key achievements in 2024, including the commissioning of the Kimuka Substation on 3rd July by H.E. Dr. William Ruto, President of the Republic of Kenya, and Commander-in-Chief of the Defence Forces.

As a vital component of the Nairobi Ring and Associated Substations Project, the Kimuka Substation strengthens the Nairobi Metropolitan region's power supply. By providing an alternative supply route and relieving overloaded substations, this project significantly enhances grid reliability and supports the region's growing energy demands.

Another historic milestone was achieved on 14th December 2024, with the synchronization of the 400kV Kenya-Tanzania Interconnector. This achievement marks a major step in regional power integration, boosting cross-border electricity trade and fostering energy security.

Energized shortly after the East African Power Pool Trade Conference held from 9th to 11th December at Sarova White sands Hotel in Mombasa, the interconnector reflects KETRACO's leadership in advancing regional energy connectivity.

During the conference, Managing Director Dr. Eng. John Mativo, MBS, joined energy leaders and stakeholders from Eastern Africa to discuss building a robust power trading system. In a notable panel discussion, Dr. Mativo highlighted the role of Public-Private Partnerships (PPPs) and private sector investment in transforming power networks, drawing from global experiences.

As part of the conference, KETRACO hosted delegates at the 400/220kV Mariakani Substation, a critical node in the Ethiopia-Kenya Electricity Highway Project. This flagship initiative, funded by the African Development Bank and the Government of Kenya, advances Kenya's clean energy ambitions while ensuring reliable power supply to the

Coastal region, spurring sustainable growth.

Domestically, we have made strides in improving power supply across various regions. The completion and energization of the 132kV Sultan Hamud-Loitoktok Transmission Line and the 132/33kV Loitoktok Substation have brought stable and reliable electricity to Kajiado and Makueni counties.

Meanwhile, the upcoming operationalization of the Mariakani-Isinya Transmission Line in February 2025 will boost power transfer efficiency from Mombasa to Nairobi, reduce reliance on costly thermal generation, and expand the country's use of renewable energy.

We also celebrate the restoration of Lamu Town to the national grid after a year-long outage. This complex and sensitive operation, involving multidisciplinary security teams, symbolizes resilience and teamwork in bringing light back to this historic town.

In addition to infrastructure development, KETRACO continues to strengthen partnerships and enhance its expertise. We hosted delegations from professional bodies like the Engineers Board of Kenya (EBK) and corporate organizations such as KCB Bank.

Our collaboration with PRSK, including sponsoring the 2024 Annual Summit in Homa Bay, and our participation in a USAID Power Africa workshop on disaster response and crisis management, underline our commitment to capacity building and sectoral collaboration.

As we celebrate these achievements, we are reminded of our shared vision of lighting up Kenya and the region through sustainable energy solutions. Thank you for joining us on this journey.

Happy reading!

Jack Nduri, HSC, MPRSK

Editor

MESSAGE FROM THE CEO



As we release this 13th edition of The Grid, KETRACO proudly marks 16 years of powering Kenya and the region since our establishment in 2008.

Over this journey, we have achieved significant milestones, including constructing 9,386 kilometers of transmission lines, with 63% of the national electricity transmission infrastructure under our ownership and operation.

We have also commissioned 42 substations with a combined capacity of 6,396 MVA and completed 31 bay extensions.

These achievements would not have been possible without your steadfast support. On behalf of the KETRACO fraternity, I extend my sincere gratitude for your contribution to our mission of transforming Kenya's energy landscape, advancing Vision 2030, and supporting the government's Bottom-Up Economic Transformation Agenda (BETA).

Landmark Achievements

One of our most recent milestones is the energization of the 400kV Kenya-Tanzania Transmission Line Project, a key initiative enhancing regional electricity trade. This 510-kilometer High Voltage Alternating Current (HVAC) line, connecting Kenya's Isinya substation to Tanzania's Singida substation, was energized on 14th December 2024. This project integrates the two countries' power grids, facilitates power exchange, improves energy reliability, and fosters regional economic integration.

The successful synchronization of these grids was achieved through close collaboration with TANESCO (Tanzania Electricity Supply Company Limited) and Kenya Power. The project also involved the construction of the Arusha

substation and expansions of the Isinya and Singida substations.

Another noteworthy achievement is the restoration of power to Lamu and its environs after a year-long outage caused by the collapse of three key towers (T236, T237, and T238) in September 2023.

The extensive restoration included rebuilding the damaged section, erecting replacement towers, stringing high-voltage lines, and optical ground wire (OPGW) splicing. I commend the teams involved for their dedication in ensuring power reliability is restored to this vital region.

Projects Energized in 2024

Kimuka Substation

Officially energized on 3rd July 2024 by His Excellency William Ruto, President of the Republic of Kenya, Kimuka Substation is a critical component of the Nairobi Ring and Associated Substations project. It provides an alternative power supply to the Nairobi Metropolitan region, easing pressure on existing substations.



Sultan Hamud-Loitokitok 132kV Transmission Line and Substations

Energized on 18th October 2024, this 120-kilometer line extends the 132/33kV Sultan Hamud substation and includes a new substation in Loitokitok. It enhances power supply and reliability for Merrueshi, Loitokitok, and surrounding areas in

Kajiado and Makueni counties.

Mariakani 400/220kV Substation

Nearing completion, this substation, with 4(2) X 200MVA transformers, is a vital link in the 482-kilometer Mombasa-Nairobi transmission line. It will reduce transmission losses, improve voltage stability, and facilitate the evacuation of power from the Dongo Kundu Liquefied Natural Gas Plant.

Looking Ahead

As we continue to strengthen Kenya's electricity transmission network, several transformative projects are underway: The Narok-Bomet Transmission Line, enhancing connectivity in the South Rift region.

The Sondu-Homa Bay Transmission Line, critical for reliable energy supply in western Kenya, while the Malindi-Weru-Kilifi Transmission Line will boost energy reliability along the Kenyan coast.

These and other ongoing projects across the country underscore KETRACO's commitment to delivering reliable, efficient, and sustainable energy solutions.

In Conclusion

The progress achieved over the past 16 years reflects the dedication of KETRACO's workforce, the support of our partners, and the trust of our stakeholders. We remain unwavering in our mission to deliver world-class electricity transmission infrastructure, powering Kenya and the region into a brighter, more prosperous future. Together, let us continue to light up lives and transform communities.

Thank you for being part of this journey.

Dr. Eng. John Mativo, MBS

MANAGING DIRECTOR



President Ruto (left) being conducted through the control room at Kimuka substation by KETRACO MD, Dr. Eng. John Mativo (right), during the official launch of the 400/220 kV Kimuka substation.



KETRACO TO GET MARSABIT COUNTY INTO THE NATIONAL GRID

By Arnold Otieno

Despite efforts to expand the national grid, a significant portion of Marsabit County remains shrouded in darkness. The county is off the grid and relies solely on diesel generators, which are costly and environmentally unfriendly.

This lack of connection to the national grid has created a significant challenge to development in Marsabit. Essential services like healthcare and education suffer, while the cost of doing business skyrockets. The knock-on effect is a diminished quality of life for residents.

A recent stakeholder meeting in Marsabit County painted a grim picture of the region's power struggles. Major consumers were not shy about expressing their frustrations, detailing the daily frustrations they endure due to frequent outages and unreliable voltage fluctuations. This unreliability hampers daily activities and the operation of essential services.

Abdullahi Alake, Administrator at Marsabit County Teaching and Referral Hospital (MCTRH), described the constant struggle with unreliable power. Critical services hang in the balance, as vital equipment like medical refrigerators and diagnostic machines require a stable power supply that's simply unavailable.

"Every morning starts with a prayer at the generator, hoping there's enough fuel to last the day," Alake said. "It's an incredibly expensive gamble, and frankly, chaotic way to run a hospital."

Alake's experience is just one example of the widespread impact of Marsabit's power woes. The lack of reliable electricity poses a significant challenge to progress and development in the county.

MCTRH is a huge hospital that does not only serve Marsabit county but also neighboring counties including Samburu, Wajir, Mandera and Turkana serving over four thousand patients monthly and its growing. The need for a reliable power cannot be underestimated, he added.

Businesses, particularly those that rely on heavy electricity for operations like hotels, milling, welding, and refrigeration, face operational challenges. Limited power supply restricts business hours and increases operational costs.

Speaking at the meeting, Mollu Elle, Director Imperial Hotel, says that they incur huge losses due to food going bad in the fridge and the cost of running business has increased threefold.

The same sentiments were shared by Eng. James Ndegwa of KBC. He says that frequent outages have been costly to their operations. They have lost critical equipment due to voltage fluctuations and outages.

Acting County commissioner, David Saruni said unreliable power situation in the area has made life difficult for the residence of Marsabit. He noted that whenever the generators go off, insecurity in the area spike. Other essential services like healthcare,

education, water and sanitation, storage of large food is affected. All these affect the attractiveness of the county to investors.

However, there is a glimpse of hope for Marsabit as KETRACO plans to get Marsabit county into the national grid.

Speaking at the meeting, KETRACO Managing Director, Dr Eng. John Mativo said that KETRACO is finalizing plans to construct a 220kV Loiyangalani-Marsabit Transmission Line that will energize the County.

“We have heard your pain with unreliable power, KETRACO is committed to ensuring that the whole country is connected to the national grid. Marsabit will be connected to two lines; one from Loiyangalani where we have the largest wind farm and from Isiolo.” He said.

In the proposed project, KETRACO will build a substation in Marsabit town to step down the power from 220kV to 30 kV for distribution to the town and neighboring communities. The quality of power is going to improve. There will be enough power for consumers of Marsabit

and the cost of operation will drastically reduce attracting investors in the region.

The large power consumers are hopeful that the

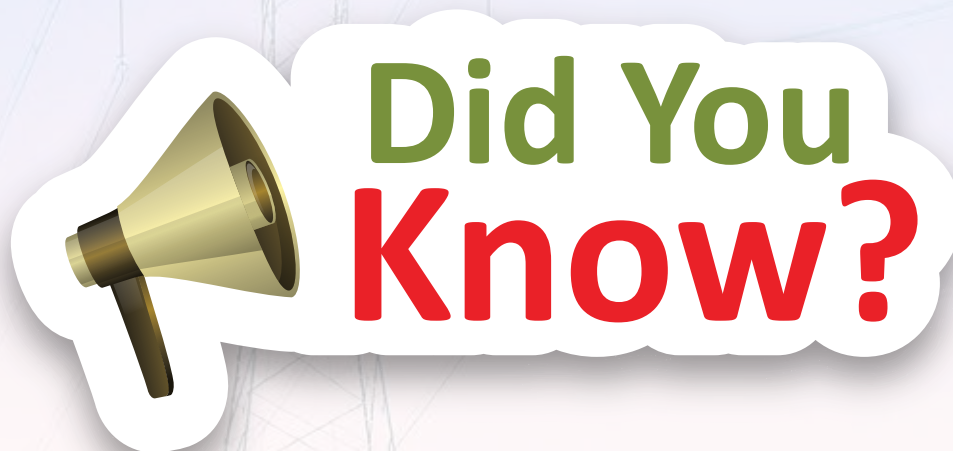
“We are excited with KETRACO’s plan to connect us to the national grid. Reliable and affordable electricity will not only power development and improves the quality of life for the people of Marsabit but also boost business.”

- Mr Saruni.

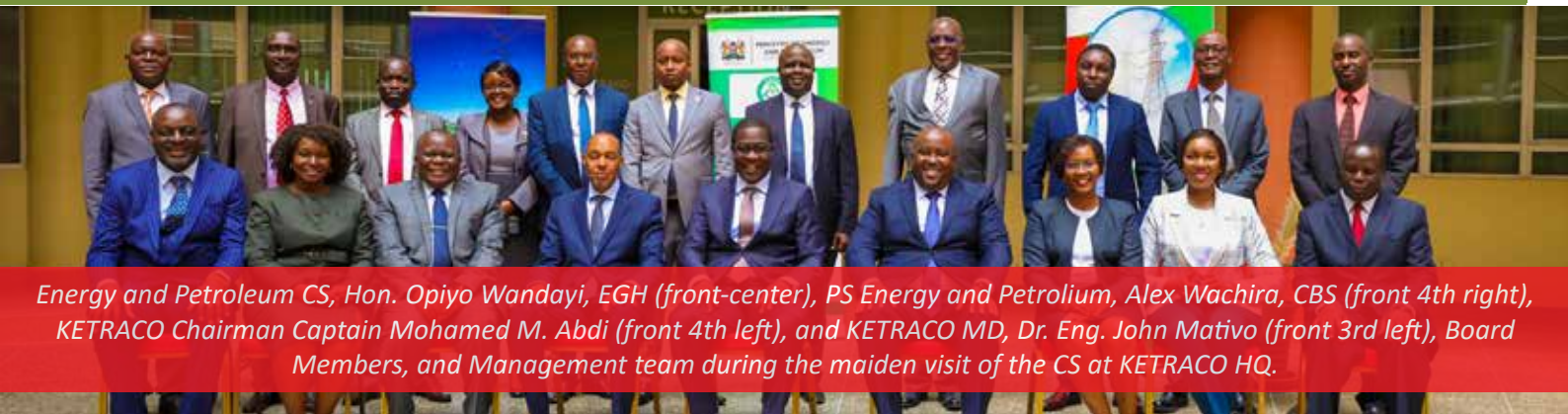
proposed project will ensure reliable and affordable power for their business. This will spur development, business growth and profit.

KETRACO calls for the support of Stakeholders to ensure smooth project implementation starting from project scoping to way leave compensation.

The proposed project is expecting to kick start in 2025 and will be completed in two years.



A transmission grid is a network of interconnected transmission lines that moves electricity from a power plant to an electrical substation serving a load center.



Energy and Petroleum CS, Hon. Opiyo Wandayi, EGH (front-center), PS Energy and Petroleum, Alex Wachira, CBS (front 4th right), KETRACO Chairman Captain Mohamed M. Abdi (front 4th left), and KETRACO MD, Dr. Eng. John Mativo (front 3rd left), Board Members, and Management team during the maiden visit of the CS at KETRACO HQ.

CABINET SECRETARY FOR ENERGY AND PETROLEUM, HON. WANDAYI, MAKES OFFICIAL VISIT TO KETRACO HEADQUARTERS

By Otieno Arnold

The newly appointed Cabinet Secretary for Energy and Petroleum, Hon. J. Opiyo Wandayi, EGH, made his first official visit to the Kenya Electricity Transmission Company (KETRACO) headquarters.

The Cabinet Secretary was warmly received by KETRACO's Board of Directors and Management team, led by Board Chairman Captain Mohamed M. Abdi, and the Managing Director, Dr. Eng. John Mativo, MBS.

Also accompanying the CS was Energy Permanent Secretary Alex Kamau Wachira. Also present were KETRACO Board Directors Janerose Gatwiri, Eng. Michael Boybanda Malomba, Mercylynate Rotich, Duncan Ndegwa Gathege, Eng. Thomas Karungu, Judith Khamala Nyauncho, Hon. Kirwa Stephen Bitok, and senior managers.

The visit centered around KETRACO's vital role in expanding Kenya's national power grid, ongoing infrastructure projects, and future for the country's energy sector.

Board Chairman Captain Mohamed Abdi briefed the Cabinet Secretary on KETRACO's recently completed projects, which include: Namanga, Kimuka, and Kitale substations, Isinya-Namanga and Ortum-Kitale transmission lines

The company is also engaged in several ongoing projects critical to enhancing the reliability and security of electricity supply in Kenya. These include construction of the National System Control Centre, Bomet-Narok transmission line, Rabai-Bamburi-Kilifi and Dongo-Kundu-Mariakani lines, Kabarnet-Rumuruti, Malindi-Weru-Kilifi, and Homa Bay-Sondu projects. These developments are key to strengthening Kenya's

national transmission grid, ensuring consistent and reliable energy delivery.

Cabinet Secretary Wandayi commended KETRACO for its continued efforts to enhance the country's energy infrastructure. He emphasized the critical role that a robust transmission grid plays in meeting Kenya's growing energy demands, particularly as the nation seeks to modernize its infrastructure and attract private sector investment.

"A reliable and modern transmission grid is vital if we are to meet Kenya's energy needs," said Hon. Wandayi. "I pledge my support to KETRACO and will work closely with key players in the sector to ensure we achieve our energy goals."

He further highlighted the importance of public-private partnerships (PPP) in achieving sustainable energy infrastructure and invited increased collaboration with private investors.

KETRACO Managing Director Eng. Mativo took the CS through the transmission plan 2042 and the strategic plan 2023-2028 which aims to develop and complete 41 transmission line projects to attain 4,600km circuit length and 36 substations within 5 years; effectively and efficiently schedule periodic operation and maintenance of the transmission network; manage the grid and facilitate power exchange effectively and efficiently; and strengthen capacity for effective organizational development and good governance.

Hon. Wandayi congratulated KETRACO board, management and staff for the splendid job they were doing of ensuring Kenya and the region has energy that meet their needs.

NANYUKI UNDERGROUND CABLE PAVES WAY FOR POWER RELIABILITY AND ECONOMIC GROWTH IN THREE COUNTIES

By Eva Kibicho



African Development Bank Group officers during a supervision mission to check the on the progress of 132kV Nanyuki - Rumuruti & Nanyuki - Isiolo underground cable projects

In a move set to enhance power quality, reliability, and economic development, Kenya Electricity Transmission Company Limited (KETRACO) is constructing the Nanyuki-Rumuruti and Nanyuki-Isiolo 132kV Underground Cable project. This project is a key initiative in the government's ambitious effort to upgrade power infrastructure across Laikipia, Isiolo, and Meru Counties.

This transformative project, funded jointly by the African Development Bank (AfDB) and the Government of Kenya with an investment of Kshs. 2.25 billion, will install a 38-kilometer circuit of 132kV underground cables connecting Rumuruti and Isiolo. Once operational, the project will establish a robust ring system around the Mt. Kenya region, significantly boosting power reliability in key areas, including Meru, Isiolo, Nanyuki, Kiganjo, and Rumuruti.

The underground cable is strategically designed to navigate the Laikipia Airbase flight path, ensuring that military operations are uninterrupted while enhancing power stability and reliability across the region. With the establishment of a Special Economic Zone (EPZ) in Rumuruti, stable and reliable power will attract investors and create job opportunities.

Upon completion, the underground cable will enable Nanyuki and surrounding areas to receive power from Kamburu and Masinga hydroelectric plants. This dual-source approach will enhance voltage stability and meet rising demand, driven by growing residential, commercial, and industrial needs. For communities such as Rumuruti and Maralal, which currently rely on a long 33kV distribution line, the project's completion will halve the distribution distance to Maralal, reducing technical losses and further bolstering reliability.

The Rumuruti substation will be crucial in integrating the upcoming 40MW Rumuruti Solar Project into the regional grid, complementing energy generation from the Kamburu and Masinga dams. Once complete, Maralal's voltage stability is also expected to improve, contributing to greater energy efficiency and supporting the region's economic needs.

The project's civil works, led by the Consortium of Dongfang Electric International Corporation has commenced and are expected to reach completion by April 30, 2025.

The Nanyuki-Rumuruti-Isiolo project is more than an infrastructure upgrade; it's a cornerstone of sustainable growth. By improving the region's power reliability and capacity, KETRACO is not only addressing current power demands but also paving the way for a resilient energy future. As the project unfolds, the people of Laikipia, Isiolo, and Meru Counties can look forward to a new era of stable power, economic growth, and opportunities made possible by a robust, state-of-the-art energy infrastructure.

This project reinforces KETRACO's commitment to delivering safe, reliable, and efficient electricity to power Kenya's development and prosperity.



KETRACO ENERGIZES SULTAN HAMUD LOITOKITOK TRANSMISSION LINE AND ASSOCIATED SUB STATIONS

By Jack Nduri

Kenya Electricity Transmission Company (KETRACO) energized the Sultan Hamud Loitokitok 132kV, 120km Transmission Line and Associated Substations on 18th October 2024.

The Sub stations include an extension at the existing 132/33kV Sultan Hamud substation in Makueni County and construction of a new 132/33kV Substation at Loitokitok, Kajiado County. The project will enhance power supply to Merrueshi and Loitokitok towns and its environs.

The current line 33kV providing power to the project area is not reliable hence the main benefit will be to expand and improve power supply to Kajiado County. The area also has good wind and solar generations potential.

Other benefits will include employment, increased revenue, and improved livelihood. The negative impacts are of temporary nature majorly during the construction phase and can be managed by implementation of the recommended mitigation measures.

The Government of Kenya plans to increase access to

electricity in Kenya tenfold from the current 4% in the rural areas to about 40% by 2030. To achieve this, more transmission lines are being considered for construction and upgrading and with it the communication system required for the line protection and management purposes.

The project has been financed by EXIM Bank of China and Government of Kenya with China Aerospace Construction Group Ltd being the Contractor being part of the Kenya Power Transmission Expansion Project (KPTEP).

The industries such as the National Cement Company-Merueishi will benefit from this project and as well boost power to various other sectors such as tourism in the Amboseli and the agricultural sector.

Feeder one (1) was loaded at 14: 17, and feeder two (2) was loaded at 14: 41. The commencement date of the project was 22 May 2019 with the initial completion date being 31st October 2023 having revised the completion date for 29th February 2024 and extended to 31st August 2024.





KETRACO EMPOWERS STAFF WITH ESSENTIAL TRAINING ON OIL REGENERATION TECHNIQUES

By Jack Nduri

Kenya Electricity Transmission Company (KETRACO) has achieved a major milestone in transformer efficiency and safety by successfully training its staff in advanced oil regeneration techniques.

The training aims to equip KETRACO staff with essential skills to enhance transformer longevity and performance, thereby reducing turnover and minimizing the need for frequent replacements.

Oil regeneration is a process used to restore and improve the quality of insulating oil in electrical equipment such as transformers.

Over time, insulating oil can degrade due to exposure to heat, moisture, and contaminants, which can compromise the performance and safety of the equipment. The solution to oil degradation is to regenerate the used oil, a technique that removes impurities and extends the life of the oil.

"Our recent training initiative has equipped 16 of our staff with essential skills in oil regeneration. This investment in our team not only enhances our operational efficiency but also positions the company for greater sustainability. Oil regeneration has immense benefits including cost saving, extended transformer life and environmental sustainability through reduced waste, lower pollution and energy efficiency." Said

KETRACO Managing Director, Dr. Eng. John Mativo, MBS.

Between September and October 2024, previously recovered transformer oil was regenerated, producing a total of 9,000 liters. This regenerated oil is now fit for reuse in transformer maintenance.

The first batch of regenerated oil has been used in transformer maintenance at Isiolo 132/33kV substation.

In 2020, KETRACO acquired an oil regeneration machine from Maxei. Alongside the manufacturer, KETRACO organized training sessions for its Electronic - Plant staff on the machine's operation. As a result, the trained staff are now highly proficient in operating the plant.





EXPANDING THE GRID EVERY YEAR, EVERY CORNER

Strengthening and extending the national power transmission grid to enhance the quality, reliability and security of electricity supply in Kenya.

KETRACO BUILDS 4,863KM OF HIGH-VOLTAGE LINES, 42 SUBSTATIONS TO BOOST KENYA'S ENERGY INFRASTRUCTURE

By Jack Nduri

The Kenya Electricity Transmission Company Limited (KETRACO) has constructed 4,863 kilometers of high-voltage transmission lines and 42 substations over the past decade, marking significant progress in the country's energy infrastructure.

Incorporated in 2008 as a state corporation under the Companies Act, KETRACO's mandate involves planning, designing, constructing, and operating high-voltage transmission lines and regional power interconnectors as part of Kenya Vision 2030.

KETRACO's projects are pivotal to achieving Kenya's power goals, including enhancing system reliability, evacuating electricity from generation points, and extending electricity access to underserved regions.

With transmission lines ranging from 132kV to 500kV, these efforts have substantially improved the national grid, reaching more Kenyans with reliable power.

One of the flagship projects is the 500kV Eastern Electricity Highway, a High Voltage Direct Current (HVDC) line stretching 1,282 km, allowing Kenya to import affordable electricity from Ethiopia.

This regional connection is expected to lower energy costs and promote power trade across East Africa. Additionally, the newly completed 400kV Kenya-Tanzania interconnection project will connect Kenya's power grid with Ethiopia, Tanzania, and the Southern Africa Power Pool, bolstering regional energy integration.

As Kenya works toward 100% clean energy by 2030, KETRACO has been instrumental in integrating renewable energy sources into the grid.

The 400kV Suswa-Isinya line now evacuates power from Africa's largest wind farm, while the HVDC line from the Grand Ethiopian Renaissance Dam strengthens Kenya's renewable energy portfolio, supporting the country's shift to sustainable energy.

KETRACO also entered the telecommunications sector in 2014, when it was licensed as a Network Facilities Provider, enabling it to lease out dark fiber optic cables

to telecom service providers.

This fiber network, strung atop KETRACO's transmission towers, supports critical communication and emergency control for power operations while facilitating digital services across the country, in line with the government's Bottom-Up Economic Transformation Agenda (BETA).

With a total transmission capacity of 6,396 MVA, KETRACO's projects underscore its commitment to advancing Kenya's socio-economic development by strengthening the power grid and supporting vital communications infrastructure.



KETRACO EMBRACES SUSTAINABLE PRACTICES WITH NEW OIL REGENERATION MACHINE

By Otieno Arnold

KETRACO is taking significant strides towards sustainability and operational efficiency with the acquisition of a new oil regeneration machine. The Systems Operations and Power Management (SOPM) team, led by General Manager Eng. Kipkemoi Kibias, recently showcased this cutting-edge technology to senior management at one of the KETRACOs warehouse along Mombasa Road, Nairobi.

This new machine represents a crucial advancement in transformer maintenance. By regenerating used transformer oil, KETRACO can significantly enhance the longevity and performance of its transformers. This translates to reduced turnover, minimizing the need for frequent and costly replacements. Furthermore, this process has a positive environmental impact by reducing waste and minimizing negative environmental impact.

The impact of this technology is already being felt. Between September and October 2024, the

SOPM team successfully regenerated 9,000 litres of previously recovered transformer oil. This substantial quantity of regenerated oil is now available for reuse in transformer maintenance, creating a closed-loop system and reducing reliance on new oil purchases.

Demonstrating the practical application of this initiative, part of the regenerated oil has already been utilized in transformer maintenance at the Isiolo 132/33kV substation. This successful implementation highlights the immediate benefits of the oil regeneration process.

KETRACO's adoption of this oil regeneration technology underscores its commitment to sustainable practices. By investing in innovative solutions that promote efficiency and environmental responsibility, KETRACO is positioning itself as a leader in the power transmission industry. This initiative not only benefits the company's bottom line but also contributes to a more sustainable future.



KETRACO MD, Dr. Eng. John Mativo, MBS (right), with senior management representatives, during the launch of the newly acquired transformer oil regeneration machine by Eng. Gilbert Kibet (left) and Eng. Rex Suda (2nd left) and a technician.

UNITED STATES-AFRICA NUCLEAR ENERGY SUMMIT 2024: INDUSTRY READINESS AND THE FUTURE OF NUCLEAR POWER

Insights from Nairobi's Movenpick Hotel, July 27-30

By **Nehemiah Chochoi**

A Historic Collaboration

During President William Ruto's state visit to the United States this year, a landmark dialogue took place between President Ruto and U.S. President Joe Biden. A key focus of their discussions was the deepening of nuclear industry cooperation between the United States and Africa, aiming to drive the future of nuclear power on the continent.

Kenya's Ambitious Nuclear Plans

Kenya has set its sights on establishing its first 1,000-megawatt nuclear power plant in Kilifi and Kwale counties by 2034. This ambitious project underlines Kenya's commitment to expanding its energy mix with clean, reliable nuclear power, aligning with the nation's long-term goals for sustainable development.

The USANES 2024 Summit

Following the first United States-Africa Nuclear Energy Summit (USANES) held in Ghana, Nairobi was chosen as the host city for the second summit. Held from July 27-30, the summit, titled "Industry Readiness and the Future of Nuclear Power in Africa," convened technical experts, policymakers, and industry leaders from both the United States and Africa. The goal: to address critical issues hindering nuclear energy adoption in the region and chart a path forward for the continent's energy future.

Kenya's Vision for Clean Energy

In his opening remarks, Cabinet Secretary for Energy and Petroleum, Hon. Opiyo Wandayi, emphasized Kenya's dedication to clean, sustainable energy. He highlighted that the summit provided an excellent platform for benchmarking and exchanging experiences on various nuclear concepts. "

Access to clean, environment-friendly, reliable, and safe energy is key to achieving Vision 2030 and the

Bottom-Up Economic Transformation Agenda (BETA)," he stated.

Emphasis on Nuclear Safety

David Austin Wright, a member of the U.S. Nuclear Regulatory Commission, stressed the critical role of independent regulatory bodies in overseeing safe nuclear programs. He remarked, "As Africa's ambition for nuclear safety programs increases, nuclear safety must take center stage in all conversations." His comments underscored the summit's focus on ensuring that safety remains a top priority as Africa moves toward a nuclear-powered future.

A Positive Outlook for Africa's Nuclear Future

The summit concluded with a strong sense of optimism among delegates. The agreements and promises made during the summit are expected to catalyze key nuclear projects across the continent, setting the stage for a new era of energy in Africa. As the next USANES heads to Rwanda, there is hope that tangible milestones will have been achieved, bringing nuclear-powered energy one step closer to reality for Africa.



GREENING KENYA: A COMMUNITY-DRIVEN APPROACH TO TREE GROWING ENSURES GRASSROOTS OWNERSHIP BEYOND KETRACO'S SUPPORT

By Arnold Otieno



As the entity responsible for planning, designing, constructing, operating, and maintaining Kenya's high-voltage electricity transmission grid, KETRACO is at the forefront of implementing the Presidential Directive of 2023 on the National Tree Growing and Restoration Campaign. This campaign aims to grow 15 billion trees by 2032, increasing Kenya's tree cover from 12% to 30%.

The urgency of this campaign is necessitated by alarming deforestation statistics. Between 2015 and 2022, Africa lost 4.4 million hectares of forest, with much of this loss occurring in the Global South. In Kenya alone, 50,700 hectares of humid primary forest were lost between 2002 and 2022, representing 14% of the country's total tree cover loss during that period, according to Global Forest Watch(2023). This significant forest degradation calls for immediate action to restore and expand our forest cover.

Community Participatory Approach

In response to the Presidential Directive, KETRACO has committed to planting 3.3 million tree seedlings over the next 10 years, with an annual target of growing 330,000 seedlings. These trees will cover 300 hectares allocated to rehabilitate the Londiani Forest, Mt. Blackett Section.

For restoration efforts to succeed, effective governance and community-centered incentive approaches are essential. Restoration initiatives will only be sustainable if local communities, who are expected to take on long-term responsibility for the trees, have a vested interest in the project's success. To achieve this, KETRACO has partnered with the Kenya Forest Service (KFS) and adopted a community participatory approach, particularly in the restoration of degraded landscapes around Mau Summit.

Isaac Wafula, Forest Manager at Londiani, emphasized the importance of this approach: "We actively engage with the Community Forest Association and local residents, ensuring that the restoration reflects the community's

needs. This year, we have successfully restored 150,000 indigenous tree species and 10,000 exotic species, and we are on track to meet our goal of planting 330,000 seedlings this fiscal year."

Wafula further explained that promoting community ownership and sustainability is key to the project's success. "We focus on community engagement and empowerment by linking tree planting to food production, income generation, energy for cooking, and fodder for livestock. By aligning these initiatives with local needs, we ensure long-term commitment from the communities."

KETRACO and KFS are also providing training in nursery establishment and management to local communities. KETRACO purchases seedlings from these nurseries, and community members are involved in the hoeing, planting, weeding, and protection of trees until they reach maturity.

From 'Planting' to 'Growing'

The shift from merely 'planting' trees to 'growing' them is critical if Kenya is to meet its tree-planting goals. Beyond the initial act of planting, KETRACO works closely with KFS and Community Forest Associations to monitor the growth and survival of seedlings. This involves fostering partnerships with local groups and volunteers to share the responsibility of tree care and management.

Monitoring Growth and Survival

"Our teams are closely monitoring the progress of newly planted trees," Wafula explained. "We ensure that rangers protect the planting areas, preventing activities that could harm the seedlings. After three months, we assess the survival rates and replace any trees with a survival rate below 33%—a process called 'beating up.' We also conduct spot weeding

to remove competition from weeds, promoting tree growth and simplifying survival assessments.”

Naboth Mbalanya, KETRACO’s Environmental Safeguards and Sustainability Officer, emphasized the importance of these efforts. “By investing in spot weeding, we’re not only helping the trees thrive, but we’re also encouraging local communities to take part in their maintenance. This proactive approach allows us to track progress effectively and informs our replanting efforts, ensuring long-term success.”

Allocating Resources for Maintenance

Despite these efforts, ongoing maintenance and management require adequate funding and resources. This includes budget allocations for tree care professionals, equipment, training, research, and public education campaigns. KETRACO cannot shoulder this responsibility alone. Success will depend on public-private partnerships, where private organizations, businesses, and volunteers collaborate to provide funding, expertise, and manpower for tree care and management.

KETRACO JOINS CS OPIYO WANDAYI IN TREE GROWING INITIATIVE IN NARASHA, BARINGO COUNTY

By Arnold Otieno



Energy & Petroleum CS, Hon. Opiyo Wadai, EGH (3rd right), joins KETRACO staff during a tree planting ceremony at Narasha Forest in Baringo County.

KETRACO joined the Cabinet Secretary for Energy and Petroleum, Hon. Opiyo Wadai, in a tree-planting exercise in Narasha Forest, Baringo County, in line with the Presidential Directive on the National Tree-Growing and Restoration Campaign. The initiative, launched by President William Ruto in December 2022, aims to combat the adverse effects of climate change through the planting of 15 billion trees by 2032.

As part of this ambitious campaign, which seeks to reduce greenhouse gas emissions, reverse deforestation, and restore 5.1 million hectares of deforested and degraded landscapes, CS Wadai led the tree-planting efforts in Narasha Forest.

In his remarks, CS Wadai emphasized the importance of this initiative in fostering a secure, reliable, and sustainable energy future for Kenya. He highlighted how energy production is intricately linked to environmental

conservation, stating, “Every tree we plant today is a step towards not only a greener tomorrow but also securing reliable and quality energy for Kenya.”

The Ministry of Energy and Petroleum, along with its affiliated state agencies, has planted over 3.8 million trees on land allocated under the presidential directive.

The tree-planting effort in Narasha Forest is also part of the Plantation Establishment and Livelihood Improvement Scheme (PELIS), where trees are planted alongside crops. The local communities within the catchment areas play a crucial role in caring for the young trees, and crop growth is gradually halted as the tree canopy forms, ensuring the trees thrive.

Leading KETRACO’s team in this exercise was Naboth Mbalanya, Environmental Safeguards and Sustainability Officer, who reaffirmed KETRACO’s commitment to environmental sustainability as part of the company’s Corporate Social Responsibility (CSR) initiatives. KETRACO has been allocated 300 hectares for rehabilitation in Londiani Forest, Mt. Blackett Section, and has committed to planting 3 million trees over the next ten years. This translates to an annual target of 330,000 trees.

The event was attended by high-level officials from the Ministry of Energy and Petroleum, affiliated state agencies, the Deputy Governor of Baringo County, Kenya Forest Service representatives, the County Commissioner, and other local leaders, among others.

CLIMATE CHANGE MAKERS SCHOOL: BUILDING RESILIENT INFRASTRUCTURE FOR A SUSTAINABLE FUTURE

By Clifford Siocha

The University of Nairobi (UoN), in collaboration with the Global Center on Adaptation (GCA), hosted the Climate Change Makers School in October 2024. The event brought together leading experts, policy makers, and stakeholders from across various sectors to discuss innovative strategies to climate-proof development. The event, which focused on building climate resilience, attracted participants from government, academia, and the private sector, with a special emphasis on adapting infrastructure to the challenges posed by a changing climate.

KETRACO was represented by the Manager, Project Development, Eng. Taddeo Mwaura and Clifford Siocha, Senior Environmental Safeguards and Sustainability Officer who played a role in contributing to the discussions, particularly in relation to the integration of climate risk assessments in electricity transmission projects.

Why mainstream Climate Risk Assessment

One of the most significant discussions during the Climate Change Makers School focused on the crucial need for climate risk assessments (CRAs) to be conducted early in the planning stages of infrastructure projects. With the increasing frequency and intensity of climate-related events—such as extreme heat, flooding, droughts, and storms—the vulnerability of critical infrastructure, including electricity transmission lines, is rising. As such, there is an urgent need to assess these risks and build climate resilience into infrastructure designs from the outset.

Historically, infrastructure planning relied on historical climate data to inform design decisions. However, in the context of a rapidly changing climate, it is essential to move beyond past weather patterns and focus on future climate projections, particularly those based on climate modeling. These projections offer a more accurate picture of how the climate may evolve and provide a better

foundation for designing infrastructure that can withstand future risks. When creating climate-resilient infrastructure, it is vital to use best-case scenarios to ensure that the designs are robust enough to handle not only the expected changes but also unexpected extremes that may arise.

For electricity transmission systems, this means assessing potential risks such as the failure of power lines due to high winds, the impact of extreme temperatures on equipment, and flooding in areas where transmission lines and substations are located. Climate risk assessments enable decision-makers to identify these vulnerabilities and integrate measures that enhance resilience into the planning and implementation phases. By proactively identifying risks and implementing adaptive strategies, it is possible to ensure that Kenya's energy grid remains reliable and resilient, even in the face of growing climate pressures.

A key aspect of developing these assessments is the need for collaboration across diverse sectors and disciplines. Climate risk assessments require inputs from meteorologists, hydrologists, geologists, climatologists, sociologists, engineers, and environmentalists to ensure that the assessments are comprehensive and consider all potential risks. This cross-disciplinary approach ensures that the CRAs reflect not only the physical and environmental risks but also the socioeconomic implications of climate



change on infrastructure. Collaborating with the Kenya Meteorological Department (KMD) and other sector players is essential for obtaining reliable and up-to-date climate data, as well as for modeling future climate scenarios accurately.

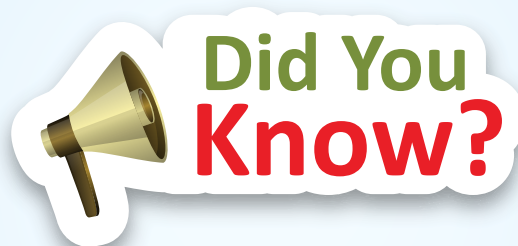
These assessments can be developed either as stand-alone documents or integrated into the Environmental and Social Impact Assessment (ESIA) process. Integrating CRAs into the ESIA framework allows for a holistic approach to project planning, where climate risks are considered alongside environmental and social factors, ensuring that climate resilience is embedded throughout the development lifecycle of a project.

Furthermore, it is far more cost-effective to build climate resilience during the planning and design phases of infrastructure projects rather than attempting to retrofit resilience after construction. Retrofitting existing infrastructure to adapt to climate risks often requires expensive and disruptive modifications, as well as increased maintenance costs. On the other hand, integrating resilience into the initial design phase can result in long-term savings by reducing the need for expensive repairs and ensuring that the infrastructure is better able to withstand climate events. Moreover, addressing climate risks early in the planning stages can help avoid costly downtime and service disruptions

that can arise from infrastructure failure due to climate impacts.

By proactively addressing climate risks and integrating adaptation strategies from the outset, infrastructure projects can be built in a way that not only protects public investments but also ensures the long-term sustainability and resilience of critical systems such as energy, transport, and water supply. This proactive approach is essential in making sure that infrastructure remains functional and safe as climate conditions continue to evolve.

In conclusion, moving towards future climate projections and embracing cross-disciplinary collaboration for climate risk assessments offers a comprehensive approach to building resilient infrastructure. For the energy sector in Kenya, this means ensuring that electricity transmission systems are designed to withstand future climate challenges, enhancing both their reliability and sustainability. The shift from reactive adaptation to proactive resilience-building at the planning stage is not only more cost-effective but is also key to ensuring that infrastructure can continue to support the needs of communities, industries, and businesses in an increasingly uncertain climate future.



Every Drop Counts!



Conserving water is essential for sustainable energy use. Fixing leaks and using water-saving fixtures can help reduce energy consumption. Together with **KETRACO**, let's be mindful of our water usage for a greener planet.

ELECTRICITY TRANSMISSION'S ROLE IN KENYA'S ENERGY TRANSITION: A PAPER AT THE ENVIRONMENTAL INSTITUTE OF KENYA

By Clifford Siocha

From October 22nd to 25th, 2024, at the Continental Hotel in Shanzu, the Environmental Institute of Kenya (EIK) convened its annual conference under the theme "Climate Change and Energy Transition. KETRACO was represented by the Environmental Safeguards and Sustainability team. Clifford Siocha, senior environmentalist presented an insightful paper, co-authored with Electrical Engineer Eng. Winfred Mutinda, entitled "The Role of Electricity Transmission in Kenya's Energy Transition." The paper highlighted the indispensable role of electricity transmission infrastructure in achieving Kenya's ambitious goal of a 100% clean energy grid by 2030.

Kenya's Pathway to Energy Transition

As Siocha and Mutinda emphasized, Kenya's energy grid is already 93% renewable, positioning the country as one of Africa's green energy leaders. A robust and resilient transmission network is central to completing this transition and making 100% clean energy a reality. The paper outlined how expanding transmission network is the critical link between Kenya's renewable energy sources—such as wind, solar, hydroelectric, and geothermal—and the regions that rely on them, ensuring a stable, reliable, and green energy supply to power a sustainable future.

Electricity Transmission as a Backbone of Kenya's energy transition

The paper underscored the unique position of electricity transmission as more than a logistical necessity; it is the very backbone of Kenya's energy transition. It also highlighted that renewable energy sources are frequently situated far from urban centres where demand is highest, making an expansive and reliable transmission network essential for integrating and distributing this clean power effectively. The transmission network plays this role, facilitating renewable integration and stabilizing the grid as Kenya continues to phase out fossil fuels. The network includes a range of 132kV, 220kV, 400kV, and 500kV lines, which

connect renewable-rich areas to major load centres, while reinforcing and modernizing the grid to ensure both efficiency and stability. The paper highlighted that by 2023, Kenya's installed capacity had reached 2,819 MW, with 93% of this energy from renewable sources already integrated in the transmission system.

Challenges in Achieving a Fully Renewable Grid

The paper acknowledged that the prevailing challenges such as:

- 1. Grid Reliability and Outages:** The natural variability of wind and solar energy creates challenges for consistent power flow, requiring innovative solutions to maintain grid stability.
- 2. Infrastructure Bottlenecks:** Capacity constraints in certain regions that hinders efficient energy transmission, particularly as energy demands rise.
- 3. Environmental and Social Barriers:** Land use and social impacts pose challenges in gaining community support for new transmission projects.
- 4. Financing Constraints:** The costs associated with expanding transmission infrastructure are substantial, often requiring external financial support.
- 5. Climate Resilience:** Increasingly severe weather events demand climate-resilient infrastructure to withstand changing environmental conditions.

Innovative Solutions for a Sustainable Transmission Network

The paper presented innovative and forward-thinking solutions to bridge existing constraints in Kenya's energy transition. It highlighted the integration of advanced smart grid technologies, including shunt reactors, Static Compensators (STATCOMs), and the use of Supervisory Control and Data Acquisition (SCADA) systems, which collectively enhance grid management, improve efficiency, and build redundancies that bolster resilience. Energy storage systems were identified as a priority, enabling surplus renewable energy to be

stored and deployed as needed to stabilize supply. The paper also emphasized the potential of microgrids to support localized energy needs in remote areas, providing a reliable energy source independent of the central grid.

In terms of financing, the paper proposed innovative mechanisms such as Public-Private Partnerships (PPPs) to fund infrastructure expansion, as well as leveraging climate finance for both mitigation and adaptation. Cross-border projects, like the Kenya-Tanzania and the Eastern Electricity Highway Project, were further highlighted as critical to enhancing energy security and fostering regional trade.

Aligning with Global and National Goals

The paper gave an alignment of KETRACO's mission with international climate frameworks like the Paris Agreement 2015 which identifies the energy sector

as a key pathway and enablers for decarbonization; Africa's Agenda 2063 which target 300 GW of renewable capacity across the continent by 2030; and the Sustainable Development Goals (SDGs) number 7 which promotes affordable and clean energy access, SFG 9 promotes infrastructural innovation including resilience, while SDG 13 emphasizes climate action. These frameworks underscore the need for low-carbon energy systems as a foundation for sustainable development. Domestically, Kenya's Vision 2030 places KETRACO central to the energy transition agenda.

A Sustainable Future

As Kenya moves closer to its target of a 100% renewable energy grid by 2030, the role of electricity transmission remains increasingly pivotal. The paper highlighted that KETRACO's commitment to grid expansion, enhanced resilience, and technological integration ensures that this transition will be just and of benefit to all Kenyans by providing reliable, clean energy and building the foundation for a sustainable, resilient future.

Technical team carrying out maintenance works on the 500HVDC Ethiopia-Kenya Interconnector



Jubilant KETRACO Staff display a trophy won at the 2024 Mombasa International ASK Show

THE MOMBASA ASK EXPERIENCE

By Clifford Siocha

The last time I was at an ASK showground, I was a cocky teenager in mid-high school, there for a scout's function. Buoyed by the spirit of adventure, the show met every expectation of the time—meeting a few lasses, enjoying the merry-go-round, marvelling at the spectacle of the headless body, and even spotting mermaids. It was a day perfectly suited for a bumpkin. We adorned the khaki scout uniform and typical high school cotton pants—with one side fashionably folded to match the swag of the day—I relished the thrill of it all.

Post-high school, I never really thought of attending another ASK show. But here I was in September 2024, years later, this time representing KETRACO at the Mombasa International ASK Show as an exhibitor. Life has a funny way of bringing full-circle moments, and this was certainly one. The opportunity to showcase KETRACO's contributions alongside my colleagues brought fresh excitement. The team ready to seize every opportunity, and from the onset the team was not inimical to failure but the term itself seemed to us a sacrilege.

Bountiful credit to the corporate communication division. They were responsible for transforming the lonely bare rat-structure to an eye-catching and inviting space. The meticulous transformation from a bare shell to a professional corporate stand was impressive and

touchy. Their patience, precision, and ability to handle dignitaries some with often-overbearing protocols was nothing short of admirable.

As someone not directly involved in the protocol side of things, I found myself in a quieter, more observant role—learning in silence, yet with a sharpness of mind. The theme of the show was crafted to resonate with current global and local issues: climate change, smart agriculture, and trade. While our primary role was to demonstrate how electricity transmission line contributes to these themes, the experience taught us much more about the broader aspects of public engagement.

The lessons gathered weren't just about the technicalities of the energy sector, but also about life's basics. The corporate image bore the bulk of our interactions with the public, and it became clear that corporate messaging ought to be universally accessed. The public is increasingly aware of issues related to environment, social, and governance (ESG), and there's growing appreciation for Corporate Social Responsibility (CSR). It's no longer enough to present facts—authenticity and relatability are key.

We close it (tulikafunga) and feted as the best institution in energy and conservation.

Kudos family!!

POWER RESTORED TO LAMU COUNTY AS KETRACO COMPLETES 220KV LINE REPAIRS

By Jack Nduri

Lamu County is once again enjoying reliable electricity after Kenya Electricity Transmission Company Limited (KETRACO) successfully restored the 220kV Garsen-Lamu transmission line.

The line had been out of service since September 2023 following the collapse of three key towers (T236, T237, and T238), plunging the region into months of unreliable power and low voltages.

The restoration process was a major undertaking involving multiple phases. KETRACO procured a contractor to rebuild the damaged section, which included constructing new foundations, erecting replacement towers, stringing high-voltage lines, hoisting insulators, and performing optical ground wire (OPGW) splicing and stringing.

Jumping and final cross-checks ensured the line was safe and ready for energization.

To address overgrown vegetation that posed a risk to the restored line, KETRACO mapped a 15km section between towers T130 and T170 where tall trees threatened the power corridor. All dangerous trees

were cleared to protect the infrastructure and prevent future disruptions.

Given the area's designation as a security zone, the restoration effort required close collaboration with the Kenya Defence Forces (KDF) based at Manda, Mkunumbi, and Witu camps, as well as local administrators and KETRACO Coast region officers. This partnership was instrumental in ensuring safety and efficiency throughout the project.

With the transmission line now fully operational, Lamu County residents are experiencing stable and dependable power. This marks a significant improvement from the temporary reliance on the old 33kV supply, which struggled to meet the region's demands.

This successful restoration highlights KETRACO's resilience and commitment to delivering reliable power infrastructure, even in the face of challenging conditions. As part of its ongoing efforts, the company remains dedicated to initiative-taking maintenance and partnerships to ensure a secure and robust energy future for all.





KETRACO MD, Dr. Eng. John Mativo, MBS (2nd right) pose with KCB Group CEO, Mrs. Annastacia Kimtai (Center) and other senior management team members from both companies during a courtesy call to KETRACO.

KCB GROUP AND KETRACO STRENGTHEN PARTNERSHIP TO DRIVE NATIONAL DEVELOPMENT

By Jack Nduri

A team from KCB Group, led by Managing Director Mrs. Annastacia Kimtai, paid a courtesy call on KETRACO Managing Director Dr. Eng. John Mativo, MBS, to express gratitude for the ongoing collaboration and explore new business opportunities between the two organizations.

This meeting underscored the long-standing partnership between the two entities, further solidifying their mutual commitment to driving national development.

KETRACO, a fully government-owned company, plays a critical role in the energy sector by constructing and operating high-voltage electricity transmission infrastructure that enhance grid stability and expand access to electricity across the country and the region.

Through its partnership with KCB Group, KETRACO has benefited from tailored banking solutions that support the company's strategic goals and operational efficiency.

During the meeting held at the MD's office in KAWI Complex, discussions focused on leveraging innovative financial products to support KETRACO's ambitious infrastructure projects. These projects are designed to promote industrialization, increase energy connectivity, and drive economic growth in line with Kenya's Vision 2030.

Present at the meeting were KETRACO's General Manager, Finance CPA Tom Imbo, KCB Group's Mr. David Nyamu (General Manager, Public Sector) and Mr. Caleb Kiarie (Business Manager – MD's Office Kenya). The session highlighted the alignment of both organizations' visions in fostering sustainable development and powering Kenya's economy.

KCB Group commended KETRACO for its exemplary role in advancing electricity transmission infrastructure, which has not only boosted reliability in power delivery but also enhanced investor confidence in Kenya's energy sector.

The bank reaffirmed its commitment to providing innovative financial solutions tailored to meet the growing needs of KETRACO, including support for green energy initiatives.

This collaboration reflects the synergy between public sector institutions and private sector partners in achieving shared objectives of national importance. Both teams expressed optimism about future opportunities to deepen their engagement and deliver value to stakeholders while contributing to Kenya's socioeconomic transformation.

KETRACO TO BUILD STATE-OF-THE-ART SYSTEM CONTROL CENTRE TO BOOST NATIONAL GRID EFFICIENCY

By Otieno Arnold



Kenya Electricity Transmission Company (KETRACO) has entered into an agreement with a consortium comprising Grid Solutions SAS and Larsen & Toubro Limited to construct a new National System Control Centre (NSCC) in Embakasi, Nairobi. This facility will play a critical role in reducing power outages, enhancing grid reliability, and facilitating the integration of renewable energy into Kenya's power network.

Frequent blackouts in Kenya have often been attributed to failures within the national grid, particularly disruptions in the transmission network. The construction of the new NSCC aims to address these issues by providing advanced tools and capabilities for real-time monitoring and more efficient grid management.

In addition to the main control center, KETRACO will establish a backup facility to oversee the performance of assets and ensure continuous surveillance of grid operations. This modern, spacious, and well-equipped center is expected to meet both current and future demands, aligning with the expectations of the government and key stakeholders in the energy sector.

"We are building a state-of-the-art National System Control Centre in Embakasi, which is essential for

the efficient operation of the grid," said KETRACO Managing Director, Dr. Eng. John Mativo, MBS. "With the national grid expanding and more renewable energy being added to the mix, it is crucial to have a facility that allows for real-time monitoring and control of energy dispatch across the country. The new NSCC will enable KETRACO to better manage the increasing complexity of the grid, which includes high-voltage interconnectors with neighboring countries."

The project, slated for completion within 36 months, follows KETRACO's expanded role as a system operator under Section 138 of the Energy Act, as designated by the Energy and Petroleum Regulatory Authority (EPRA) in 2021. The NSCC will significantly enhance KETRACO's ability to maintain grid stability and efficiency as Kenya's power demands continue to grow.

The initiative is jointly financed by the Agence Française de Développement (AFD) and the French Ministry of Finance.

KETRACO EYES PARTNERSHIP WITH ISRAEL TO FORTIFY CYBERSECURITY DEFENSES.

By Otieno Arnold



KETRACO MD, Dr. Eng. John Mativo, MBS (3rd left - front) pose with Israeli Ambassador to Kenya, Michael Lotem (4th left - front), and representatives from KETRACO and Israel Embassy during a courtesy visit to KETRACO.

In a move to bolster its cybersecurity resilience, KETRACO recently hosted a high-level delegation from the Embassy of Israel at its Kawi Complex headquarters in South C. The meeting, led by Israeli Ambassador, Michael Lotem, focused on exploring potential collaborations in the crucial field of cybersecurity.

Recognizing the increasing sophistication and frequency of cyber threats targeting critical infrastructure, KETRACO is proactively seeking partnerships to enhance its defenses. Israel, globally recognized for its cutting-edge technological advancements and expertise in cybersecurity, presents an invaluable opportunity for collaboration.

The discussions centered on developing innovative solutions to address emerging cyber threats and safeguarding KETRACO's vital infrastructure, which plays a crucial role in maintaining the stability of the national grid. The partnership aims to leverage Israel's experience in protecting critical infrastructure from sophisticated cyberattacks.

The meeting saw a strong representation from both sides. Alongside Ambassador Lotem, the Israeli delegation included Pauline Arunga, Orit Fredkot, Lior Frumkes, and Hilla Leder. Samuel Karoni of Compland also joined the discussions. The KETRACO team was led by Dr. Kimando, General Manager of Strategy,

Research, and Compliance, and included Eng. George Ngugi, Grace Ndegwa, Lawrence Kirui, and Eric Chuma.

By joining forces with a global leader in cybersecurity, KETRACO is taking proactive steps to protect its critical infrastructure and maintain the reliable flow of electricity across the nation.

This collaboration promises to be a significant step forward in securing Kenya's energy infrastructure in an increasingly interconnected world.



SARAH MUGO: I WILL REVOLUTIONIZE BUSINESS DEVELOPMENT AND DELIVER UNPRECEDENTED GROWTH

By Jack Nduri

In the fast-paced corporate corridors of KETRACO, Sarah Mugo stands out as a young, industrious, and visionary leader.

She is Manager, Business Development at KETRACO. Sarah embodies a perfect blend of intellectual prowess, strategic acumen, and an unrelenting commitment to excellence.

Behind her keen, analytical gaze lies a wealth of knowledge and ideas that continue to propel KETRACO toward a brighter, more innovative future.

Born and raised in Nairobi, Sarah's journey is a testament to the power of perseverance and strategic growth. A seasoned marketer with 15 years of experience across multiple industries, she has carved out a stellar career defined by impactful results and a trail of groundbreaking initiatives.

Before joining KETRACO, Sarah made her mark at the University of Nairobi Enterprises & Services Limited (UNES), where she managed diverse income-generating units, including the Dental Plaza, Eye Centre, and Chiromo Funeral Parlour, among others.

Her ability to introduce new strategic revenue streams significantly boosted the organization's income, a feat she considers one of her greatest professional achievements.

At KETRACO, Sarah has carried forward this innovative spirit. Within just 11 months of her tenure, she has already driven remarkable growth in the company's fibre optic revenue, elevating it from Kshs. 201 million to an impressive Kshs. 312 million.

With her keen eye for opportunities and

a collaborative approach, Sarah is collaborating closely with her team to introduce new income streams, solidifying KETRACO's position as a leader in the energy sector.

Sarah's role as Manager, Business Development is both dynamic and demanding. She oversees the execution of business strategies, manages relationships with commercial clients, develops marketing plans, and spearheads revenue-generating initiatives.

An analytical thinker with a knack for navigating complex challenges, Sarah is deeply involved in crafting business proposals and policies that align with the company's growth objectives. She is also a strong advocate for staff development, actively mentoring her team and encouraging capacity-building to enhance productivity.



Colleagues describe Sarah as polite, respectful, and soft-spoken, with an approachable demeanour that fosters collaboration. Yet beneath her calm exterior lies a formidable strategist with an eye for detail and an unwavering focus on delivering results.

Her ability to inspire confidence and rally support from staff, management, and the board has been instrumental in overcoming challenges, particularly in the implementation of new revenue streams.

Beyond her professional achievements, Sarah is equally dedicated to her family and community. A wife and mother of two, she skilfully balances her demanding career with family life, relying on meticulous planning and a dedicated support system.

In her free time, she enjoys traveling, watching movies, and spending quality moments with loved ones. Her commitment to nation-building extends beyond her professional role—Sarah supports less fortunate

members of society by visiting children's homes and assisting pupils with school fees, embodying the spirit of giving back to the society.

Sarah's vision for KETRACO is as ambitious as it is inspiring. She believes in the company's immense potential and advocates for teamwork and innovation to unlock new opportunities.



Her leadership philosophy is rooted in persistence, resilience, and continuous improvement—values she passionately imparts to young professionals aspiring to make their mark in the corporate world.

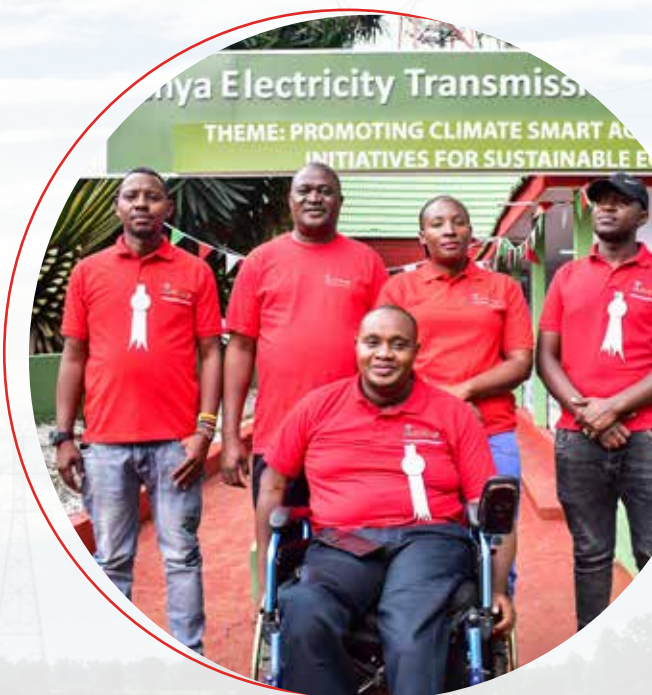
As Sarah Mugo continues to redefine the boundaries of what is possible in business development, she remains a shining example of dedication, ingenuity, and leadership. With her sharp mind, innovative ideas, and unwavering determination, she is poised to lead KETRACO into a future brimming with promise and success.



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KETRACO: 16 YEARS OF POWERING PROGRESS

By Risper Kemunto

Sixteen years since the incorporation of KETRACO on 2nd December 2008, the Company celebrated the remarkable strides made in developing Kenya's high-voltage transmission network this year.

These milestones are a testament to the unwavering dedication and hard work of the staff, whose vision and diligence have propelled the Company to its current position as a cornerstone of Kenya's energy infrastructure.

Since inception, KETRACO has made significant contributions to transforming the energy landscape. Out of the country's total transmission network of approximately 9,386.5 circuit kilometres, KETRACO owns and operates 5,919.5 kilometres, accounting for an impressive 63.06%.

This expansion represents more than just numbers; it reflects enhanced connectivity, reliability, and accessibility of power to millions of Kenyans.

Over the years, the Company has completed and

commissioned 46 new substations with a combined capacity of 6,555 MVA, alongside 32 bay extensions. These developments not only bolster the grid's capacity but also enhance its resilience, aligning with KETRACO mission to support Kenya's growing energy demands and economic aspirations.

Our journey of progress continues with ambitious plans to exceed 10,000 circuit kilometres by June 2025. Key projects set to drive this growth are the Nanyuki-Isiolo, Isinya-Konza, Awendo-Masaba, Rabai-Bamburi-Kilifi, Nanyuki underground cable, Nanyuki-Rumuruti, Lessos-Kabarnet, Kitui-Wote, and Sondu-Ndhiwa lines. These additions will mark yet another transformative phase for Kenya's energy sector.

As we celebrate this milestone, we remain committed to lighting up the nation and beyond. With God's guidance and the dedication of our talented team, KETRACO will continue to empower lives, drive economic growth, and build a sustainable energy future for generations to come.

16 years of Expanding the Grid



Total Transmission Network:
9,386.5 km (Circuit Length)

KETRACO Ownership:
63.06% (5,919.5 km) Owned
and Operated

Substations:

- 46 New Substations Completed & Commissioned
- Capacity: 6,555 MVA
- Bay Extensions: 32

The Road Ahead:

What's Next for KETRACO

10,000

Circuit
Kilometers! By
June 2025

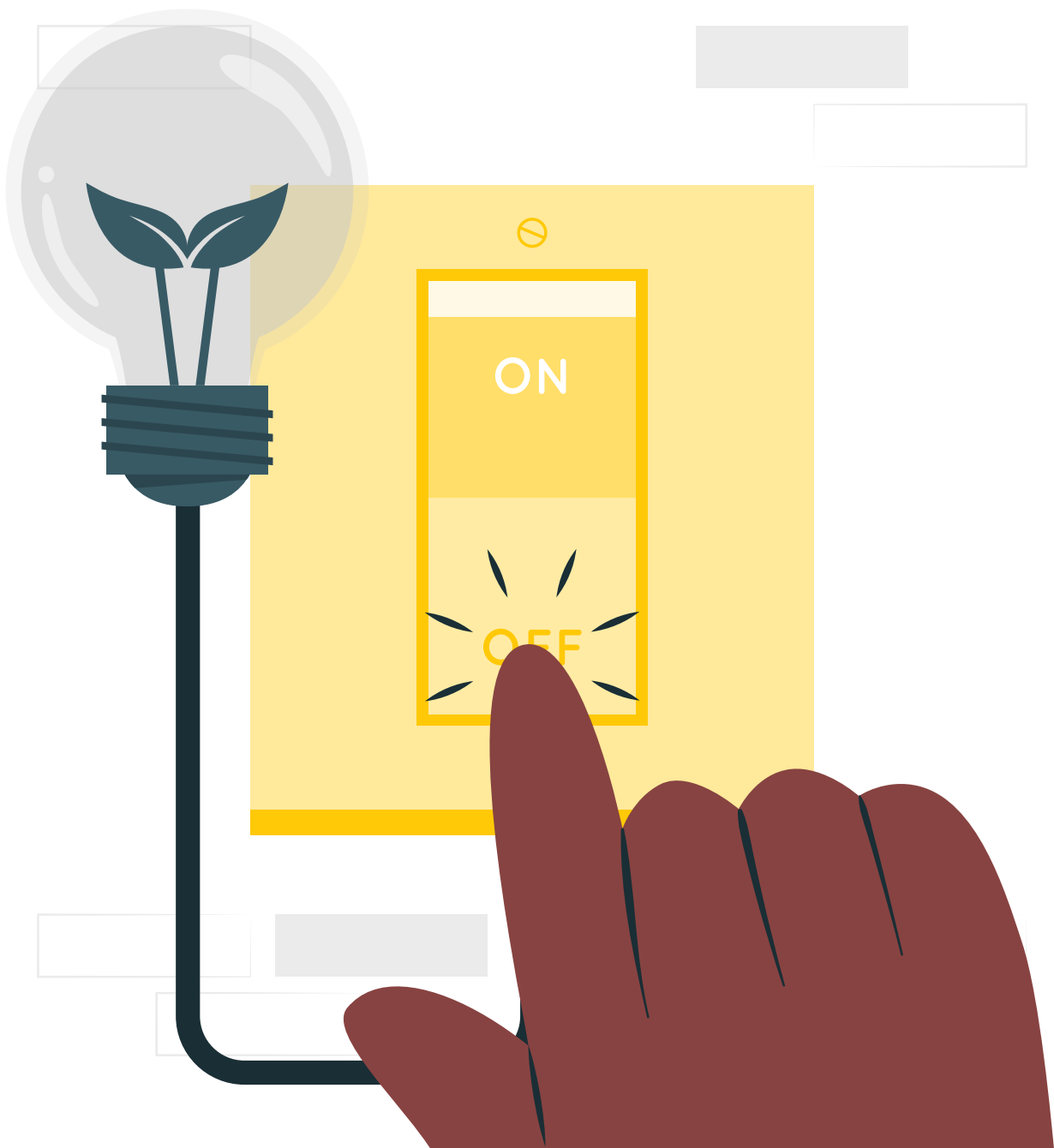
New Lines

- Nanyuki - Isiolo
- Isinya - Konza
- Rabai Bamburi - Kilifi

Turn off those unused lights.

Every watt counts!

#SaveEnergy



ETHIOPIA-KENYA INTERCONNECTOR DEMONSTRATES SUCCESS OF REGIONAL INTEGRATION

By Otieno Arnold

KETRACO and Eastern Africa Power Pool member nations have made significant strides in developing the necessary infrastructure for increased power trade. Key achievements include the completion and operationalization of the Ethiopia-Kenya 500 kV HVDC Interconnector in November 2022 and the the Rwanda-Uganda Interconnector in October 2023. Additionally, the Kenya-Tanzania Interconnector was recently energized, with its commissioning expected in early 2025.

The Ethiopia-Kenya interconnector is a bipolar 500 kV HVDC line, running approximately 1066 km from Wolayta Sodo in Ethiopia to Suswa in Kenya, with a 2000 MW power transfer capacity. The Ethiopia-Kenya interconnector has proven to be a significant catalyst for regional integration, bringing about numerous benefits for both Kenya and the region.

Speaking during the Eastern Africa Power Pool Regional Trade Conference 2024 conference held on 9th-11th December in Mombasa Kenya, Ashebir Balcha, CEO of Ethiopian Electric Power (EEP), highlighted the impact of the Ethiopia-Kenya Interconnector. "The Ethiopia-Kenya Interconnector transmission line has accelerated regional integration by enhancing power supply options in Kenya. In 2023, the Interconnector transacted a total volume of 664.5 GWh of energy, and in the first 11 months of 2024, it transacted 1200 GWh. This has boosted reliability, ensured business sustainability and improved digital connectivity in both countries."

Additionally, the interconnector has contributed to business sustainability by lowering the cost of electricity for Kenyan businesses, making them more competitive. The project has also facilitated access to green energy, thereby promoting sustainable development and reducing carbon emissions.

Dr. Eng. John Mativo, the managing director of KETRACO, speaking at a roundtable discussion during the recent EAPP Power Trade 2024 conference, highlighted the significant increase in power imports from Ethiopia. He stated, "Kenya imported 672.26 million kilowatt-hours (kWh) of power from Ethiopia during the six months, an increase from 357.44 million kWh a year ago. The imports have been on the rise, growing from a low of

20 million kWh a month in 2023 to a high of 122 million kWh per month in 2024."



KETRACO MD, Dr. Eng. John Mativo during a panel discussion at the Eastern Africa Power Pool Regional Trade Conference 2024 held on 9th-11th December in Mombasa, Kenya.

"Mativo further emphasized the significant economic advantages this interconnector offers both nations. He stated, 'This project is projected to generate up to \$100 million in annual revenue for Ethiopia, while simultaneously enabling Kenya to achieve annual savings of \$10 million by leveraging electricity supplies from Ethiopia.'"

Additionally, the project has had a positive social impact by contributing to social responsibility initiatives, improving digital connectivity in both countries, and enhancing communication and economic opportunities.

Overall, the Ethiopia-Kenya interconnector exemplifies the power of regional cooperation in addressing energy challenges and fostering sustainable development. It highlights the potential for cross-border energy trade to drive economic growth and improve the quality of life for citizens in the region.



A delegation from EAPP Power Trade Conference 2024 during a site visit at 400kV Mariakani Substation, Kilifi County.

KETRACO HOSTS EAPP POWER TRADE CONFERENCE DELEGATES AT MARIAKANI SUBSTATION

By Otieno Arnold

KETRACO recently hosted delegates from the Eastern Africa Power Pool – Regional Trade Conference 2024 at the strategic 400/220kV Mariakani Substation.

This state-of-the-art facility plays a pivotal role in the Ethiopia-Kenya-Tanzania Electricity Highway project, a key initiative in Kenya's ambitious goal of achieving 100% clean energy by 2030.

The Mariakani Substation is a critical component of Kenya's power grid infrastructure. Its reinforcement is essential to fully realize the operational benefits of the Ethiopia-Kenya-Tanzania Electricity Highway. By enhancing transmission capacity, the 400kV Mombasa – Nairobi Transmission Line, starting at the 400kV Mariakani Substation in Kilifi County and terminating at 400kV Isinya Substation in Kajiado County, will boost power supply and reliability to support industrial growth and increased electricity access in the coastal region.

The African Development Bank has played a key role in financing the 400kV double-circuit transmission lines from Mariakani to Isinya and the 220kV double-circuit lines to Rabai, with additional support from the European Investment Bank and the French Development Agency.

The Mariakani Substation will significantly improve power supply reliability to the coastal region, reduce reliance on costly diesel-powered generation, and facilitate the integration of renewable energy sources, thereby accelerating Kenya's transition to 100% clean energy by 2030.

Additionally, the substation will enhance power quality, optimizing the utilization of the HVDC link and imported power. The 400kV Mariakani – Isinya link is expected to be operational by end of February 2025.

During the tour, the visitors did not only learn but also appreciate the key role that KETRACO plays in the energy sector and, more importantly, in the regional interconnections and power exchange.



EASTERN AFRICA SET TO LAUNCH REGIONAL POWER MARKET IN 2025

By Otieno Arnold



Energy and Petroleum CS, Hon. Opiyo Wandayi, EGH and industry leaders from the East African Power Pool (EAPP) at the opening ceremony for the EAPP Power Trade Conference 2024 at Sarova Whitesands Hotel, Mombasa

Eastern Africa region is poised to revolutionize its energy sector with the launch of a centralized Day Ahead Market (DAM) in 2025. This ambitious initiative, announced during the Eastern Africa Power Pool (EAPP) trade conference 2024, aims to create a regional market for electricity trade among member states.

The DAM will facilitate the trading of low-cost energy, including renewable sources. By integrating shared infrastructure and fostering competition, the market is expected to deliver more reliable, affordable, and sustainable power to over 620 million people in the region.

Hon. Opiyo Wandayi, the Cabinet Secretary for Energy and Petroleum, Kenya, emphasized the importance of expanding access to reliable and affordable electricity in driving economic growth and development. Speaking on the impact of the initiative, he described it as "a significant step towards boosting economic productivity across Eastern Africa."

The conference hosted by the Kenyan government, brought together key stakeholders, including ministers, regulators, and international experts, to discuss the roadmap for the market launch and address any outstanding challenges.

Hon. Okasai Opolot, Chairperson of the EAPP Council of Ministers, emphasized the importance of aligning national and regional policies to ensure a smooth transition to the unified market.

"By championing the benefits of regional integration, we can unlock the full potential of renewable energy resources and drive sustainable progress," he said.

James K. Wahogo, the Secretary General of EAPP, underscored the significant technical advancements in market design and platform development. "EAPP power market is built to be both adaptable and inclusive, addressing the unique requirements of each member state while upholding international standards," he stated.

The opening of the regional power market will open up trade prospects by allowing countries to purchase electricity from neighbors with excess generation capacity. The current supply-demand balance and power generation constraints in many nations suggest that a thriving cross-border power market is possible with the correct infrastructure and regulatory frameworks.

This regional power market holds immense promise for the future of energy in Eastern Africa. By harnessing the region's abundant renewable energy resources, the initiative aims to improve access to electricity, enhance reliability, and drive down energy costs for millions of people.



KETRACO MD, Eng. Dr. John Mativo, MBS (center), at roundtable between EAPP CEOs during the EAPP Power Trade Conference 2024 at Sarova Whitesands Beach Resort & Spa Mombasa, Kenya.

PICTORIALS



KETRACO MD Dr. Eng. John Mativo (center) had the honor of being a panelist during the Clean Energy Conference 2024 discussing Government and Geopolitics of Clean Energy in Africa



PS Energy and Petroleum Alex Wachira speaking during maiden visit of the Energy and Petroleum CS at KETRACO HQ.



KETRACO MD, Dr. Eng. John Mativo (center) handing over food donations to the Principal Turbi Girls Secondary School, madam Bokayo Diba Giralgo.



KETRACO Communication officer, Otieno Arnold responding to visitors queries at the Power and Energy Conference 2024 at KICC, Nairobi.



KETRACO MD, Dr. Eng. John Mativo, MBS, leads KETRACO Staff to mark the 2024 Customer Service Week at KAWI Complex



1-3, Newly Appointed CS, Energy & Petroleum, Hon. Opiyo Wadai and Outgoing CS, Davis Chirchir at the handing/taking over at Isinya Sub-Station, Aug 14, 2024.



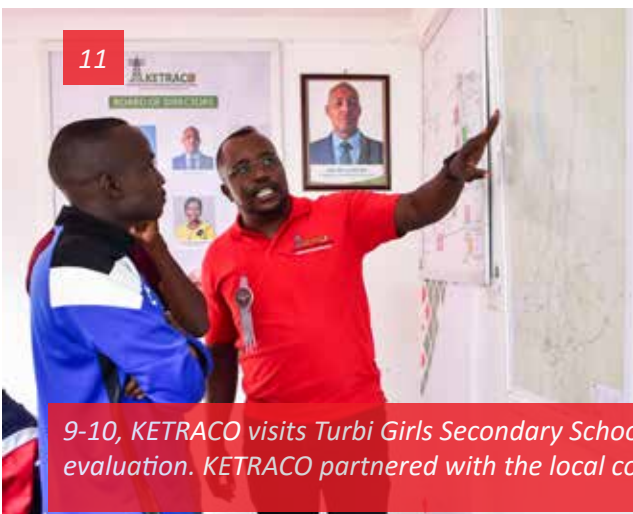
4-8 Customer Service Week 2024 Celebrations



9



10



11



12

9-10, KETRACO visits Turbi Girls Secondary School in Marsabit County as part of project monitoring and evaluation. KETRACO partnered with the local community to construct the school from scratch.



16

14 & 16, KETRACO Staff took part in the 2024 Stanchart Marathon in Nairobi

13



11-13, KETRACO Staff at the 2024 Nairobi International Trade Fair

14



15



KETRACO MD, Dr. Eng John Mativo, MBS (left), receives a trophy and certificate at the 2024 Digitaly Fit Awards from the CEO of the Kenya Film Classification Board, Dr. Ezekiel Mutua, MBS.





At KETRACO, we are dedicated to providing you with exceptional service. Our team is ready and eager to hear from you.

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