REREC
A Green Energy Driven Nation

Jan - March 2021 Issue #3

The Highlight

GARISSA SOLAR PLANT

Leading The Green Drive

COUNTY NEWS

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REREC & NUPEA Collaborates

@ REREC

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A lot of water has passed under the bridge since the last issue of our newsletter. Well, it has been quite a quarter, hasn't it? We would be completely off the mark if we didn't mention happenings that made news nationally.

Within this period, the COVID-19 third wave peaked, prompting the government to institute new measures to curb the spread of the disease. This included the declaration of Nairobi, Kajiado, Machakos, Kiambu, and Nakuru as Disease Infected Areas and the imposition of a partial lockdown that restricted movement in and out of the five counties, including the prohibition of all public gatherings and in person meetings.

It is also during this time that the country received 1.02 million doses of Astra Zeneca COVID-19 vaccine, as part of the COVAX facility and launched a nationwide vaccination campaign for targeted groups. With the vaccine already being distributed and administered, things have started to look promising. We look forward to a time when all this will be behind us and things get back to normal.

The Corporation fully supports the government's agenda in the management of COVID-19 and has over the period, continued to adhere to government protocols that guide the management of COVID-19, including expanding the capacity to carry out online meetings for staff, regular sanitization and fumigation of the office premises, provision of free masks to staff, revamping of hand wash stations and provision of hand sanitisers.

It is now obviously clear that COVID-19 is going to be with us for a long time and we therefore urge staff to continue upholding all the official instructions including the proper wearing of masks.

In this issue we bring you stories that dominated this period as the Corporation continued to discharge its activities as outlined in the Energy Act, 2019 and anchored in the current strategic plan.

Notable activities included; a meeting between REREC and KoTDA to explore various options aimed at making the Corporation an investor in the upcoming Kenyan Savannah Silicon Valley, the Konza Technopolis, and proposals for partnership with Migori and Vihiga County Governments to promote the use of renewable energy for electricity generation and the implementation of projects that further the achievement of the country's electrification goals in line with REREC's new mandate. Other collaborations included partnership with Siaya County and NUPEA.

It was also during this period, that we bid farewell to the first bunch of staff to retire from the Corporation since it was established in 2007. These are among the stories that we welcome you to enjoy in this issue.

Finally, do not forget to send us your feedback!

REREC Offers To Make Konza "Green"

Konza Complex in Konza Technopolis

As developments at Konza Technopolis takes shape, REREC has engaged the Konza Development Authority in discussions on possible collaborations that will be of mutual benefit to both organisations.

In a meeting held on 9th March 2021 at the Konza Technopolis, REREC proposed to offer its expertise to champion the use of solar energy to power the smart city. The Corporation is also keen to offer its technical expertise in the planning stages for investor activities in relation to green buildings by developing building code of city's buildings for sustainable energy management.

The two parties further explored other areas of collaboration, which included

- Establishment of a Renewable Energy Research Institute at Konza Technopolis
- Partnership in of carbon credits
- Utilisation of the Waste water Reclamation Facility for generation of power
- E-mobility and charging infrastructure
- Street lighting
- Hosting of REREC's data centre at the Technopolis

Konza Techno City is a key flagship project for Kenya's Vision 2030. The futuristic city is being built on a 5,000 acre (2,011-hectare) piece of land, 47km from Jomo Kenyatta International Airport.

The Techno City is designed to be a sustainable, world-class technology hub and a major economic driver for the nation. When established, the Techno city is expected to contribute to the growth of the country GDP by 10% annually.

Significant milestones have so far been achieved towards its implementation including the establishment of the Konza Technopolis Development Authority (KoTDA) which is responsible for overseeing the development and management of Konza. KoTDA is currently overseeing the development of infrastructure for Phase 1 of the Technopolis.

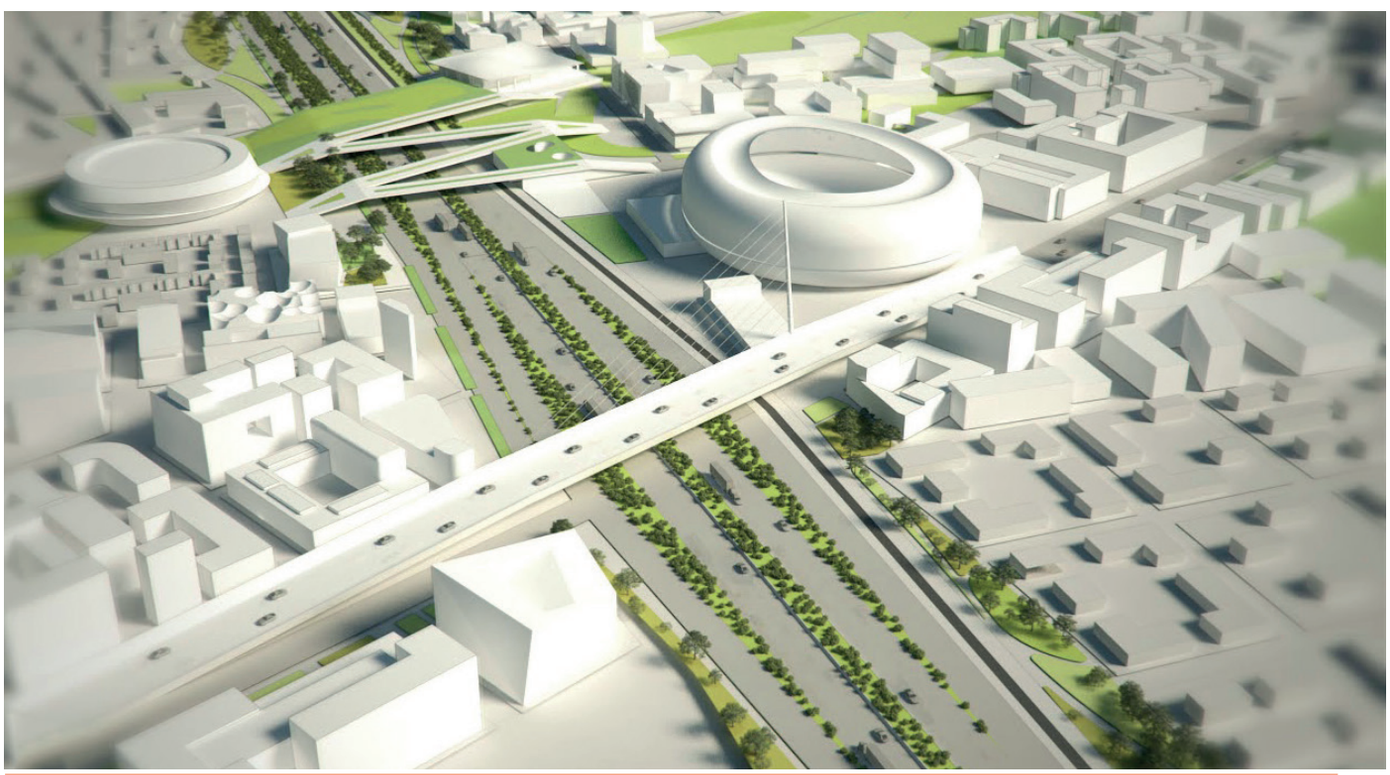
According to the KoTDA Masterplan the city will;

- Harbour best-in-class infrastructure for sustainable development
- Be a special Economic Zone
- Be accessible via rail and road with close proximity to major towns and tourist attraction areas
- Be sustainable in an environment with pedestrian walk-ways, cyclists paths, green corridors, vehicular and non-vehicular roads, open spaces and a natural 100-acre Wildlife Corridor

Developments to Date

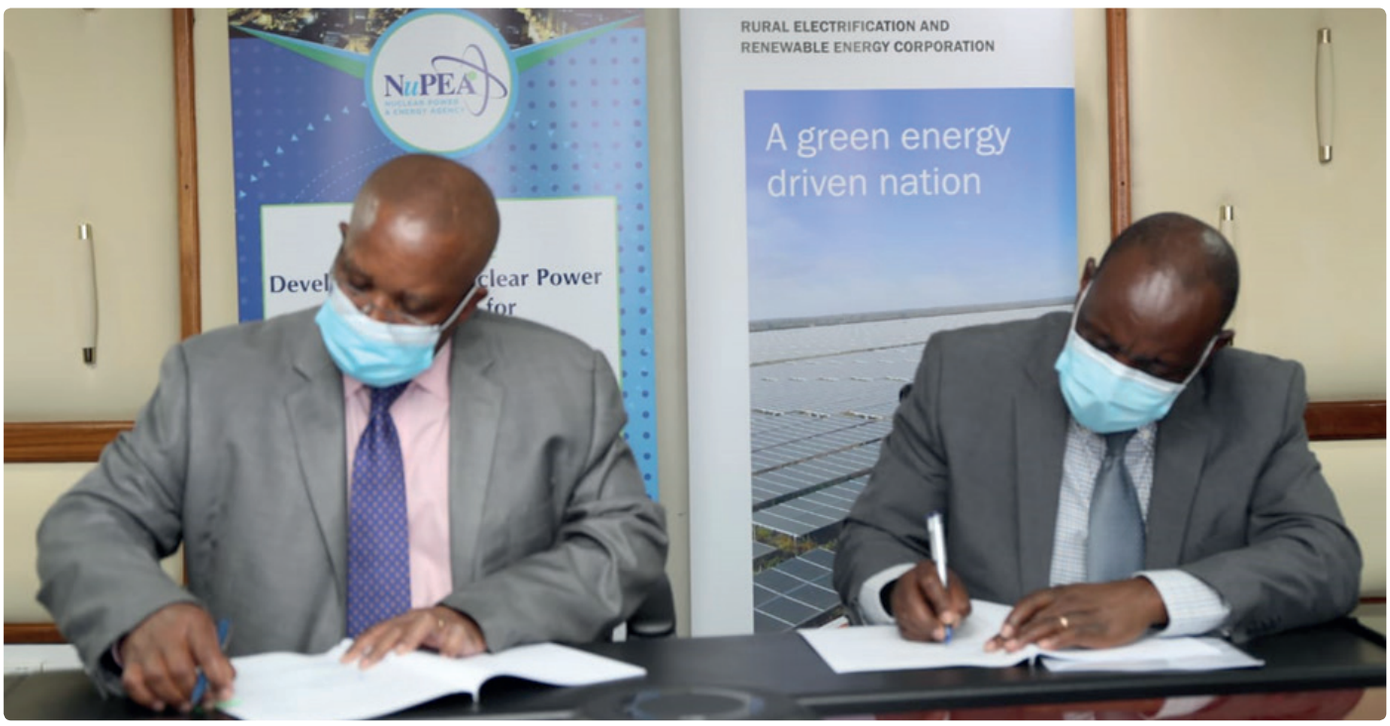
- 40 km and scaping of streets and parks.
- 170 km Drainage and water supply system
- Irrigation and water reuse System
- Over 10,000 trees and 50 different plant and shrubs species
- Recreational ponds
- 15 km of cycling paths.
- Electrical System & ICT Conduits; Electrical system of approximately 40 km of power lines and about 500 km of ICT conduits
- Public Facilities including a solid waste handling facility, police and fire Station.
- A 132KV power line is already in place to provide power supply to the Techno City and a 400KV Sub-Station is currently under construction.
- Water Reclamation facility (WRF) with a capacity to treat 15,000m3 to 64,000m3/day of waste water and reticulation for greening purposes.

The daylong meeting was attended by representatives from both sides including; Eng. Esther Ruto, GM, Power Distribution and Regional Coordination who represented the REREC CEO, Edward Gakunju, Manager, Business Development, Alex Kang'ethe, Manager ICT, Eng. Jonathan Mbutu and Ag. Manager Alternative Energy. The Konza Technopolis Development Authority (KoTDA) was represented by Ms Stella Muhoro, Chief Manager, Business Development & Innovation, Mr. Lucas Omollo Manager, ICT and Smart City Services, Ms. Anna Wafula Manager, Sales and Mr. Jackson Tenik, Sales Officer. KoTDA. CEO, Eng. John Tanui who was away on official duties out of the establishment addressed the meeting online via zoom.



Part of Konza Technopolis Masterplan

REREC & Nuclear Power and Energy Agency (NUPEA) Collaboration



Eng. Collins Juma, CEO - NUPEA (left) and REREC CEO CPA Peter Mbugua (right) signing the collaboration agreement

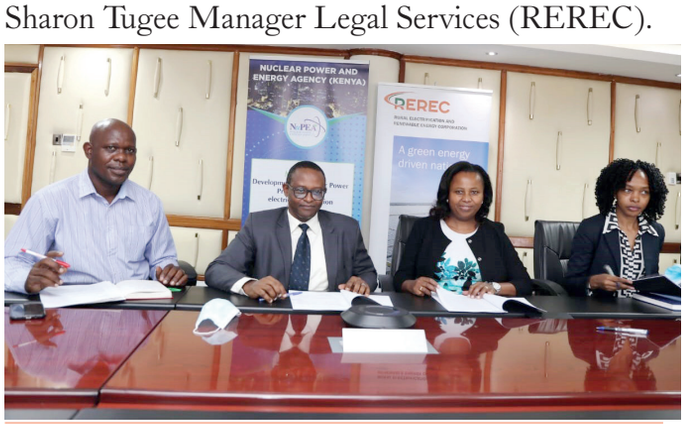
REREC has entered into collaboration with the Nuclear Power and Energy Agency (NUPEA) aimed at strengthening technical linkages between the two organizations

The areas of collaboration shall include research and development, dissemination of renewable energy technologies, capacity building, development of policies, knowledge management, mobilization of funds and awareness creation among other areas of mutual interest.

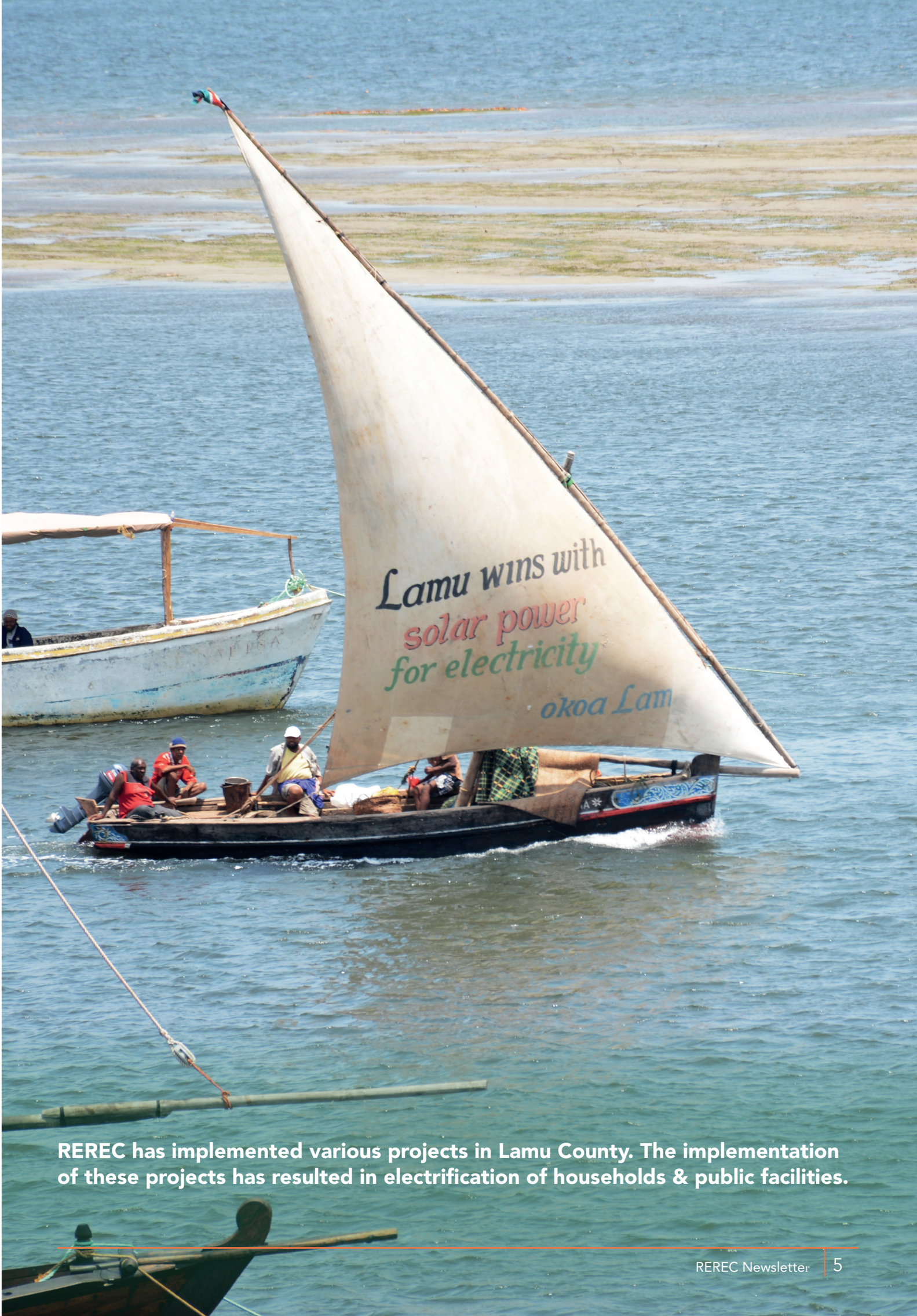
The collaboration, which is anchored in the Energy Act 2019, allows the two entities to undertake joint research on topics agreed by both parties, and hold meetings, workshops, seminars for exchange of information and data related to a specific area of collaboration.

The partnership also allows both organizations to accept study visits of individuals or teams from one party to the others' facilities and have training courses, fellowships and staff secondment. The two organizations can also jointly produce publications and have protection of intellectual property rights resulting from joint activities as well conduct joint activities for mobilisation of funds.

The deed of collaboration was signed on the 2nd of March 2021 at KAWI house by REREC's CEO, CPA Peter Mbugua and NUPEA's CEO Eng. Collins Juma. It was witnessed by Winnie Ndubai Director, Strategy and planning (NUPEA), Eng. Ephantus Kamweru Manager, Research & Development (REREC), Mr. Edward Gakunju, Manager Business Development (REREC) and Sharon Tugee Manager Legal Services (REREC).

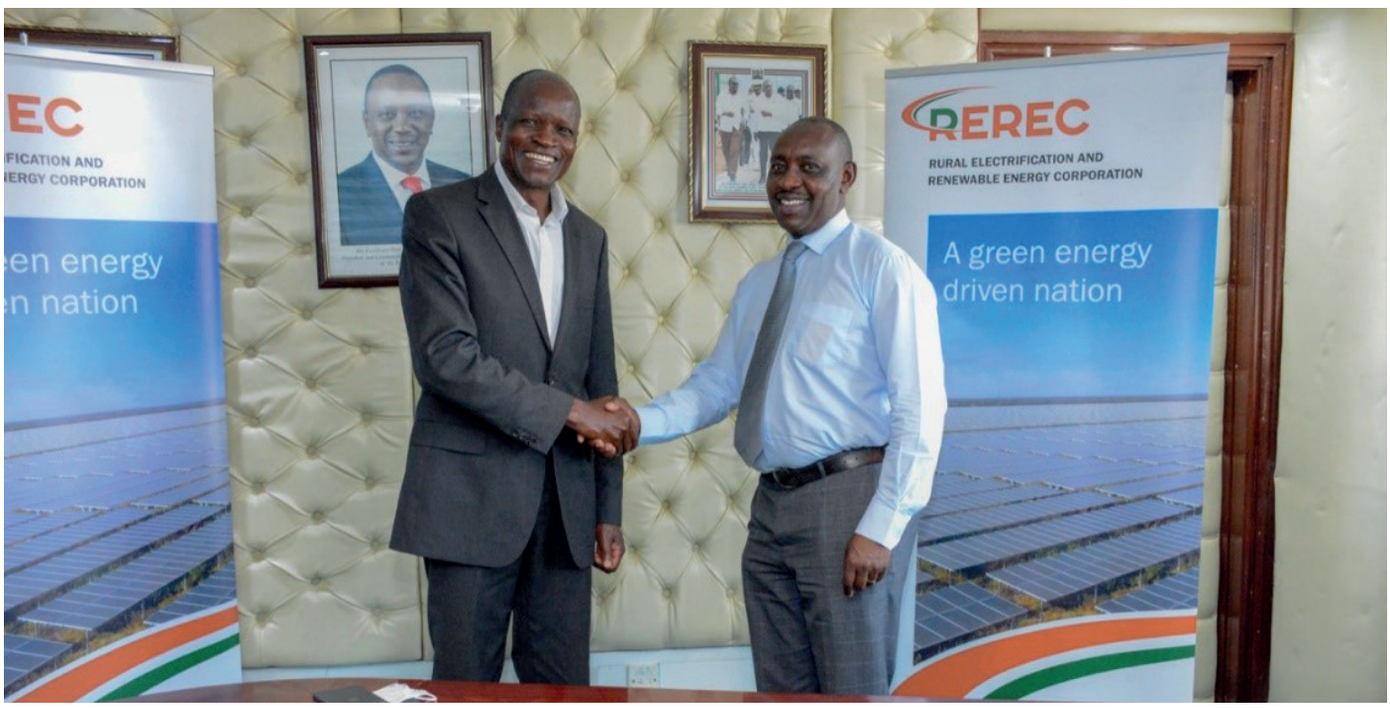


From left, Edward Gakunju Manager Business Development; Eng. Ephantus Kamweru Manager, Research & Development; Ms Winnie Ndubai Director, Strategy and planning and Sharon Tugee Manager Legal Services



REREC has implemented various projects in Lamu County. The implementation of these projects has resulted in electrification of households & public facilities.

Kshs. 292 Million In Electrification Projects For Migori



H.E. Zachary Okoth Obado, Governor Migori County and REREC CEO Mr. Peter Mbugua during the meeting at Kawi House

In an effort to scale up electricity access in Migori County, REREC is implementing fifty six (56) electrification projects worth Kshs. 292.45 million this financial year, 2020/2021.

The 56 projects are spread across all the 8 constituencies in the county as follows; Awendo 6, Kuria East 23, Kuria West 1, Nyatike 5, Rongo 2, Suna East 6, Suna West 6 and Uriri 7.

In the 2019/2020, the Corporation implemented 19 electrification projects at a cost of Kshs. 78.5 million, in the County.

Speaking when he paid a courtesy call to REREC CEO, CPA Peter Mbugua, Migori Governor H.E Zachary Okoth Obado said his county intends to prioritise the use of renewable energy for electricity generation in partnership with REREC. The Governor further expressed his appreciation on the key role played by the Corporation in enhancing access to electricity in Migori.

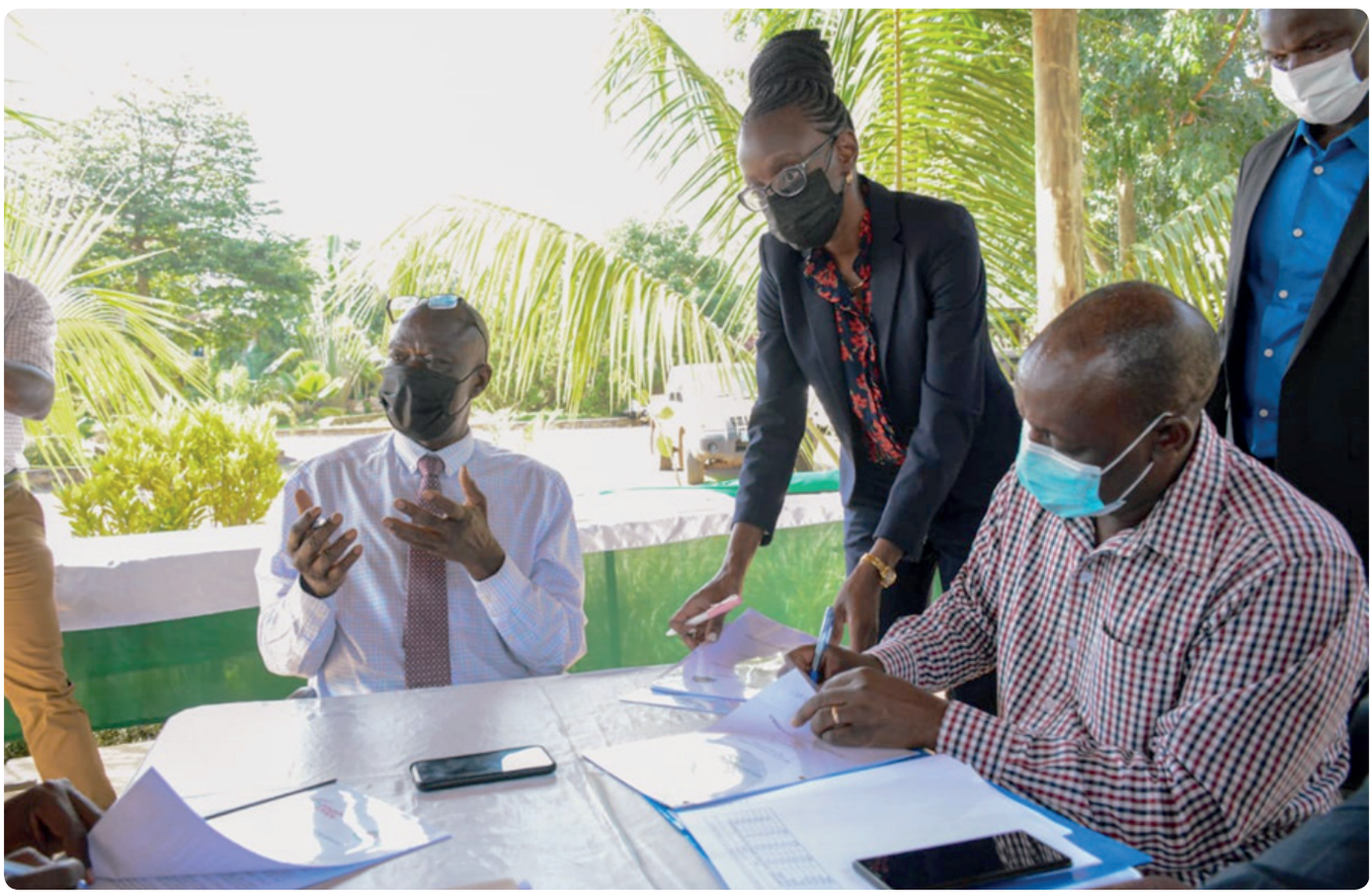
During the meeting that took place on 28th January 2021 at KAWI house, the two leaders discussed a wide range of areas in which the two entities can collaborate in the development and implementation of renewable energy projects to further the achievement of the county's electrification goals in line with REREC's new mandate.

Areas of collaboration between the two entities include identification of projects, co-financing and implementation of projects and provision of land for renewable energy projects development.

The Governor noted that there were many opportunities of collaboration in renewable energy projects in Migori including the revival of Gogo Falls mini hydro power project. The County also has a high potential for biogas production due to the significant amount of crop residues and municipal waste in Migori and the surrounding areas. The development of Biogas systems for institutional use will go a long way in helping institutions of learning and health facilities cut down on cost of energy while at the same time promoting use of clean green energy.

The County government plans to work in collaboration with REREC and other partners to upgrade the existing solar and wind infrastructure or develop new ones to cater for the energy needs in the County.

Partnership With Siaya County



REREC CEO CPA Peter Mbugua and Siaya Governor Cornel Rasanga during the signing ceremony, looking on is Pauline Sewe

REREC will partner with Siaya County government in the implementation of electrification and renewable energy projects through cost sharing. The two entities will partner in various projects to improve lighting in public utilities, provide solar pumps for water stations and implement other projects which utilize alternative sources of energy.

The County Government will also allocate land for the development of an Energy Centre and a yard for storage of poles used for construction of power lines.

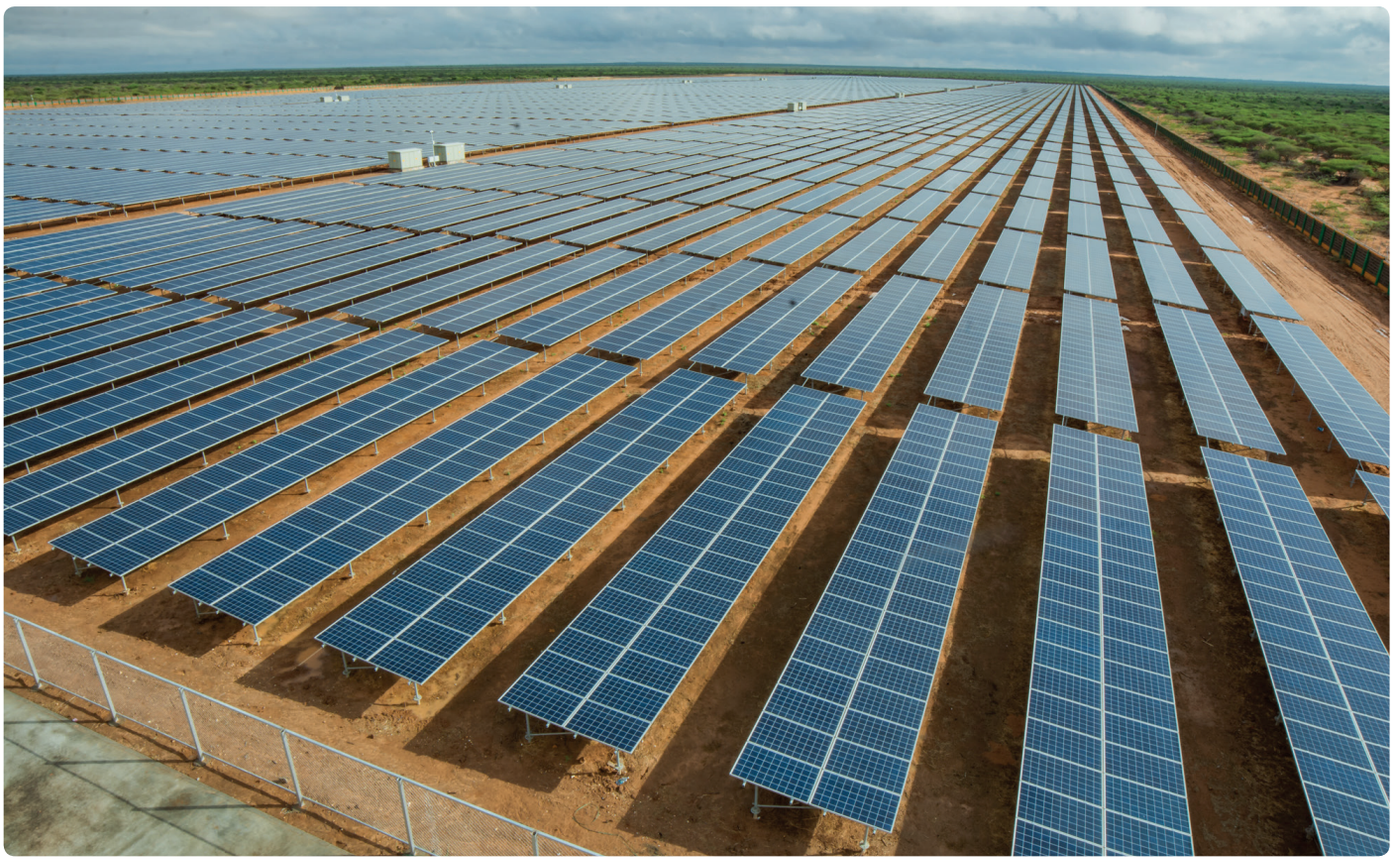
Speaking during the signing ceremony, the Siaya Governor, H.E Cornel Rasanga Amoth, described the new development as monumental, timely and one that will have great impact on electrification in the County. He tasked his team led by the County Secretary, Joseph Ogutu to constitute a committee to oversee the fast tracking of the process and ensure the implementation starts as soon as possible.

The committee will spearhead the identification of land to facilitate the Corporation's engagements in the county, identification of potential projects, and also ensure that there is periodic allocation of funds to fast track rural electrification programmes in the region.

The two entities signed the collaboration framework on the 20th of January, 2021 in Segere, Alego Usonga Constituency. The ceremony was also attended by Director Ezekiel Weya among other senior officials from REREC and the County Government of Siaya.

REREC CEO CPA Peter Mbugua (left) and Governor Cornel Rasanga (right) holding the signed deed

Garissa Solar Plant: Leading The Green Drive



An aerial view of the Solar panels at the plant

The Garissa Solar Plant, the largest grid connected solar power plant in East & Central Africa, was constructed with the aim of diversifying the country's power generation mix and reducing energy costs.

The 54.6 megawatt (MW) plant is located in Balambala Constituency, Garissa County about 20 kilometres from Garissa Town.

The solar farm, which sits on 85 hectares (210 acres) and consists of 206,272 265Wp solar panels and 1,172 42kW inverters is owned and operated by Rural Electrification and Renewable Energy Corporation.

Construction costs, funding & commissioning

The project required an investment of KSh13.7 billion ($135.7 million) and was funded by the Exim Bank of China. The construction of the 50MWp (Mega Watt peak) Garissa Solar Photovoltaic Power Plant was completed by China Jiangxi International Economic and Technical Cooperation Co. Ltd as an Engineering, Procurement and Construction (EPC) contractor under the supervision of the Corporation.

The solar power plant was connected to the Grid in November 2018 and was officially launched by President Uhuru Kenyatta on December 13th 2019.

The Power Plant boasts of the following facilities;

- 132KV bay at 132/33/11KV KETRACO Substation.
- 5.23 km of 132KV transmission line with 16No. Pylons (Towers) from the Solar Plant to KETRACO Substation.
- 33/132 KV substation at the Solar Plant with a 50 MVA step up transformer
- 50 KW (Installed capacity is 54.65MW) solar generation plant complete, with Solar panels (206,232 no panels of 265 Wp), step up transformers -33no x 0.415/33kV transformers, indoor 33kV switch room and control room for monitoring, including CCTV installations for monitoring.

Other amenities include;

Staff housing

Borehole with water treatment plant

Sewage treatment plant

Office block with a training & recreational centre

Road network

Weather station

Daily monitoring

Perimeter wall enclosing the whole plant

"REREC signed a 25 - year Power Purchase Agreement with Kenya Power for purchase of power generated at the plant."

Output & Power Purchase Agreement (PPA)

REREC signed a 25- year Power Purchase Agreement (PPA) with Kenya Power (KPLC) for purchase of power generated at the plant.

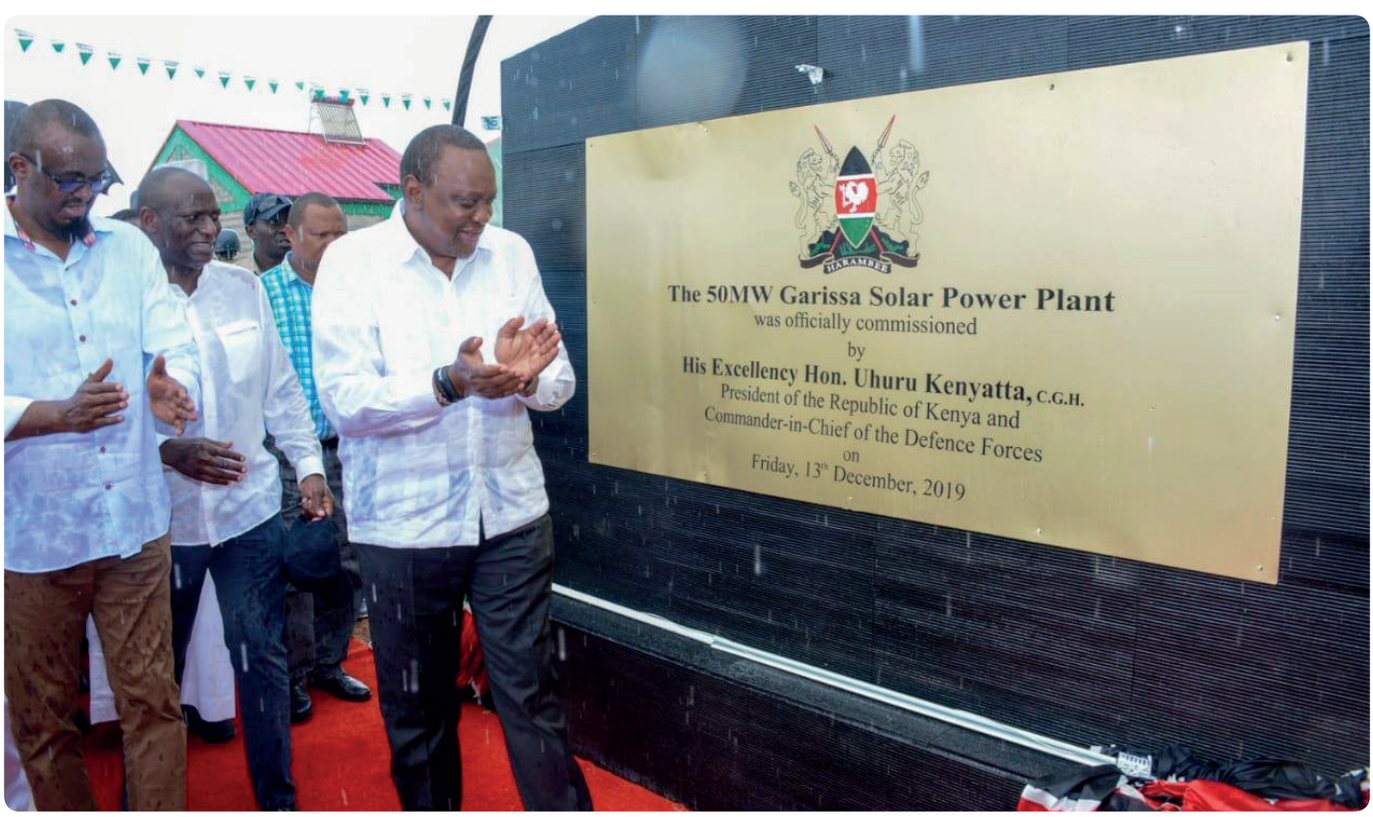
Generation of power commenced on 7th November, 2018. As of 31st March 2021, a total of 215,918.28MWh was generated and exported to the grid at an average daily generation of 247.34 MWh. Cumulative revenue is estimated at Kshs. 1,185 million as of 31st march 2021.

Currently, this project is contributing about 2% of the national energy mix and has significantly led to a reduction of energy costs in the country while promoting the development of clean, reliable, sustainable and affordable electricity.

Future Prospects

Plans are underway for optimization of the plant by introducing a 50MW wind power project to ensure generation during day and night.

The Corporation deployed staff to the station to replace the Kengen staff that were initially running the plant. The recruitment of staff to optimize the plant operation processes and ensure efficient operation of the plant is ongoing.



H.E President Uhuru Kenyatta unveils the plaque during the official opening of the Garissa Solar Power Station

Vihiga County To Collaborate With REREC In Scaling Up Adoption Of Renewable Energy

REREC CEO, CPA Peter Mbugua and Vihiga Governor H.E Wilbur Otichilo during a courtesy call on the Governor in Mbale town on 22nd January 2021

Vihiga County has partnered with REREC in enhancing the use of renewable energy in the County. According to the Vihiga Governor H.E Wilbur Otichilo, the collaboration between the two parties will enable the county to become a model in the use of renewable energy in the country.

Following a courtesy call on the Governor by REREC CEO, CPA Peter Mbugua at his offices in Mbale Town on Friday 22nd January the two organizations have already established a technical committee to work on the collaboration framework and the Vihiga county energy masterplan.

The meeting, which was attended by senior officials from the two organizations', discussed various issues including collaboration in all aspects of renewable energy projects.

This collaboration is anchored on REREC's strategic plan and the energy act.

The Corporation will provide support to the County in various ways including:

a. Provision of technical support in project implementation
b. Capacity Building
c. Facilitation in policy formulation and guidelines
d. Establishment of an Energy Centre
e. Standards and Specifications

Solar Energy

Vihiga County has a high insolation rate with an average of 7-8 sunshine hours and an average insolation of 6-7 kWh/m^2. A good percentage of this energy can be converted into electricity by PV modules.

The electricity could be used in water schemes, street lighting, rural electrification (solar villages), health facilities, learning institutions and public business premises. A full solar or hybrid system in these potential areas would greatly reduce energy cost and eventually reduce the production cost.

Hydro-power

The county has a mini hydro-electric power station at Kaimosi dam which currently is under rehabilitation. Although it is facing a major challenge of siltation, the plant has a high potential of supplying power to Kaimosi complex. The Complex houses a number of institutions including; Cheptulu, Shamakhokho and its neighbouring environs.

There are also other waterfalls in the county which could be developed to produce more hydro-power.

Biogas in Vihiga

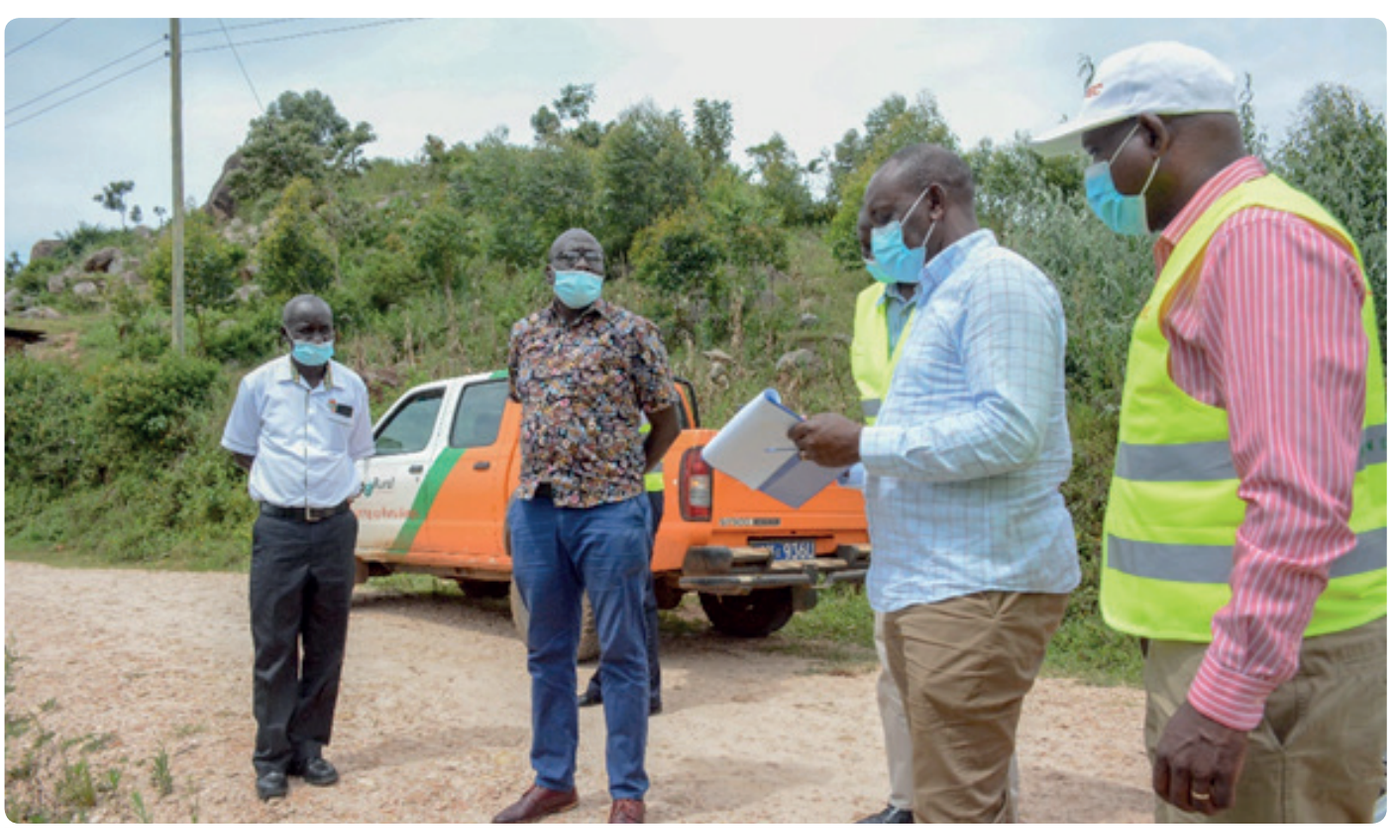
Being an agricultural County, Vihiga produces significant amount of crop residue and municipal waste, and therefore has high potential to produce biogas through anaerobic respiration. The biogas plants could be installed in institutions of learning, health facilities and other government institutions, as well as rural homes where there is over reliance on biomass energy (charcoal and firewood) for cooking and heating.

Embracing Partnerships for growth

County governments as partners of REREC are crucial in playing the following key roles: Co-financing of projects, identification of projects, provision of land for projects' development, collaboration in project implementation.

REREC is pursuing partnership with counties in the development of County Specific Rural Electrification Master plan and Renewable Energy Master plan.

These collaborations are expected to result into a raft of mutually beneficial outcomes including joint; financial contribution in rural electrification and renewable energy projects, participation in planning and implementation of projects, approval project plans and drawings, provision of land for projects implementation, sensitization of communities during project implementation.



REREC CEO, CPA Peter Mbugua during a tour of electrification projects in Vihiga County

REREC Fetes Retirees

Board Chairman Prof. Simon N. Gicharu (center), CEO CPA. Peter Mbugua(second from right), Former Staff; (from left)Eng.Benson Ougo, Eng.Joni K'Ondiek, Eng.David Rogoncho, Isabella Okero and Eng.James Muriithi.

After many years of working, there comes a time when one has to put the tools down, hang the boots and exit the workforce environment through retirement. Retirement refers to the point where one leaves their position of active working life. Many people choose to retire when they are old or incapable of doing their job. People may also retire when they are eligible for private or public pension benefits, although some are forced to retire when bodily or health conditions no longer allow them to perform their duties due to illness or accidents, while others retire as a result of legislation concerning their positions. In Kenya, the mandatory retirement age for public servants is 60 years, as guided by the law.

For the first time since it was established, REREC held a farewell party to celebrate the retirement of seven members of staff, some of whom had served the Corporation since its inception. The retirees included

- Ms. Elizabeth Onoka – Former Manager, Administration
- Eng. Benson B. Oungo – Former Chief Engineer, Construction
- Eng. David Rogoncho – Former Manager, Design
- Eng. James Muriithi - Former Manager, Renewable Energy
- Ms. Isabella Okero – Former Senior Executive Secretary
- Ms. Joan W.N. Riitho – Former Manager, Monitoring and Evaluation
- Eng. Joni K'ondiek - Former Principal Engineer, Construction

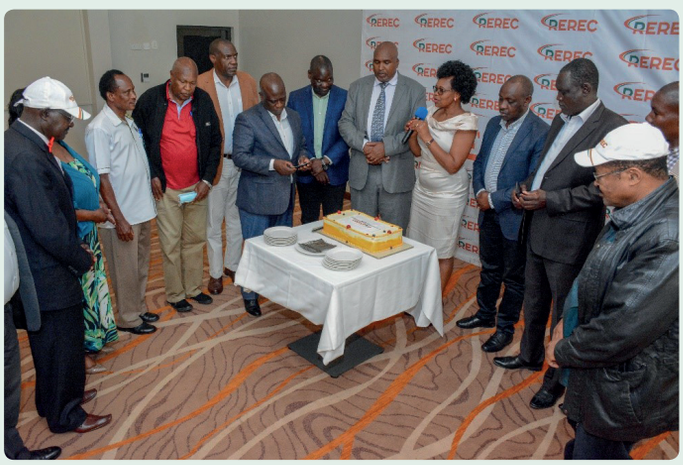
The Board of Directors, led by Chairman. Prof. Simon N. Gicharu, held a farewell luncheon to celebrate these colleagues who retired in the past year.

In his speech, the Chairman appreciated the retirees for the long service and their valuable contribution to REREC, that ensured the Corporation fulfilled its expected mandate. He noted that the seven had set a strong foundation for the organization and challenged those stepping into their shoes to take up the challenge and graciously serve Kenyans through quality and efficient service delivery.

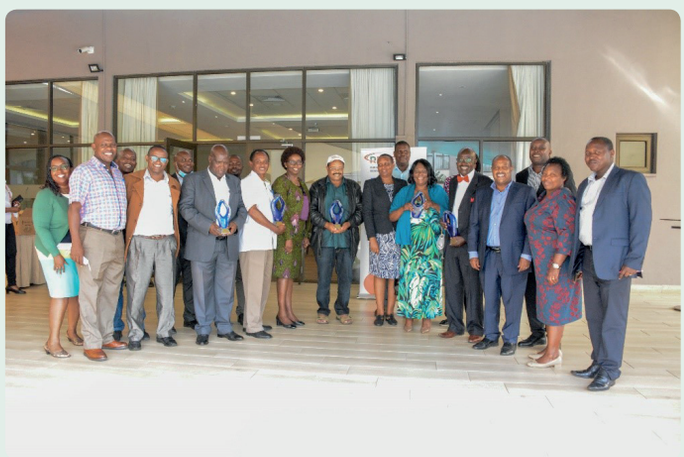
The retirees were presented with gifts and souvenirs to appreciate and celebrate them for their valuable contribution to the Corporation.

Board Chairman Prof.Simon N. Gicharu and REREC CEO CPA. Peter Mbugua presenting a gift to Eng. Benson Oungo.

REREC Chairman Prof.Simon N. Gicharu addressing the retired stuff.



REREC Director Mrs. Beatrice Kemei leading the cake cutting ceremony.



REREC staff pose for a photo with former colleagues.

Get to Know...
Project RIDS Super Users

Project RIDS team members are domain experts responsible for overseeing and coordinating the delivery of the project. Their deep expertise in the areas they oversee is an asset for the Project.

Grace Oima,

Cartographer in design department and super user for Geographic Information System (GIS) module.

REREC is in the process of implementing an ArcGIS enterprise system with a portal where all the GIS data assets used in power distribution management will be organized. The portal will also form a platform for analysis, seamless data sharing and reporting, leading to operational efficiency across all departments of the Corporation. This state of-the-art system will offer a highly collaborative environment that will make data readily available and enable users across departments to enhance their operational data's value by putting it in its true geographical context. Successful implementation of this new and exciting system requires joint effort from all of us.

Jossylyn Mutua

Business development department and super user for the Sales and Distribution module

The Sales and Distribution module is an integrated real-time online tool that aids the selling, shipping, and transportation operations of REREC. It allows REREC to input their customer sales price, check for open orders, and forecast demand or requirements. It is integrated with the Financials, Materials Management, Production Planning / Quality Management functional modules, and Project Systems.

The REREC structure will be represented in the SAP system; each Company Code is created with sales organization (s), Distribution Channel(s), Product Division(s), sales office(s), and plant(s). These structures will be defined and then assigned appropriately.

Robert Gesanda,

Research, monitoring & evaluation department and super user for Quality Management (QM) module.

REREC is in the process of implementing a Quality Management Module that comes standard with a web-based user interface known as SAP Fiori. The SAP Fiori will allow users to access the SAP Quality Management application on mobile devices such as Tablets and Smartphones.

The Quality Management (QM) Module will cover REREC's requirements. These include:

- Inspection & Acceptance Management,
- Audit, Test Equipment Management
- Quality Control

The module will provide real-time visibility and insights into quality-related issues. It will also streamline processes that align with quality assurance and control.

Ruth. W. Wakera

Senior Internal Auditor and a super user for SAP Audit Management, sub-module for SAP Governance Risk & Compliance (GRC).

This Module will help REREC achieve high levels of performance, comply with regulatory requirements and manage diverse risks.

GRC access control, will assist REREC move beyond manual processes and help in detecting, remediating and ultimately prevent access risk violations, giving the organization real-time visibility into the current risk position through:

Complete audit lifecycle support:

Planning, preparation, execution, report and follow-up.

Mobility & Flexibility:

Easy access from multiple devices and platforms through a single audit repository

Audit Documents:

Powerful working paper management coupled with automation of audit report creation and issuance.

Issue Management:

This will allow for quick follow-up, global management of issues and escalation to ensure timely delivery of issues.

Security & Control:

Secure access to audits and related reports

SAP GRC will be integrated into the organizations core business processes and decision making leading to effective governance of the organization.

Angela Njeri

Quality and Risk Management department and super user for SAP Governance Risk & Compliance (GRC) module.

REREC is implementing SAP Risk Management as the enterprise risk management solution of choice which is a part of the SAP GRC (Governance, Risk and Control) suite. Currently, REREC does not have an enterprise risk management system that automates the risk management lifecycle. SAP Risk Management is an enterprise risk management system that is used to achieve risk-adjusted management of enterprise performance thus empowering the Corporation to optimise efficiency, increase effectiveness, and maximise visibility across risk initiatives. This will in turn help the risk managers and risk owners to preserve and grow value by:

- Identifying risks and aligning them with business processes that create value.
- Assess and analyse risks in terms of likelihood and magnitude of impact.

- Track risk management effectiveness with embedded reports and analytics; and
- Continuously monitor risks using SAP HANA-based key risk indicators (KRIs).

Daniel Kariuki

Economist in the Strategy & Planning Department and super user for SAP Success Factors, Performance & Goals module.

Performance and goals, widely known as Performance Contract, basically aims at attaining operational effectiveness which in a broader sense refers to a number of practices that allows the organization to better utilize its resources. Performance Contract is greatly influenced by result based management that refocuses on operational systems in both financial and human resources arrangements with more emphasis placed on results and not mere adherence to procedures. The key elements under PC include the following:

Performance target setting

the process of setting performance targets for departments in carrying out specific work assignments.

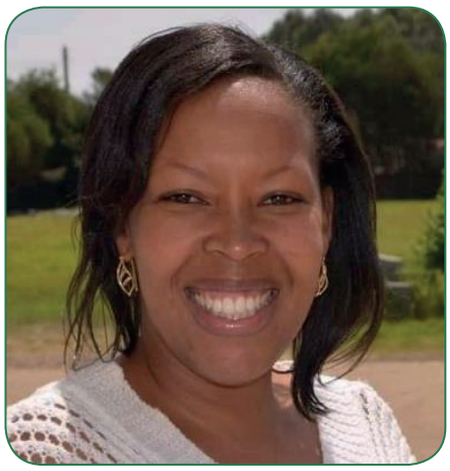
Performance Planning:

the process of establishing a shared understanding of what and how is to be achieved as well as managing resources to ensure successful implementation

Performance appraisal:

the process of evaluating organization, group or individual performance against predetermined targets.

This far REREC has embraced S/4HANA to see the above processes achieved in a most efficient and effective manner which indeed will minimize time spent as well as improve quality on the end product. Having a cloud-based system will enable individuals to work seamlessly wherever they are and complement their daily duties with no much struggle.



Prisca C. Bett

Human Resource Officer in the Human Resource Department and super user for SAP Success Factors module.

Success Factors provides a cloud-based solution for Human Capital Management that has several modules such as Recruiting, Employee Central, Succession, Learning, performance which will revolutionize Human Resource business processes in a very exciting way!

This new exciting way of doing things will provide a platform for REREC employees to interact with the system on a daily basis as they perform their duties and responsibilities through features such as the; Employee Self Service (ESS) and Manager Self Service (MSS).

REREC Project RIDS

COVID-19 PREVENTION

How to stay healthy on public transport

DOs ✓

Wash your hands after touching surfaces, handles or money on public transport.

Ensure you cough or sneeze into a tissue or into a bent elbow. Dispose of the tissue in a closed bin and make sure you wash your hands afterwards.

Discard single-use masks immediately after use if you choose to wear them, and then **wash your hands**

Think of ways to avoid non-essential travel and contact with others. Avoid crowded, rush hour buses, trains or taxis if you can.

If you are able to **walk to work**, think about doing this more often.

✗ DON'Ts

Don't go on public transport if you are feeling ill or have developed a cough or fever.

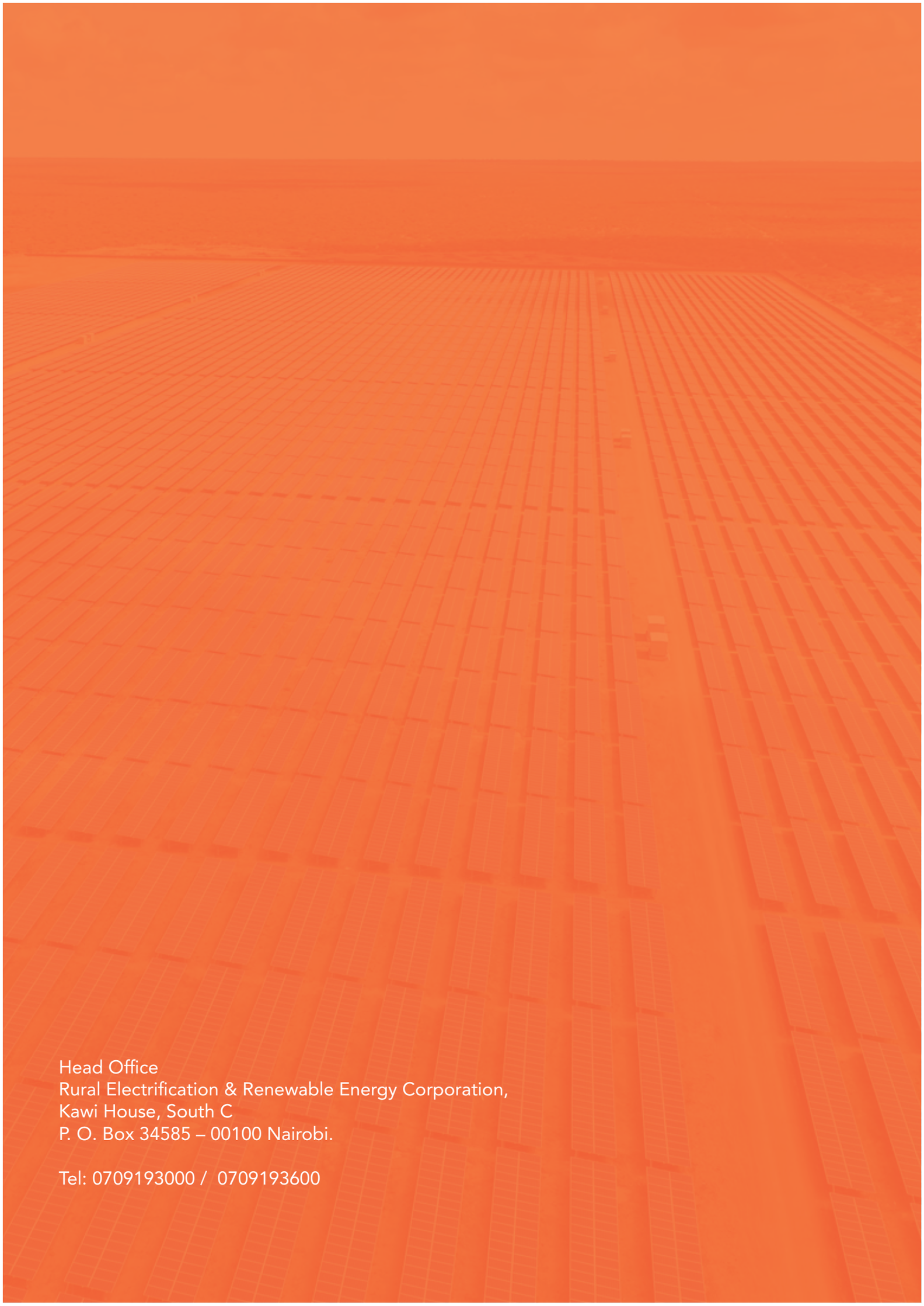
Don't cover your sneeze with the palm of your hand. Use a tissue or a flexed elbow.

Don't throw used tissues on the floor. Instead, put them in the bin when one is available.

Don't stigmatise or discriminate against people on public transport who are displaying symptoms of illness, like coughing or sneezing.

Don't touch your eyes, nose or mouth or eat food on public transport.

REREC



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