

KenGen

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A legacy of **innovation**

Across the African Continent, energy supplies are coming under continued strain as a result of the twin challenge of increased population and the development of infrastructure. In Kenya, much of this pressure is taken up by Kenya Electricity General Company Limited, better known as KenGen.

Headquartered in Nairobi, KenGen is the leading electric power generation company in the country and reports that it produces approximately 80 per cent of the electricity consumed in Kenya.

Electricity is generated from a variety of sources, including: hydro, geothermal, thermal and wind. Hydro is the leading source, with an installed capacity of 819.9MW, which is 51 per cent of the company installed capacity. Geothermal comes second with 463.1MW and another 55.6MW from the innovative wellheads technology raising geothermal capacity to about 32 per cent of the total installed capacity. However with the commissioning of the 280MW Geothermal project in Olkaria, geothermal

now accounts for more than 50 per cent of the electricity consumed by Kenyans.

Of course sources of electricity have evolved across the Continent in recent decades. KenGen was incorporated on 1 February 1954 under the Companies Act (Chapter 486 of the Laws of Kenya) as Kenya Power Company (KPC) to construct the transmission line between Nairobi and Tororo in Uganda as well as to develop geothermal and other generating facilities in the country. Since its inception, KPC sold electricity in bulk at cost to Kenya Power under a management contract.

Following the energy sectoral reforms in 1996, the management of KPC was formally separated from Kenya Power and renamed



“TO ENSURE BUSINESS SUCCESS, THE COMPANY EFFICIENTLY GENERATES COMPETITIVELY PRICED ELECTRIC ENERGY USING STATE OF THE ART TECHNOLOGY, SKILLED AND MOTIVATED HUMAN RESOURCE. THIS SUCCESS IS ANCHORED ON ENGRAINED CORE VALUES OF PROFESSIONALISM, INTEGRITY, SAFETY CULTURE AND TEAM SPIRIT”



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Posch & Partners core competence lies within the vital and overlapping fields of water, energy and environment. Since 1988 we provide solutions in water supply, wastewater, hydropower, environmental engineering and integrated water resources management in Africa and other parts of the world.



From sector studies to localised community based initiatives, from national governments through to private investors, our aim is always to achieve optimum results.

Since 2010 P&P also owns a small hydropower plant – we previously rehabilitated the more than 100 year old plant and implemented measures to improve its overall performance. This allows our engineering staff to get hands on knowledge in the operation of HPPs which is very valuable in the development and design of new plants.



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KenGen in January 1997. In 2006, KenGen was listed on the Nairobi Securities Exchange after the Government of Kenya sold 30 per cent of its stake in the company through a very successful Initial Public Offer (IPO).

Today the company owns no fewer than 31 power generating plants with a combined installed capacity of 1,337MW from diverse generation modes comprising of hydro, thermal, geothermal and wind technologies.

Whilst KenGen may operate separately today, it still maintains a close relationship to Kenya Power, selling all of its generated power in bulk to distribution giant.

The importance of a skilled workforce is not lost on KenGen, as it underlines on the official corporate website:

“As at 25th January 2016, the Company had a work force of 2,407 staff with a wealth of experience in various disciplines.



“This workforce is necessary as the Company seeks to maintain leadership in the electric energy sub-sector in Kenya and Eastern Africa Region. To ensure business success, the Company efficiently generates competitively priced electric energy using state of the art technology, skilled and motivated human resource. This success is anchored on engrained core values of professionalism, integrity, safety culture and team spirit.

“THE PROJECT WILL CONTRIBUTE TO A SUSTAINABLE NATIONAL ENERGY MATRIX BY PRODUCING ENVIRONMENTALLY SOUND ELECTRICAL ENERGY AND AVOID THE GENERATION OF CARBON EMISSIONS AT REASONABLE ECONOMIC COSTS”



“The Company is further propelled by the Good-to-Great (G2G) transformation strategy of moving from a “Good Company” to a “Great Company” through the creation of sustainable value from “One Generation” to the “Next Generation”. Under this strategic direction, KenGen has entered a phase of scaling up geothermal development which is evident in the Company’s investment and achievements during this fiscal year.

“Our long-term commitment is to empower our people and our economy with reliable, safe and competitively-priced electric energy that is

environmentally-friendly and continue being a socially responsible Company.”

To that end, the company has embarked upon a number of Corporate Social Responsibility initiatives, as described on the website:

“There are three main focus areas namely: Water And Sanitation, Education and Environmental Conservation. Other sponsorship categories including support to sporting activities, peace building and culture and health care provision are grouped under a banner called ‘Others’.



“Today, Kenya is classified as a water-stressed country. Like in many African countries, lack of safe drinking water is the cause of socio-economic problems including starvation and disease. The challenge is even more pronounced in rural areas where women and children walk long distances daily in search of water, which is sometimes polluted. Waterborne diseases are still a concern as many people succumb to them annually. One of KenGen’s CSR programme areas of focus is provision of water to communities through establishment of water collection points, support to water distribution infrastructure, and construction of sand dams for water storage.

“The projects that have been supported by various community projects around Olkaria, Sondu, Turkwel and the Eastern Hydros. The Sondu water project has been a huge success, with more than 20,000 people benefitting from it.

“With a focus on education as part of its corporate social responsibility, the company continues to offer scholarships for both secondary and university students from schools near its installations. The scholarship

“THE FINAL PIECE IN ONE OF THE LARGEST GEOTHERMAL POWER PROJECTS IN THE WORLD. MAKING KENYA RISE AMONG THE TOP TEN WORLD LEADERS IN GEOTHERMAL ENERGY AND SIGNIFICANTLY CONTRIBUTING TO BRINGING DOWN THE COST OF POWER IN KENYA BY DIRECTLY OFFSETTING THERMAL BASED GENERATION”

programme, started in 2005, continues to provide bright, disadvantaged children with an opportunity to change their destiny, enabling them to access education by meeting all tuition and boarding fees.



“Currently, the company is sponsoring eighty 156 students in secondary school and in public universities. A total of 350 beneficiaries have already completed their education, thanks to the KenGen scholarship scheme that also guarantees excellent performers with permanent employment opportunities across the company.

“In Kenya, the effects of climate change and other environmental challenges are having an enormous impact not only on human life, but also on businesses. The pressure on natural resources and the environment in general is huge and calls for concerted effort to alleviate the situation. KenGen has actively participated in environmental conservation initiatives aimed at conserving catchment areas and other delicate ecosystems. The Company continues to support among other conservation initiatives.

“Most recently, the company has launched the Green Initiative Challenge, a tree planting campaign with up to 1,000 schools participating in the Eastern hydros, Olkaria and Sondu areas.

“Sporting activities are known to provide physical and emotional benefits and KenGen

has continued to support sporting activities in the country through the sponsorship of several events.

“Developing countries, including Kenya, are faced with the daunting task of providing health services to an ever increasing population in the face of limited resources. As a result, available health services are often overstretched. In areas of its operation, KenGen continues to offer subsidized health services to local communities through its dispensaries, while supporting other health initiatives aimed at improving the well-being of vulnerable groups, including medical camps and health walks aimed at addressing various types of diseases.”

Much of KenGen’s CSR work is aimed at building a legacy. The same can be said of its renewable energy efforts.

In April KenGen signed a Memorandum of Understanding (MoU) with the French Development Agency (AFD) underpinning funding of up to Ksh6.9 billion (60 million Euros) by the French Government for the development of the 80 MW Meru wind project. A loan agreement is expected to be signed by August this year.

This is a major milestone for the Kenyan economy as well as for the generation utility which has an African reputation of implementing projects quickly and at lower costs.

The funds from the AFD will be used for the construction of the first phase of the wind farm in Meru County, expected to feed 80MW into the national grid. The project is embedded in KenGen’s expansion strategy to meet Kenya’s rising demand and bring down the cost of electricity by focusing on clean and renewable sources.

“The project will contribute to a sustainable national energy matrix by producing environmentally sound electrical energy and avoid the generation of carbon emissions at reasonable economic costs,” said KenGen’s Managing Director and Chief Executive Officer (MD&CEO), Eng. Mugo.

The design of the project is based on the Feasibility Study that consultancy company Grontmij prepared for KenGen back in July 2012 and was financed with a grant provided by AFD to the Government of Kenya.

The project reportedly includes all infrastructure on site such as roads, collector network, service area, control room; step-up substation within the perimeter of the wind farm (80 MVA,331|32kV), designed and constructed with provision to be upgraded to 220 kV for future wind farm stages. The area will therefore



experience an infrastructure facelift which will benefit the local economy directly.

The funds will also be used on an overhead transmission line (OHTL) of approximately 20 kilometres designed and constructed with a provision to be upgraded to 220 kV for future wind project stages, which will connect the step-up substation to the existing 132kV bay in Isiolo substation, currently under commissioning.

The project includes warranty, operation and maintenance of all the facilities for a two-year period. The entire project area is planned to provide 400 MW of wind energy over the coming years.

Such forward-thinking saw KenGen recognised in December 2015, as the company collected two awards at the prestigious East African Power Industry Awards gala in Nairobi, having been voted best in East Africa in the categories of Excellence in Power Generation and Outstanding Clean Power Project Award. Both awards were in recognition for the 280MW Olkaria Geothermal Expansion Project.

The Olkaria 280MW which came online in December comprises the 140MW Olkaria IV and the Olkaria 1 units 4 and 5 each with a capacity of 70MW. This project has helped the country save billions each month by displacing an equivalent amount of thermal electricity generation that use costly fossil fuels in favour of the much cheaper electricity from geothermal.

“The final piece in one of the largest geothermal power projects in the world. Making Kenya rise among the top ten world leaders in geothermal energy and significantly contributing to bringing down the cost of power in Kenya by directly offsetting thermal based generation. The 280MW is an excellent project,” said the judges.

With energy demand still on the increase as the Kenyan economy continues to grow, KenGen’s efforts will help to smooth the pathway to economic development for years to come.

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