

# Geothermal Development Company (GDC)

A VISION FOR KENYA'S FUTURE





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**Geothermal Development Company (GDC)**

*Electricity derived from geothermal resources will play a key role in Kenya achieving its Vision 2030 objectives. Responsibility for this rests on the shoulders of the Geothermal Development Company (GDC)*

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**I**t was in Larderello, Italy, back in 1904 that the world's first geothermal power plant was constructed, a facility that continues to produce green energy to this very day. In the 110 years since then more than 20 of the planet's major countries have integrated geothermal power into their respective energy portfolios, countries including the US, Japan, Indonesia, Mexico, Cost Rico and Iceland. Kenya, meanwhile, holds the distinction of being the first country in Africa to generate electricity from geothermal sources.

A clean and renewable source of power, geothermal energy possesses a number of important environmental and economic advantages over traditional fossil fuel sources. This particular form of energy is commercially

geothermal energy contributes approximately 209MW towards Kenya's power mix, a figure which amounts to around 22 percent of the country's total production, while its geothermal potential has been estimated to reach up to 10,000MW in the long term.

GDC came about as a result of the Kenyan Government's policy on energy, which un-bundled all of the key players in the electricity sector in order to ensure greater efficiency. GDC's role from day one has been very much tied to Kenya's Vision 2030 initiative, one which it expects to contribute towards Kenya becoming a stable middle income economy. In order to attain Vision 2030, the government wants to be able to reach a scenario where the country is able to generate 15,000MW of electricity annually,

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produced from naturally occurring steam and hot water which lays trapped in reservoirs of permeable rocks below the surface of the earth.

Headquartered in Nairobi, the Geothermal Development Company (GDC) is a 100 percent state-owned business, formed especially by the Government of Kenya to act as a special purpose vehicle to fast track the development of the country's geothermal resources. An indigenous, abundant and reliable source of electricity, Kenya's geothermal resources are concentrated within the country's Rift Valley. It is here that some 14 fields can be found extending from Lake Magadi to Lake Turkana. In addition to these fields Kenya also hosts several low temperature fields outside the rift at Homa Hills and Massa Mukwe. At present

5,000MW of which it expects to be derived through geothermal means. This will require a significant step up from Kenya's existing total effective installed capacity of 1,533MW.

For many years Kenya has relied heavily upon hydroelectricity, with perennial power outages forcing the government to invite emergency power producers who use diesel in order to generate electricity. The stop-gap measure has been very much a double edged sword for the country, answering the immediate need for emergency power, but at the same time increasing the cost of electricity for the consumer and causing significant damage from pollution.

For its part the Kenyan Government has known for a while that the aforementioned negative issues cannot be allowed to

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remain a factor as the country continues to grow. To that end it has commissioned GDC to take advantage of the country's untapped geothermal potential and has provided the company with the mandate and means to drill as many as 1,400 steam wells to provide the required 5,000MW of geothermal power by 2030.

In addition to being tasked with promoting the rapid development of geothermal resources in Kenya, GDC is also responsible for promoting alternative uses of said resources. Such alternatives include greenhouse heating, the drying of grains, the pasteurising of milk, and the cooling and heating of rooms.

Given the wide number of possible uses for geothermal resources it is unsurprising that GDC's customer base reflects a variety of stakeholders from different walks of life, all of whom share a strong interest in the development of geothermal technology in Kenya. These customers fall into categories such as government ministries, development partners, independent power producers, investors, governments from the East African Rift System countries and local community groups.

Understandably, GDC is immensely proud to be spearheading growth in the geothermal energy sector. Since day one it has been the creed of the company to actively pursue all practices that are deemed capable of saving the environment from pollution. By committing to provide affordable, safe and reliable energy to as many Kenyans as possible, GDC by extension will be saving on the use of wood

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*“The Kenyan Government has provided the company with the mandate and means to drill as many as 1,400 steam wells to provide the required 5,000MW of geothermal power by 2030”*

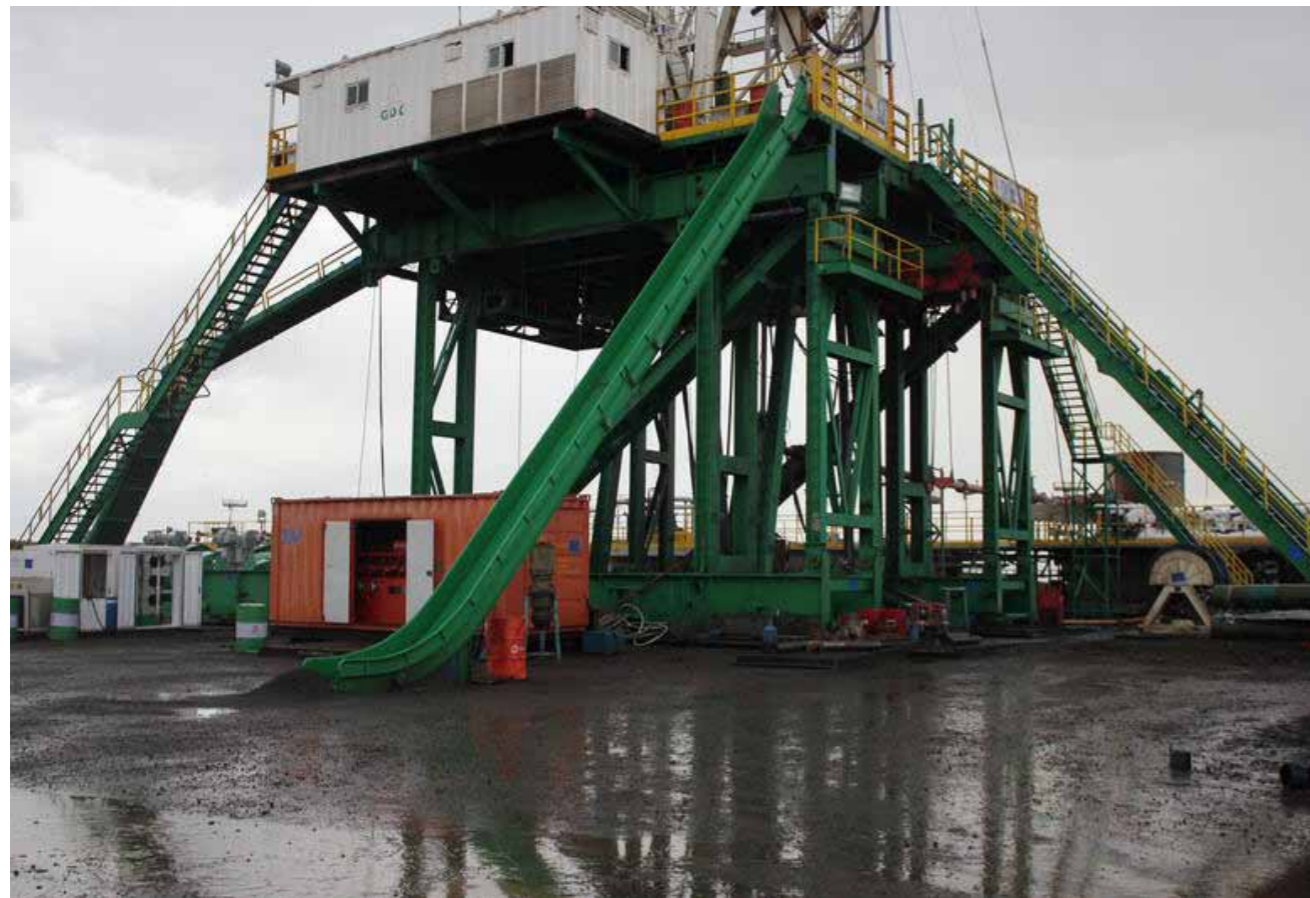
fuel and will thereby be assisting in the efforts to protect Kenya's forests.

As well as contributing towards the protection of Kenya's natural environment GDC also makes every effort to highlight the work it conducts in supporting local educational needs, economic empowerment, the provision of water and health, and the preservation of art, culture and sport.

GDC supports the achievement of education for children in the areas in which it operates, while also equipping and rehabilitating educational institutions to establish model schools. These efforts are helping to contribute towards the Millennium Development Goal of increasing access to education at the primary level by 2015.

The Millennium Development Goal on

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the eradication of extreme poverty and hunger by 2015 creates the imperative for all sectors, the corporate, civil society and government, to collaborate towards income generation, food security, job creation and poverty alleviation initiatives. GDC actively engages innovative young people from its areas of operation to improve the economic status of the communities.

When it comes to the health and wellbeing of these aforementioned communities, GDC recognises that clean water not only sustains life, but prevents water-borne diseases. GDC supports projects that conserve water sources and explore new methods of harvesting rain and underground water. GDC also supports the rehabilitation of water pans and sink boreholes for the communities. With regard to health, GDC

is working to facilitate access to affordable health care among local communities.

Last, but by no means least, GDC is also making every effort to work with individuals and groups to preserve and promote local art and culture for future posterity. The company also encourages and supports sporting activities which it and others realise helps to foster peace between communities. **BE**

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