

Abstract

Kenya is the first and so far the only country in the African continent to generate electricity from geothermal resources. Currently the power output from geothermal resources stands at about 57 MWe. This output is expected to rise with the planned commissioning of other power plants in Olkaria and elsewhere. Geothermal energy is reliable, environmentally sustainable and the least cost source of base load power for Kenya. The least cost power development plan (KPLC, 2001) has proposed that the geothermal sources provide approximately an additional 500 MWe of base load electric power over the next 20 years (Omenda, 2001; Mwangi, 2001). It should be noted that the Rift System in Kenya has a potential of producing 2000 MWe of geothermal energy that can be generated using conventional steam condensing turbines. This power generation can even exceed 3000 MWe when combined cycle and binary systems are used (Omenda, 2001). For these reasons, exploration for geothermal resources is quite active within the Kenya Rift System and the potential to be exploited is quite substantial.

Geothermal resource exploration has largely been undertaken by the Kenya Electricity Generating Company (KenGen) and the Ministry of Energy. There has also been an input from international organizations and consulting companies. Nevertheless, there has been low level contributions by the local universities in geothermal resource studies and research works. In other countries such as U.S.A, New Zealand, Iceland, Japan, Philippines, Indonesia, just to mention a few, geothermal resources have been collaboratively studied and researched on by both the university and the industry and there is no satisfactory reason why this cannot be emulated in our continent. This paper therefore outlines some of the areas where collaborative work can be undertaken by both the industry and the local universities. Some of the areas include feasibility studies, exploration, construction and installation, production, research and development. This is essential for better knowledge dissemination, improvement and training for posterity.