Abstract

This paper presents an assessment of renewable energy resource potential and the current status of exploitation in Kenya. As an importer of petroleum fuels, Kenya spends a substantial amount of foreign reserves to import oil. The oil import bill in 2008 consumed 55% of the country's foreign exchange earnings from exports. On the other hand, there is a high dependence on wood biomass energy, leading to an imbalance in its supply and demand. This has exerted considerable pressure on the remaining forest and vegetation stocks, thereby accelerating the processes of land degradation. Moreover, despite the abundance of potential and a strong growth in demand for electricity, the country faces constraints in satisfying electricity demand. At the national level, only 18% of the households have access to grid electricity. The access is much lower in rural areas where only 4% of the households have grid electricity. Kenya has a liberalized energy sector and has made significant progress in the recent past in formulation of renewable energy policies. What is more, Kenya's electricity power mix is among the most sustainable in the world, with 80% of electricity coming from renewable sources. However, a substantial proportion of renewable energy resources are unexploited. Of the potential renewable sources, Kenya has harnessed only about 30% of its hydropower sources, approximately 4% of the potential geothermal resources and much smaller proportions of proven wind and solar power potentials. Furthermore, a large potential exists for the development of biomass based energy such as biogas, biodiesel and power generation form baggasse. The strong growth in energy demand provides excellent opportunities for private investors to invest in renewable energy power generation.