

7 AFFORDABLE AND
CLEAN ENERGY



Work towards SDG 7: Affordable and clean energy, aims to expand access to reliable, sustainable, and modern energy for all. Efforts to develop renewable energy sources, expand energy infrastructure, and increase energy efficiency support both economic growth and climate action. Geoscientists play an important role in identifying and developing energy resources, helping communities transition to cleaner, more sustainable energy systems.

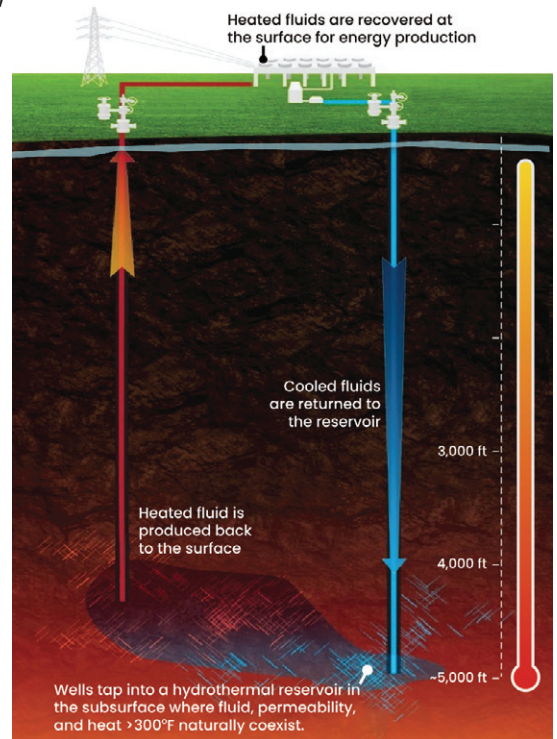


Credit: UN Photo / Eskinder Debebe

Project Summary

In 2010, fewer than one in five people in Kenya had electricity. Today, more than half of the population does, thanks largely to geothermal energy. This energy comes from heat inside the Earth which is especially strong along rift zones where there are hot springs, volcanoes, and cracks in the ground that let magma (a heat source) rise closer to the surface.

Kenya was the first country in Africa to rely on geothermal energy to make electricity. It is now the largest producer of geothermal power in Africa and the seventh largest in the world. Geoscientists started exploring and drilling for geothermal energy in the 1960's. The Olkaria Geothermal Field lies within the Great Rift Valley and is now the biggest geothermal power site in Africa. By 2030, geothermal is expected to supply most of the nation's electricity, helping Kenya build a cleaner and more reliable energy future.



Credit: U.S. Department of Energy Geothermal Technologies Office

The Great Rift Valley

The Great Rift Valley in Kenya is part of the much larger East African Rift System, a geologic feature that stretches about 6,000 kilometers (3,700 miles) from Ethiopia in the north to Mozambique in the south. This region is slowly being pulled apart as the African Plate splits into two smaller plates, creating fractures in Earth's crust. In Kenya, the rift runs north to south and is marked by volcanoes, hot springs, geysers, and deep cracks that bring heat from within the Earth closer to the surface. These unique geologic conditions make the Great Rift Valley one of the most promising places in Africa to use geothermal energy for clean, renewable power.



Credit: Wikimedia/Redgeographics