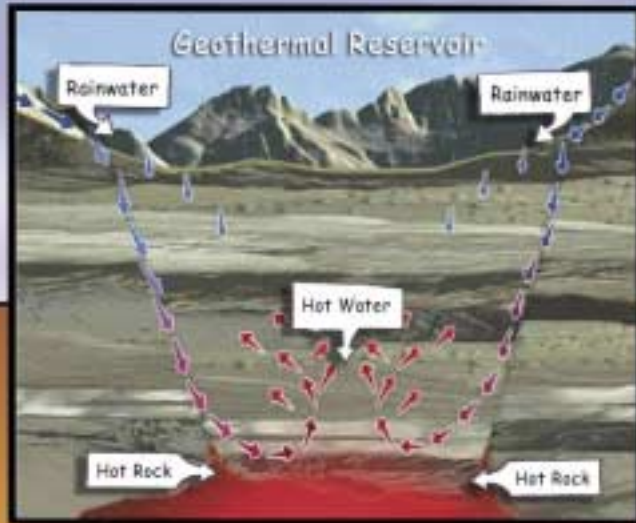


GEO THERMAL



Geothermal Energy is heat (thermal) derived from the earth (geo). It is the thermal energy contained in the rock and fluid that fills the fractures and pores within the rock in the earth's crust. Visual, surface indications of the presence of geothermal activity include geysers, fumaroles, mudpots, hot springs and volcanoes.

Depending on the geophysical conditions that exist at a geothermal site, different technologies can be used to utilize the geothermal energy. Modern applications include greenhouses, aquaculture, home and business heating, and electricity generation.

Electricity generation is accomplished by drilling wells into the earth to tap into the geothermal energy reservoirs. The thermal energy available in the reservoirs can be used to power electricity generation equipment.

One method of generating electricity is by using the geothermal energy to power a Binary-cycle Power Plant. This type of plant is used for relatively low temperature geothermal reservoir in the range of 250° to 300° F. In this plant, geothermal waters are passed through a heat exchanger to heat a secondary working fluid that vaporizes at a lower temperature than water. The working fluid vapor spins a turbine/generator and is condensed back to liquid before being re-vaporized in the heat exchanger again. The heat-depleted geothermal water is injected back into the geothermal reservoirs.

Other methods for generating electricity include Flash Steam, Dry Steam and Hot Dry Rock power plants.

