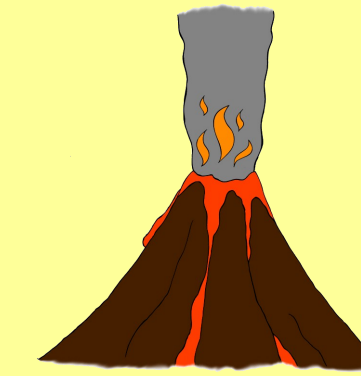




Cactus Moon Education, LLC.  
Understanding Green Technologies

# GEOTHERMAL ENERGY



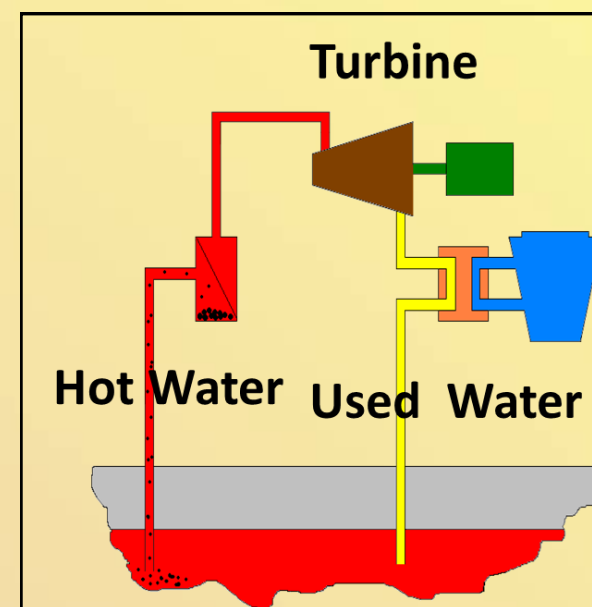
(gth02po)

Geothermal Energy is the heat contained in the earth. Indications that geothermal energy is close to the earth's surface are volcanoes, mud pots, fumaroles, geysers, and hot springs.



## How it works:

A hole is drilled deep into the earth and geothermal hot water "flashes" into steam when it reaches the earth's surface. The steam powers a turbine/generator to make electricity. The used water is put back into the earth to get hot again..

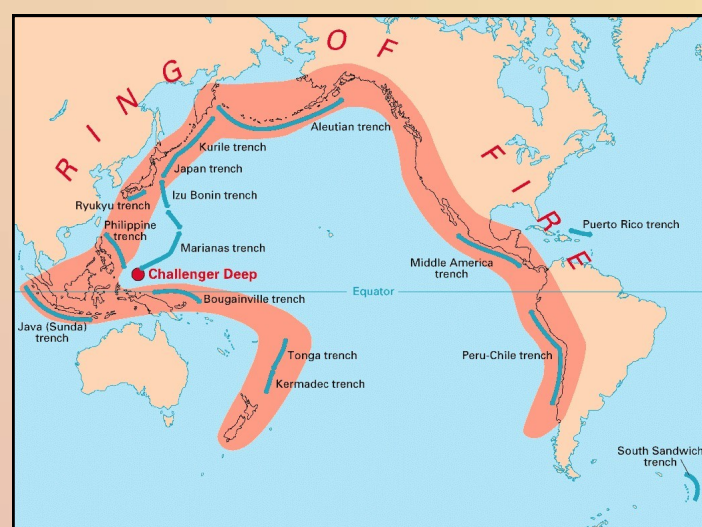


**Flash Steam:** High pressure hot water comes out of the drilled hole and flashes to steam at the earth's surface.

**Binary Cycle:** The hot water coming out of the drilled hole is used to vaporize an organic liquid with a low boiling point.

**Hot Dry rock:** Cold water is injected into the drilled hole and is heated by the hot rock in the earth.

The most active geothermal areas on earth are in the "Pacific Ring of Fire".

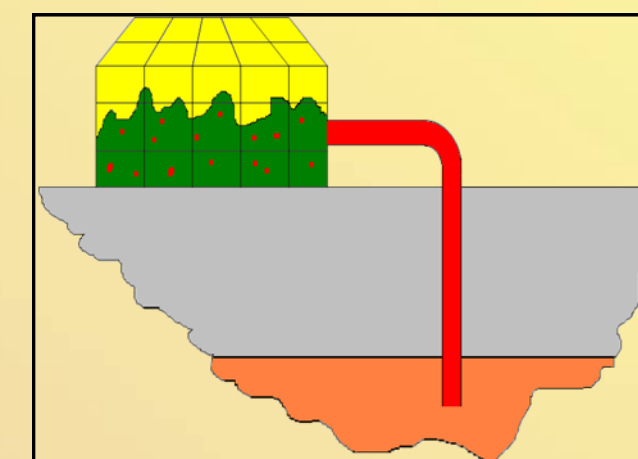


Geothermal energy can heat or cool a building, be used in greenhouses for agriculture, or be used to generate electricity.

Different technologies are used in geothermal power plants depending on the temperature of the geothermal resource.

**Hot Dry Steam:** Steam comes directly out of the drilled hole.

Not all Geothermal resources are hot enough to make electricity. Greenhouse farming uses warm geothermal water to heat



the greenhouse, so vegetables can be grown in the winter.