

Geothermal energy

We can also get energy directly from the heat in the earth. This is known as *geothermal energy*, from "geo" for earth and "thermal" for heat.

Geothermal energy starts with hot, molten rock (called *magma*) miles below the earth's surface that heats a section of the earth's crust. The heat rising from the magma warms underground pools of water known as *geothermal reservoirs*. Sometimes the water can even boil to produce steam. If there is an opening through the rock to the surface, the hot underground water may seep out to form hot springs, or it may boil to form geysers.

For thousands of years, people have been using hot springs for bathing and for cooking food. With today's technology, we do not have to wait for the hot water to come to the earth's surface. Instead, we can drill wells deep below the surface of the earth to tap into geothermal reservoirs. This is called *direct use* of geothermal energy, and it provides a steady stream of hot water that is pumped to the earth's surface so its heat can be used.

Geothermal energy also is used to produce electricity. Similar to solar thermal electricity, steam—either pulled directly from the geothermal reservoir or from water heated to make steam—is piped to the power plant. There, it rotates a turbine that generates electricity.

While geothermal energy is a good source of power, we could run out of it by drawing so much energy out of the reservoir that it is not able to replenish itself at the rate we're using it. In addition, water from geothermal reservoirs often contains minerals that are corrosive and polluting.