

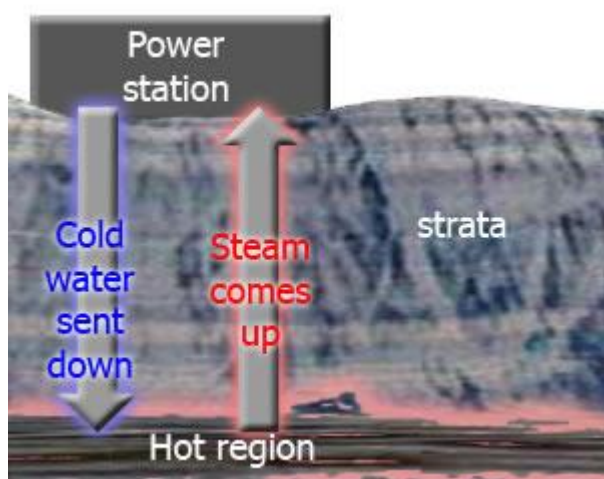
<http://www.darvill.clara.net/altenerg/>

1. Introduction

What does mean the word "geothermal"? ____ The name "geothermal" comes from two Greek words: "geo" means "Earth" and "thermal" means "heat". ____

What's the magnitude of temperature elevation when you go down ? _____. In general, the temperature rises one degree Celsius for every 30 - 50 metres you go down, but this does vary depending on location _____

1. How it works



Hot rocks underground heat water to produce steam.

We drill holes down to the hot region, steam comes up, is purified and used to drive turbines, which drive electric generators.

There may be natural "groundwater" in the hot rocks anyway, or we may need to drill more holes and pump water down to them

2. Where can you find geothermal power stations?

Geothermal energy is an important resource in volcanically active places such as Iceland and New Zealand.

2. Advantages and disadvantages

Advantages:	Disadvantages:
<ul style="list-style-type: none"> Geothermal energy does not produce any pollution, and does not contribute to the greenhouse effect. The power stations do not take up much room, so there is not much impact on the environment. No fuel is needed. Once you've built a geothermal power station, the energy is almost free. It may need a little energy to run a pump, but this can be taken from the energy being generated. 	<ul style="list-style-type: none"> The big problem is that there are not many places where you can build a geothermal power station. You need hot rocks of a suitable type, at a depth where we can drill down to them. The type of rock above is also important, it must be of a type that we can easily drill through. Sometimes a geothermal site may "run out of steam", perhaps for decades. Hazardous gases and minerals may come up from underground, and can be difficult to safely dispose of.

2. Summary

- Geothermal energy means getting heat from hot rocks underground
- Hot water comes up out of the ground, and we use the heat to make steam to drive turbines, or to heat houses.
- We may have to pump water down first, or it may come up anyway
- Renewable - so long as we don't take out too much, the energy keeps on coming
- Not many places you can do it - the rocks must be suitable
- Sometimes we get poisonous gases coming up too

Quiz:

Geothermal power means getting **energy** from **hot** rocks underground. This is **renewable** so long as we don't take too much energy out and cool the rocks too much.

Hot **water** comes up out of the hole we've drilled and usually "flashes" into **steam**. This can drive turbines and generators, to make **electricity**.

At some sites we have to **pump** water down, at others hot water comes up anyway. Sometimes poisonous **gases** come up too.

Geothermal power can occasionally be unreliable, and there are not many suitable **sites** because there needs to be the right type of **rock** at a **depth** we can reach, underneath rock which isn't too hard to **drill** through.