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Geothermal energy

How does it work?

* Heat stored in soil, underground rocks and fluids in the earths mantle
* A geothermal power pump system heats and cools a building by
* Exploiting the temperature difference between the earths surface and underground
* In winter, closed pipes circulate a fluid to extract heat
* Hot dry rock 5km

Statistics:

* 1% of the heat stored in the uppermost 5 kilo of the earth’s crust would provide 250 times more energy that stored in all the earth’s oil and natural gas reserves.
* In France, some 70 district geothermal heating facilities provide both heat and hot water for about 200,000 residences.
* Currently, 40 countries extract enough energy from hydrothermal reservoirs to produce about 1% of the world’s electricity.

Advantages:

* According to EPA, geothermal heat pump system is the most energy efficient, reliable, environmentally clean, cost effective energy
* Tap into hydrothermal reservoir to extract steam
* U.S is the highest producer
* Low cost compared to other alternatives

Disadvantages:

* The current cost of tapping large scale hydrothermal reservoirs is too high for all but the most concentrated and accessible sources.
* Wet-stream geothermal reservoirs could be depleted if their heat is removed faster than natural processes can renew it.