Centre for Alternative Technology
Canolfan y Dechnoleg Amgen

Energy Trumps

Geothermal

image © Southampton Geothermal Heating Company

In some parts of the world very hot water comes to the surface of the earth. This can be used for heating and generating electricity. Drilling down to hot rocks and pumping water through them also extracts heat. This is only possible in a few areas of the UK.

Climate change CO_2e per kWh	**40 grams** **16 grams**	Heat used is generated by processes inside the earth. Some emissions in making and installing the equipment and the processes. 14g for elecrticity, 16 f
Impact on nature	**Very low**	The heat mostly escapes anyway. Building a power station has a small local impact.
Risks	**Low**	Might risk triggering a small local earthquake in some cases. Some financial and planning risk estimating how long heat can be extracted.
Visual impact	**Very low**	A power station has a local visual impact and there are often large clouds of steam.
Cost now	**Very low/ Extremely high**	Where the resource exists, it can usually be accessed at a very low cost for heat. Electricity much higher.
Cost 20 years	**Very low/High**	Costs may reduce a little with improved technology.
The UK resource	**Poor**	Britain is not geologically active. Some UK areas have modest supplies. The potential for electricity production is debated. Heat would be used locally.
Reliability/ flexibility	**Good**	Once Geothermal is installed it can produce heat or electricity very reliably for decades. Output can be flexible but increases costs, best kept steady.