

Jubilee Pool Geothermal Heat Project

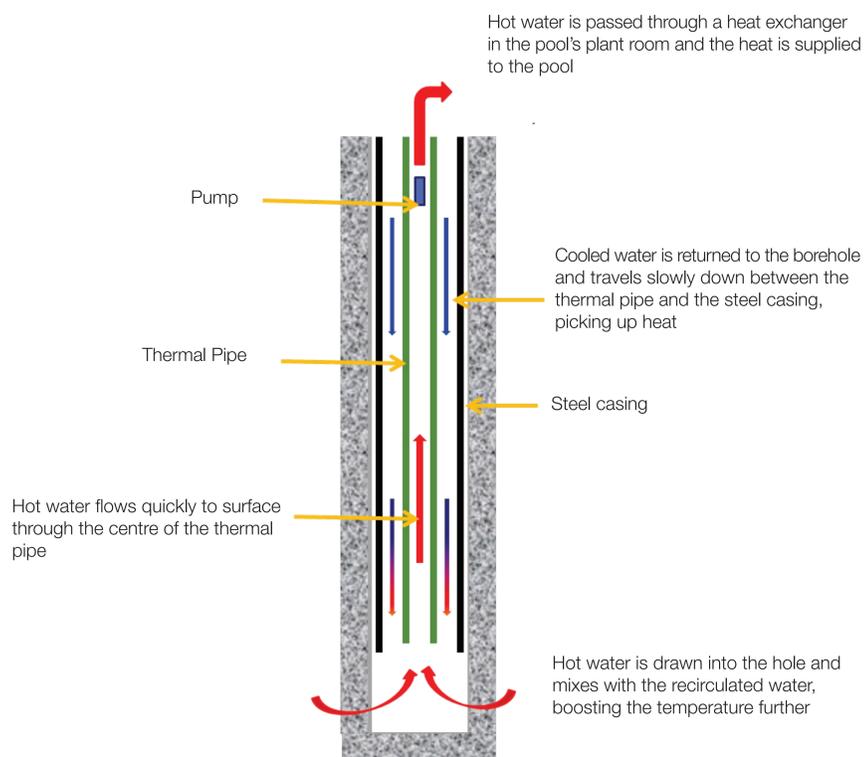


Bringing renewable heat to part of the Jubilee Pool

Geothermal Engineering Ltd has been successful in its application for funding from the European Regional Development Fund to drill a geothermal borehole to supply heat to a new spa-type hot pool. This unique attraction could extend opening hours and lengthen the season for the pool, boosting visitor numbers. Heat will be mined from the rocks underground and brought to the surface using a Deep Geothermal Single Well (DGSW) heat exchange system, in the first installation of its type in the UK.

Geothermal energy is heat from the earth

Rocks get hotter with depth everywhere but the granite underneath Cornwall produces extra heat and makes this the best place in the UK to exploit geothermal energy. Penzance is close to the Land's End granite and we expect the Jubilee Pool borehole to reach a high enough temperature to maintain the hot pool at a relaxing 35°C.



Using heat

If water below 100°C is pumped to surface it can be used for a variety of direct heat applications, including space heating, agriculture and leisure.

In Cornwall the high temperatures can be exploited to deliver heat to the surface by circulating water through a heat exchanger placed in a single deep borehole. The water is heated by contact with the hot rocks and mixing with hot water sucked into the borehole, providing a significant amount of heat output for a small electrical pumping input.

The diagram on the left shows how geothermal heat is extracted from the hot rocks at the bottom of the borehole using water. By continuous circulation the water is repeatedly heated and cooled, essentially 'mining' the heat.

