

Van den Bosch, The Netherlands

Geothermal energy



The Van den Bosch family, who grow beef tomatoes in The Netherlands for distribution to supermarkets including Sainsbury's, is using geothermal energy to heat its greenhouses.

Geothermal energy involves drilling two very deep holes in the ground. Cold water is sent down one hole and is heated up by a layer of sand warmed by the earth's core temperature. The hot water is then pumped up the other hole and is used to heat the greenhouses.

The geothermal bore holes at the Van den Bosch site, near Rotterdam are 1,700 metres deep and the hot water that emerges is at 65°C.

The site is also pumping carbon dioxide (CO₂) emissions from a nearby petrochemical plant into the greenhouse. CO₂ is used to enhance the production of the tomatoes which naturally take CO₂ from the air.

Petra Van den Bosch said: "When we started to look at energy optimisation we found the idea of using hot water from deep underground very interesting.

"We think it is a fantastic initiative to make glasshouses and horticulture independent of fossil fuels. With this system we require almost no energy to heat our greenhouses and we are also saving additional CO₂ being deposited into the atmosphere.

"We are currently digging at a second location near our current greenhouse in order to increase our production of tomatoes powered by geothermal heat by another 5.6 hectares."

