

EARTHENERGY™



**Chumleigh community
College**



The 'Classroom of the future' at Chumleigh Community College is part of a national £13m project funded by the Department for education and Skills (DfES). The design brief was to incorporate eco-issues with particular emphasis being placed on making the best use of alternative energies suited to the eventual usage of the building. Although designed to be a low energy building the extensive use of IT equipment dictated that cooling was of equal importance to heating. The obvious choice of a renewable technology to meet both heating and cooling loads was an EarthEnergy™ ground source heating system. With a floor area of 415m² the heating load and cooling loads proved to be around 22kW and 24kW respectively.

GeoScience designed a ground loop heat exchanger based on four boreholes capable of meeting these loads when coupled with two reverse cycle heating and cooling heat pumps. Flexibility was designed into the system by allowing either one or both heat pumps to work in heating or cooling mode as required. Additionally passive cooling was designed into the system to be used when the cooling loads were lower, thus reducing overall energy consumption throughout the year.

Ground Loop	<i>Boreholes</i>
Heat Pump	<i>ETT</i>
Distribution System	<i>Fan Coils</i>
Client	<i>Devon County Council</i>
Mechanical & Electrical	<i>Project Heating Co Ltd</i>
Commissioned	<i>September 2003</i>