

CASE STUDY

# Comberton College



## MGS products help heat Comberton College with ground source heat exchange system

Following a £3.1 million investment, the largest ground source heat pump network at a UK secondary school was constructed at Comberton Village College to provide more sustainable heat for the students, teachers and staff.

60 boreholes were installed by Geo-Drill Ltd using 60 Thermo-Loops®, DC Series Manifold Chambers and Geothermal Grout, Comberton Village College has been able to reduce their carbon emissions and save money on heating costs.

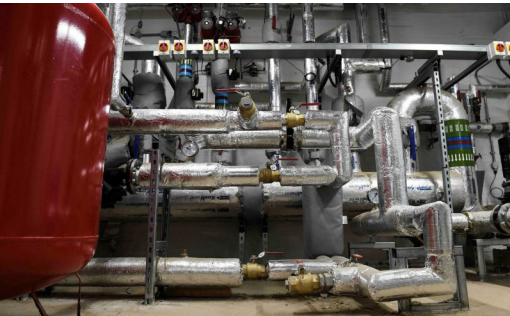
### Challenge

Comberton Village College, in Cambridgeshire, needed a new heating infrastructure to replace their aging and inefficient oil fuelled boiler system.

Compared with newer methods of heating, oil boilers are far more costly to run, especially for large buildings like schools.

With the heating system already past its intended lifespan, the college had a risk of heating failure which could result in cold conditions for students and the potential of having to close the school for repairs.

Furthermore, as an inefficient and energy hungry method of generating heat, the oil boiler dramatically increased the college's overall carbon footprint. This was a conflict with the Cambridgeshire County council's vision of achieving net-zero carbon emissions.



## Solution

With their heating creating challenges for the school based on its high running cost, poor sustainability and risk of faults, the college decided to install a sustainable ground source heat pump system.

The Cam Academy Trust, Bouygues Energies & Services and leading UK Geothermal Drillers Geo-Drill, worked collaboratively to install the upgraded system with funding from the Cambridgeshire County Council and the Public Sector Decarbonisation government grant scheme.

As a leading specialist in geothermal products, MGS products were used in the installation of the thermal loop to ensure quality and performance from the new heating system.

Geo-Drill installed 60 MGS Thermo-Loops® into 200m boreholes drilled into the ground along with geothermal grout. The Thermo-Loops® were then connected to two large ground source heat pumps, which provides heat to 11 plant rooms around the school site.

Geo-Drill were also responsible for the installation of the header works and groundworks on this project, connecting the Thermo-Loops® to the heat pumps. Additional MGS products, such as the DC5 and DC6 moulded manifold chambers were installed as part of the header works required for the system.

## Products used

1. 60 x 220m 40mm Thermo-Loops® c/w 40mm sacrificial tremies
2. 3 x DC5 12-way manifolds
3. 1 x DC6 18-way manifold
4. 2480 bags of high silca sand
5. 480 bags of Connect Plus Grout

## Results

The new ground source heat exchange system was successfully installed with minimal disruption to students and teachers.

The 18-month project enabled the Comberton Village College to leave behind their ageing oil boiler and cut down on their carbon emissions from heating by 70%.

In addition to the environmental benefits, the college is expected to see a reduction in the running costs of the heating system, with the school anticipating it will save thousands of pounds in the years to come.

**“Marton Geotechnical Services has been a key supplier of geothermal loops and grout products to Geodrill Ltd for the past two decades. We have consistently found MGS to be responsive and professional in all their operations. Their customer care is exceptional, always going the extra mile when needed. We look forward to continuing our partnership for many years to come”**

PAUL TURNBULL  
GEODRILL LTD MANAGING DIRECTOR