

## Raglan Castle Visitor Centre, Wales



The building of Raglan Castle began in the 1430's with what is known today as the yellow tower of Gwent built by Sir William ap Thomas long after the golden age of castle-building throughout Wales and long before the advent of the heat pump. After his death, his son William Herbert continued to develop Raglan into a sumptuous building.

Although it was built to impress rather than with battle in mind, in 1646 Raglan Castle's noble fortifications still held off Oliver Cromwell's army for thirteen weeks in one of the last sieges of the Civil War until finally it fell and was partly demolished by Cromwell's men.

### The Problem:

In 2008 Cadw, the guardians of Raglan Castle needed to build a new visitor and information centre. With artefacts such as an ancient Tudor panel from the castle on display, CADW needed to find a heating system which would provide a non-aggressive low grade heat to this new visitor and information centre.

### The Solution:

For this ultra-modern new build WDS Green Energy installed a heating system using a **ground source heat pump** and under-floor system on two floors. The main public area on the ground floor was installed using a clip rail system onto foil-backed insulation with vapour barrier onto which the final screed was laid.

The heat for the system is generated by a **Dimplex 11kW ground source heat pump** alongside a 100 litre buffer tank. The ground collector is provided by two 80 metre boreholes that are located on the outside of the castle moat.

### The Benefits:

CADW are now benefiting from the low running costs of the heat pump in comparison to the oil or LPG system they would have had to install if they had not opted to 'go green'.

The artefacts kept in the visitor's centre are preserved without suffering drying out from high heat temperatures.

