

## St Teilo's Church, St. Fagan's Museum, Cardiff



St Fagan's Museum in Wales is one of the leading open-air museums in Europe and a highly popular heritage attraction. It stands in the grounds of the magnificent 16<sup>th</sup> century castle of St Fagan's which was donated to the people of Wales by the Earl of Plymouth.

### St. Teilo's Church

Originally erected in stages from around 1100 to 1520AD, St. Teilo's Church was moved stone by stone to St. Fagan's, a project which took over 20 years to complete.

### The Problem:

The impressive reconstruction of this beautiful church incorporated an interior decorated with brightly decorated murals, paintings and carvings. Visitors entering the building throughout the day through the ancient oak door meant that there would be ever-fluctuating temperatures within the building. The problem with installing a harsh high temperature heating system would be that it may be liable to crack and warp the delicate woodwork.

### The Solution:

WDS Green Energy installed an under-floor heating system with low grade heat provided by twin **Kensa 14kW ground source heat pumps** so that the temperature can be maintained at a maximum of 15°C. A humidity sensor can override the heat demand to help keep conditions benign for the fabric of the building.

To avoid any noise issues the heat pumps were located in a plant room disguised as a small stone out-building. This was built into the bank that marks the curtilage of the churchyard some 30 yards from the church thereby maintaining St. Teilo's quiet and serene atmosphere.

### The Benefits:

The heat pump installation not only helps keep the running costs of heating this ancient building low, but also helps to keep the fabric of the building in optimum condition. The stunning frieses and delicate woodwork are now being preserved in optimum conditions.

The quiet stillness of the church, with no buzzes or hums from heating equipment adds to the experience of visiting such an ancient and beautiful building.

