

Heritage responds -  
**Taking positive action  
on climate change**

## Case study

# Switching from oil to electric at St Andrew's Chedworth

Church of England

This project installed a combination of electric pew, panel and overhead heating to St Andrew's Church, Chedworth to move away from oil-fired heating to fully electric heating. In combination with a switch to 100% renewable electricity, the church is now "net zero carbon". Three phase power needed to be installed, but this did not prove to be a barrier to success. Operating costs are now lower, and church users are more comfortable.

St Andrews Chedworth is a Grade I listed Cotswold church in a village in the Diocese of Gloucester. It used to be heated via an oil-fired boiler to radiators with underfloor pipework. It had no mains water supply and a single-phase electrical connection. It is generally well maintained and has no issues with damp.

The existing oil boiler had reached the end of its life and the underfloor pipework was corroding; the church had experienced three significant underfloor pipework leaks in the last 5 years. The existing heating system was only just adequate to provide thermal comfort to the church when running.



The oil boiler could have been replaced and extensive re-piping of the system would have been required to fix the underground leaks. This would have left the church on oil; the highest carbon fuel, releasing more greenhouse gasses per unit of heat than gas or electric heating. The heating project cost a total of £38k, with VAT being reclaimed through the Listed Places of Worship Scheme.

### What did we add?

- A new three phase electrical supply was installed from a pole on the boundary of the churchyard in an excavated trench (with archaeological watching brief). At the same time, a water main was also laid into the church.
- Electric under-pew heaters were fixed to all pews, including the choir. Overhead heater units were used in the choir vestry and tower. Panel heaters were installed to heat open areas around the altar, pulpit, font and organ. Cabling was laid mainly under the floor using much of the old pipework routes.
- All existing radiators, the boiler and the oil tank were removed, creating more space in and around the church.

"This has been a successful heating scheme within this church, which has converted it from oil to electricity, improved the comfort, and reduced costs at the same time. The church now procures its electricity from 100% renewable sources and it is therefore net zero carbon because of this project. The project has deliberately included many forms of electrical heating in the church to allow others to come and see the various options for themselves, and we welcome visitors!"

*Matt Fulford, Heating Project Manager at St Andrew's and Sustainability / Energy Advisor to Gloucester DAC*

Image:

*Church of England*