

# Heating Advice

One of the most important challenges facing churches today is providing sufficient comfort for the many different users of the building, from worshippers to staff to visitors.

Achieving this whilst cutting our greenhouse gas emissions and conserving historic interiors creates specific technical challenges for church buildings.

In February 2020, The Church of England committed to a target of zero carbon neutrality by 2030. Meeting this target will be challenging and will require a drastic change of approach to heating our church buildings. Current guidance on heating church buildings is being revised. There is now a need to really think and learn about the general approach to heating proposals, greener energy options and considerations around heating people rather the space within our buildings. Therefore the current [CBC guidance](#) should be followed with care and consider in more detail the selection of heating approaches, energy sources and carbon reduction commitment.

It is expected that all future heating proposals will need to demonstrate adequate consideration of carbon footprint reduction, and the DAC are looking to develop tools to help parishes assess their options and document their findings. Until these tools are produced we suggest parishes undertake the three part exercise below

Firstly read the initial document produced by the [Church Buildings Council, Review of heating guidance - Establishing principles](#), which explains some of the issues to consider if the Church is to achieve carbon neutrality by 2030.

Assess the current carbon footprint of your building. The [Energy Footprint Tool](#) will calculate your church's carbon footprint, based on the energy you use to heat and light your buildings. You will need to have the whole of last year's electricity and gas/oil bills. There are two useful graphs which show you your efficiency scores; one for energy efficiency based on building size and one for attendance. This tool is available to all Church of England churches using the [Online Parish Returns System](#).

Assess your needs and requirements by working through the questions suggested in [Assessment of Heating in Church Buildings](#).

General advice on heating proposals follows, and will be updated in due course. Please contact the DAC secretary for further help.

There are many options for enhancing or replacing your heating system. The best option for any particular church building depends on the physical nature of the building, the historic fabric which might be affected by any changes, and the patterns of use of the building both now and in the future. If you're looking at major work, you need to be preparing the necessary faculty application in the early part of the calendar year so that the faculty can be in place and the work undertaken comfortably ahead of the winter weather.



Alongside the heating system itself, there are many ways of minimising heat loss - details are on the Churchcare web pages on [renewable energy](#), [choosing a heating system](#) and [sustainable buildings](#).

Your first port of call on major heating issues should be your church architect and heating contractor. The DAC has a specialist Heating Adviser - they would normally become involved only after you've already taken advice from your architect and heating contractor. On first contact to the DAC you will need to provide full details (preferably by e-mail to the DAC Office) of the problems with your existing system, photographs of the interior of the building, an outline of the proposed solution from your contractor, and a plan drawing of the church showing the nature of the building and the positioning of any new equipment.

The DAC and local planning authority will have a particular interest in any changes to the external appearance of the building due to flue changes. You should specify this clearly in your faculty application with photographs of the existing external flue arrangement, clear representations (e.g. catalogue photos) of the proposed new flue(s) and photographs of the proposed external location if different to.

Most church buildings present PCCs with a real challenge in heating them comfortably, affordably and responsibly. The DAC fully accepts the difficulties and dilemmas which parishes face in this - particularly given the massive variation in church design and the heating solutions in any given case. PCCs often face pressure to have a warm and welcoming building for Sunday worship but find difficulty in justifying the cost of heating their buildings at all for the rest of the week. In the long term, this approach can cause significant and expensive damage to the church fabric as set out in more detail below.

The optimum solution is to aim for a stable minimum heating level at all times, boosting this as necessary for particular church services or events. This can also be more cost-effective than heating the building "from cold" just when events are on. Such an approach can also make the church more comfortable for Sunday worship as they will, to an extent, mitigate against the cold air flows which can otherwise accrue from the walls acting as "cold storage radiators" from six days of an unheated church. As well as helping to safeguard the church fabric, such approaches will make the church building usable for activities throughout the week - an important element of mission.

Significant variations in heat levels - and hence humidity - can have a devastating long-term effect on church fabric. Much of this damage may not be readily visible but, over time, can be substantial. For example:

Roof timbers will be prone to moisture gathering where they meet stonework, creating an environment suitable for rot and pest activity

The delicate internal workings of pipe organs can be ruined through cracking in woodwork and leatherwork.

Condensation can corrode lead-work in windows and roofs.



## Further Information

[Churchcare](#) - Advice on air source and ground source heating systems

[Chartered Institution of Building Services Engineers](#) - This body maintains a register of consultants working in the heating industry.

[Asbestos Health and safety](#) - If you are examining lagging, heating ducts and underfloor voids etc. do take care to watch out for signs of asbestos and seek professional guidance as appropriate.



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