

## Energy Efficiency in Heating in Churches

Heating is a major user of energy in any building; according to the Carbon Trust it can represent up to 60% of your energy costs. Churches are stereotypically considered cold buildings. In cases where this is true, it is not usually because they are never heated but rather because so much heat needs to be emitted in order to warm up the interiors of such vast buildings.

Ways of heating churches vary in nature, ranging from traditional 'wet' radiator and pipework systems through to electrical sources of heat. The information contained in this webpage is intended to offer practical suggestions for reducing your heating energy consumption (and your bills!). Although general in nature, much of the advice will apply to all heating systems.

### General tips

- Turn your thermostat down. Heating should meet but not exceed comfort – members of the congregation should not expect to be wearing shorts and t-shirts in church in February! Reducing your room temperature by a mere 1°C could cut your heating bills by 8-10 percent.
- Make sure that there are no unnecessary obstructions in front of radiators, heaters and air ducts.
- Bleed and clean your radiators on a regular basis to ensure water circulates properly. Clean off the fluff and dust from the grill and filters of convector radiators and heaters.
- Install thermostatic radiator valves (TRVs) to prevent spaces from becoming overheated.
- Check for draughts and damage to windows, window frames and doors. Repair any damage and install or maintain draught seals. Speak to the Diocesan Advisory Committee ([DAC](#)) regarding any repairs to window glazing.
- Make sure that your heaters and boilers are serviced regularly, at least once a year, and ask for a report on combustion efficiency.
- Insulate hot water tanks and piping. After all, you do not want expensive heat leaking out.
- Install time controllers to hot water boilers immersion heaters and any circulating pumps so that they are set to provide heated water only when needed.
- Co-ordinate your use of the building properly. For example, if you wish to hold a small meeting, why not use the smallest practical ancillary room which can be heated independently rather than heating a larger than necessary area?

### Roof and wall insulation

Church roofs are often vast spaces through which up to a third of the building's heat can be lost. Insulating roof spaces can prevent large amounts of heat escaping. However, historic buildings require natural ventilation and care must be taken when considering roof insulation in churches to ensure that no harm is done to the building fabric. Please consult your Quinquennial Inspector (QI) and the DAC about any such proposal.

You can prevent heat loss by investigating the possibility of cavity wall insulation if there is a gap between your walls. Remember, however, that this is rarely possible in pre-1914 church buildings as these are generally of solid construction and do not have cavity walls. Again, consult your QI and the DAC when considering any works.

### Replacement heating systems

If your heating system is no longer efficient and due for replacement then you should upgrade to a fuel efficient system. Remember that a low constant temperature is generally considered best for churches as it provides a stable environment for the building fabric. However, if your building is used only once or twice a week it may be that shorter, stronger spurts of heat are necessary. In either case you should consider the energy efficiency of your system.

If your boiler needs replacing why not consider the possibility of installing a biomass boiler? Biomass boilers use cheap sustainable fuels, usually wood pellets or wood chips, and are effective for constant background heating. They readily connect to wet heating systems although you will need to make sure that there is plenty of room available for on site fuel storage and delivery, and you should be aware that biomass boilers are not labour free.

When seeking a new heating system the following key factors, in addition to energy efficiency, should be taken into consideration: the way in which the building is used; what is best for the building fabric; and, in the cases of listed buildings, what is visually suitable. You will need to seek professional advice and gain permission for such work. Please see [Making Changes and Faculties](#) section further information.

**Sources:**

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