

SHRINKING THE FOOTPRINT

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Photo-voltaic panels on the south aisle roof of St Denys' Church, Sleaford (Photo: Julian Patrick)

THE INSTITUTIONAL footprint of the Church of England is estimated to be around one third of a million tonnes of carbon dioxide for its churches, cathedrals and offices. This rises to around 1.1 million tonnes if its 4,700 church schools are included: equal to that of some leading supermarket chains. However, its estate includes around 13,000 listed places of worship, 65 per cent of which include structural elements that date from medieval times. Making these historic buildings more environmentally friendly, particularly when it comes to heating, has proved a challenge, albeit one that many congregations are now embracing as part of their Christian commitment to the sustainable use of natural resources.

New energy saving information and advice for the Church of England's churches, cathedrals, schools and clergy homes is now available at www.shrinkingthefootprint.org, the church's national environmental campaign. The information resource is part of the Carbon Management Programme (CMP), which was designed for the Church of England by AECOM on behalf of the Carbon Trust. The CMP report shows that by using energy more efficiently in cathedrals and church buildings,

this footprint could be reduced by as much as 20 per cent. Suggested measures include:

- modernising lighting (see page 5) and heating
- adjusting time switches and thermostats
- installing or improving insulation and draught proofing.

The table below, taken from the CMP report, shows the energy saving actions that a church can undertake and the potential savings that might be achieved.

Many carbon saving initiatives are already under way across the country and it is estimated that the church's footprint when next calculated will have been considerably reduced. Some of the most significant reductions are being achieved through improvements in heating.

HEATING SYSTEMS

Installing or improving boiler controls can reduce energy use by 5–25 per cent per year, and all churches are being encouraged to consult a professional boiler or heating engineer at the next service.

Key issues:

- New boilers typically achieve efficiencies of 80 per cent, condensing gas and oil boilers can exceed 90 per cent.
- A boiler which is more than 15 years old is unlikely to be very efficient.
- If the boiler needs constant attention, it may be more cost effective to replace it with a high efficiency boiler than to continue repairing it.

When renewing a boiler, churches are advised to obtain quotations from three engineers. Quotations should provide information on the

Description of action	Capital cost £	Typical energy saving as % of annual heating, electric or total bill	Typical annual cost-saving from heating or electrical bill
Implement an energy saving regime	Low or no cost	51% total	£280 total
Improve boiler controls	£1,000–£5,000	5–10% heat	£300–£1,000 heat
Insulate hot water pipes	£10–£30 per metre	5% heat	£200–£350 heat
Install draught proofing	£200–£5,000	2.5–10% heat	£50–£700 heat
Reduce heat loss associated with windows	£250–£1,000	1% heat	£0–£100 heat
Replace lighting installation	£<100 to £4,000	3–50% electric	£15–£800 electric
Replace boiler	£2,000–£15,000	15–25% heat	£200–£1,000 heat