CHURCH HEATING COSTS AND FUNDING

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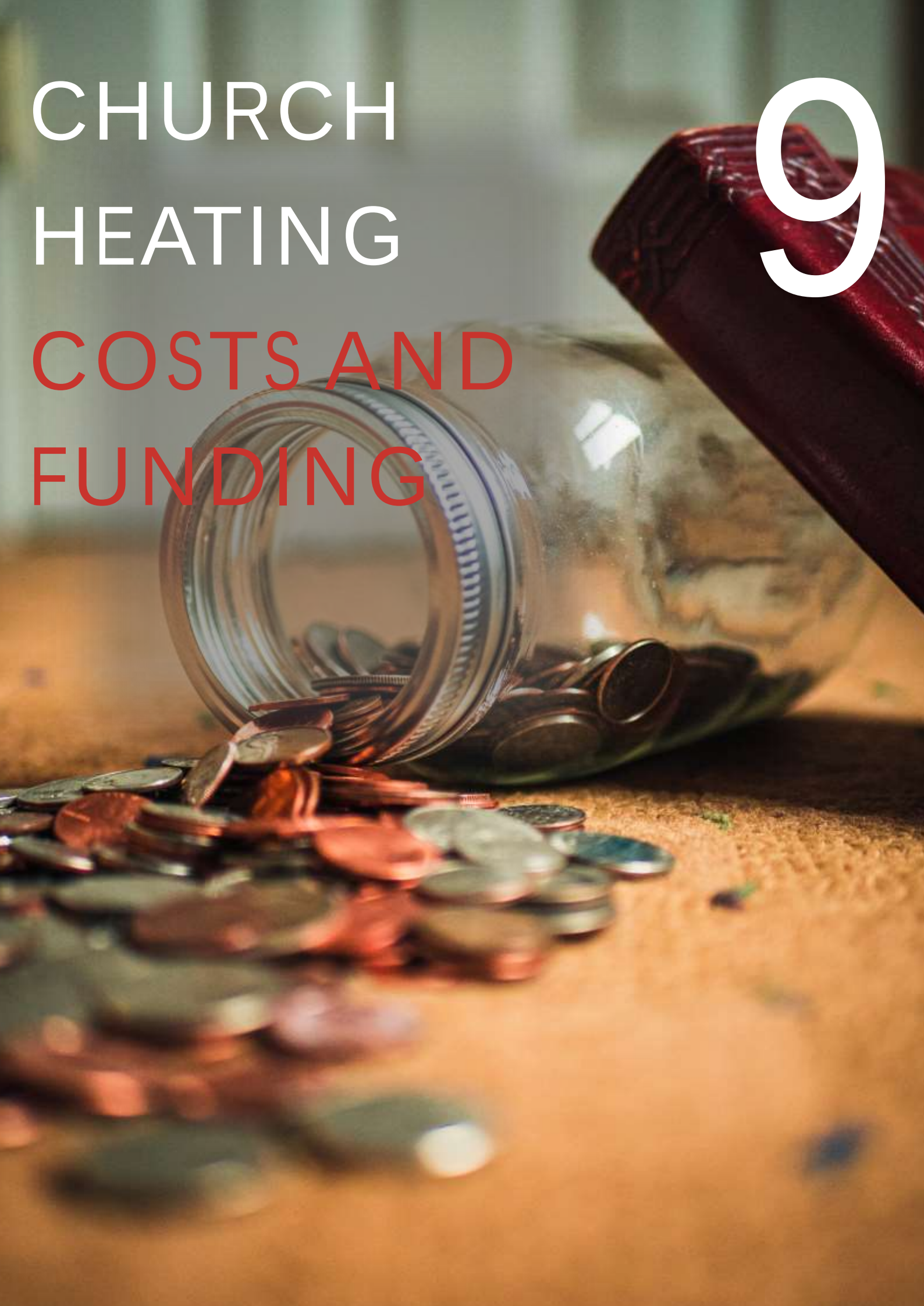

CHURCH HEATING

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9.1 Introduction

This section of our heating guidance aims to help you consider the relative costs of heating projects. It can only talk in broad brush terms, since costs will vary enormously from project to project, depending on the size of the church, the size and nature of the system being installed, the existing gas and electricity grid connections, the fittings chosen, and many other factors.

Instead of putting specific costs against each one, we instead highlight relative costs, and give examples.

After this, some pointers on routes to funding are given. Far more information on this sits on the Church of England Environmental Fundraising page:

Fundraising for Net Zero Carbon and the Environment | The Church of England

9.2 Different types of cost to consider

There are four different types of cost:

- the installation cost
- the maintenance cost
- the cost to run in terms of utility bills
- the replacement cost at the end of life

Some systems may cost more upfront but cut your bills and run smoothly for years. Others might be cheaper up front but be prone to failure sooner. Replacing your oil boiler with a new one might seem simplest and cheapest in terms of installation, but think longer term; are you locking yourself into a technology which will be increasingly rare and hard to maintain? Will it become increasingly expensive to run?

When installing new equipment, also consider the carbon that has been generated by its manufacture and transport. More information on the 'embodied' carbon is available in our guidance, Reducing Embodied Carbon.

When considering a new heating system, find out as much as you can about all the costs. Think about the full cost over the lifetime of the system. Ensure your treasurer is fully involved in any decisions from the conception of the project.

The three following tables 9.3, 9.4 and 9.5 consider the costs of these scenarios:

- Churches with low or intermittent use (9.3):
  used a few hours a week or less, (ie. a few hours per week)
- Churches used regularly (9.4):
  used throughout the week (perhaps 5 days per week, for more than 3 hours or more)
- Rural churches (9.5)
  a rural church, off the gas grid with poor electricity supply and currently on oil.

They are set out in Section 7 of the guidance, on Options Appraisal.

The following key is used for the tables.

KEY		
	Capital costs for installation	Running costs per annum for maintenance and energy bills
£	£0-£20k	£0-£10k
££	£20-£50k	£10-£25k
£££	£50-£100k	£25-£50k
££££	£100k+	£50k+
Values based on energy prices at time of writing (2023).		

9.3 Typical costs for church with intermittent use

Typical costs for a church with intermittent or low use (a few hours/week)					
Solution	Notes	Installation	Maintenance	Running costs	Replacement cycle
Low-carbon options (assumes 100% renewable electricity, from a 'green tariff' and/or solar panels)					
Make what you already have last longer or be more efficient/effective	e.g. by adding/using better heating controls, and reducing the heat needed by reducing heat loss and draughts	£	££	££	As long as existing heating plant lasts
Direct replacement of gas boiler with electric	Upgrade of electricity supply may also be required	££	£	£££	15-20
Electric boiler with system improvements	Upgrade of electricity supply may also be required	£££	£	£££	15-20
Under pew electric radiant or convective heaters		££	£	££	25
Heated chair / pew cushions	Can be either portable (with a battery) or fixed wire	£	£	£	5-10
Wall mounted or ceiling hung radiant heaters		£££	£	££	20
Other electric radiators / heaters		££	£	££	20
Air-to-air heat pumps	Generally, for smaller buildings or smaller parts of large buildings	£££	££	£	15-20
Lower carbon options (again, assumes 100% green electricity)					
A hybrid solution		£	££	£	As long as boiler lasts!
Fossil fuel options					
Direct replacement boiler (oil-for-oil or gas-for-gas)		££	££	££	15-20
Replacing oil with gas		£££	£	££	15-20

9.4 Typical costs for a church in regular use

Typical costs for a church regularly used throughout the week (perhaps 5 days/ week, for more than 3 hours or more)					
Solution	Notes	Installation	Maintenance	Running costs	Replacement cycle
Low-carbon options (assumes 100% renewable electricity, from a 'green tariff' and/or solar panels)					
Make what you already have last longer or be more efficient/effective	e.g. by adding/using better heating controls, and reducing the heat needed by reducing heat loss and draughts	£	££	££	As long as existing heating plant lasts
Direct replacement of gas boiler with electric	Upgrade of electricity supply may also be required	££	£	££££	15-20
Electric boiler with system improvements	Upgrade of electricity supply may also be required	£££	£	£££	15-20
Air source heat pump (ASHP) with radiators	Upgrade of electricity supply may also be required	£££	££	££	15-20
Ground source heat pump (GSHP) with radiators	Upgrade of electricity supply may also be required	££££	££	££	15-20
If lifting the floor or reordering anyway: air or ground source heat pump with underfloor heating	Upgrade of electricity supply may also be required	£££	££	££	15-20
Lower carbon options (again, assumes 100% green electricity)					
Hybrid air- or ground-source heat pump combined with an existing or new gas boiler used for peak loads on coldest days	Upgrade of electricity supply may also be required	£££	££	££	15-20
Fossil fuel options					
Direct replacement boiler (oil-for-oil or gas-for-gas)		££	££	£££	15-20
Replacing oil with gas		£££	£	££	15-20

9.5 Typical costs for a rural church

Typical costs for a rural church off the gas grid, currently on oil, with poor electricity supply					
Solution	Notes	Installation	Maintenance	Running costs	Replacement cycle
Low-carbon options (assumes 100% renewable electricity, from a 'green tariff' and/or solar panels)					
Make what you already have last longer or be more efficient/effective	e.g. by adding/using better heating controls, and reducing the heat needed by reducing heat loss and draughts	£	£	££	As long as existing heating plant lasts
Biomass boiler with radiators	Only suitable in certain circumstances (see separate guidance on biomass boilers)	£££	££	££	15-20
Upgrade electrical supply, and install electric heating	Then see options above, depending on usage	£££	£	££	20
Fossil fuel options					
Direct replacement boiler (oil-for-oil)		££	££	££	15-20

9.6 Funding options

There is no one simple answer to fundraising for a new heating project. In addition to the Environmental Fundraising page mentioned above, the Church of England guidance on making changes to church buildings includes advice on all aspects of development projects, including fundraising: Making changes to your building and churchyard | The Church of England.

A series of three fundraising webinars is available to watch on the Environment team's website: Webinars on getting to net zero carbon | The Church of England

A slightly older, but still relevant resource is the book *The UK Church Fundraising Handbook: A Practical Manual and Directory of Sources* by Maggie Durran.

For grant-applications, heating projects can approach three kinds of funders, all of which need slightly different approaches;

- Faith funders – here the key is to explain the missional importance of making the building accessible, welcoming, and low carbon (so you are caring for creation, the 5th mark of mission).
- Community funders – here the key is to explain the increase community usage that can be achieved by your new heating system making the church more comfortable and usable. You will need to evidence this in some way, perhaps by a community survey showing there is unmet demand.
- Environmental funders – here the key is to explain the carbon reduction achieved by your new heating system, from lower-energy solutions like pew heating and heat pumps. You will need to evidence this in some way, perhaps through an energy audit report (perhaps procured through Parish Buying).

There are some government grants available. At the time of writing, the Boiler Upgrade Scheme offers grants to cover part of the cost of replacing fossil fuel heating systems with a heat pump or biomass boiler. Some local or regional governments are still offering either Rural or Urban Community Energy funds.

9.7 Conclusions

This section has tried to present a realistic appraisal of the costs of a new heating system, to help you make sensible and informed decisions about heating your church.

When considering the viable options, consider all of the costs of a new heating system, not just the initial capital outlay.

Achieving net zero carbon may look like a more expensive or complicated choice in the short term, but systems which use less energy can also have lower operating costs.

Help with funding is available but it's important to tailor applications to meet the individual funder's criteria.

Also, remember that the cost of inaction – when multiplied up in many places, over many years - is much higher; investing in lowering our carbon emissions now helps care for creation, and leave a better planet for future generations to enjoy.