THE CHURCH OF ENGLAND
Diocese of Leeds

Church heating checklist
July 2022

Guidance on completing the form

Please don't be daunted by a long form. Sections A to C are the most important. For the rest, just complete the questions that you can easily answer or know where the answer can be found. Feel free to put N/A where a question is not relevant to your circumstances.

Time spent considering these questions now will be saved when it comes to discussions with a DAC adviser, briefing a consultant, seeking quotations and making a faculty application.

The sooner you can return this to the DAC team, the sooner we can allocate someone to offer more detailed advice. Please be aware that due to limited human resources we are having to prioritise the most urgent requests and churches with the highest energy use.

Please note that this form is adapted from the ChurchCare / Cathedral and Church Buildings Division document *Church Heating: Heating Checklist* (© Archbishops' Council). If you have already completed that document, you can return it to the DAC team in place of this form and you will be simply asked to complete a few additional questions.

Please return this form to the Diocese, preferably by e-mail to stephen.craven@leeds.anglican.org or if necessary by post to the DAC Secretary, Church House, 17-19 York Place, Leeds LS1 2EX.

Contents

A Summary details

Please give details of your parish, project and contacts within your team.

Name of parish and church	
Archdeaconry	
In brief, what "sustainable" aspiration do you have for the church? For example, do you just need to fix the heating or are you hoping to implement something more ambitious?	
How urgent is it? Has the heating system failed already, in need of replacing shortly, or is this long-term planning? This will help the Diocese prioritise requests.	
What level of confidence do you and members of your team in relation to understanding technical matters and sustainability?	
Who is the key point of contact for the DAC?	

In the lines below, please give details of the rest of your project team. These may include for example the church treasurer, PCC members with technical expertise, inspecting architect or energy consultant.

Name	**Contact details (email/ telephone)**	**Role / expertise**

GDPR statement:

Unless you request otherwise, the Diocese may pass on these contact details to our advisers and work colleagues for the purpose of assisting with your project and any subsequent faculty application. The information will not be used for any other purposes.
Please tick to confirm you have accepted this:

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B Church users

What do users need, now & in the future? What causes discomfort?

Currently, when is the church regularly used during the week for church purposes?	
What is the pattern of services? What areas of the building do they use?	
Currently, when is the church regularly used during the week for community purposes?	
What is the pattern of activities? What areas do they use?	
Do these regular users have particular needs; for example, are there small children, or elderly people who need to be a little warmer?	
Are church users in the main seated, or are they moving around the building?	
Currently, what are the occasional uses of the church, for example for weddings and concerts?	
Do visitors drop in? For how long? Are they generally dressed for a relatively cool church, or in lightweight clothes?	
Are church users comfortable in our building currently? If not, what causes them discomfort?	
Who complains, and why?	
In the future, what changes do we expect to see to the patterns, above?	
In the future, when we have a heating system that better meets our users' needs, what do we want to be different?	

C System

What do we have now, and what needs changing? How long will it last?

What heating equipment is already installed? Boilers, radiators, portable heaters, etc.	
If central heating, what fuel source? (oil, mains gas, LPG, electricity?)	
Do we have a plan of the heating? (If yes, please include when returning this form to the DAC; you should also make it available to any advisors you consult.)	
What condition is our current heating system in? Is there a regular maintenance contract?	
When was the boiler installed? What is its likely lifetime? Is there a plan for when the boiler breaks down?	
Overall, does the current heating system do what is needed?	
If not, what do we want it to do, that it can't do now?	
Do we think it could it be adapted to achieve greater efficiency and a lower carbon footprint?	
Do we think there is a better solution, with which we could replace it?	

D Building and fabric

Where is there heat loss and can we reduce it?

Are there cold, draughty spots? What causes them? (Poorly fitting doors? Broken or poorly closing windows? Air being drawn up to the tower or belfry?)	
Where does heat 'leak' from the building; consider the tower, windows, walls, and doors.	
What ability do we have to reduce heat loss, for example through draught-proofing, insulation, or soft furnishings?	
Do we have an asbestos plan of the building? (If yes, please include when returning this form to the DAC; you should also make this available for any advisors you consult.) Does it affect our options? (Be aware that if there is currently no asbestos plans, you may need one.)	
Is the building generally well maintained? Are there any defects highlighted in the most recent QI report which should be addressed before introducing a new heating system?	
Are there areas where water condenses on surfaces, when the building cools down?	

E Performance

How well to the people, systems, and building interact?

What temperature(s) do we currently set our thermostats to, and why?	
What times of the week does the heating system currently run, and why?	
When we turn on the heating, how long does the building take to come up to temperature?	
When we turn on the heating, and warm air starts to rise, does it displace cold air and cause discomfort elsewhere?	
When we turn off the heating, how long does the building take to cool back down?	
Considering the above, are the heating timings optimised for the uses of the building? How do we know?	
Who has control over the programming of the heating system? Does the current system work well for them?	
When we have an unexpected meeting or event, is the system responsive enough?	
Are the controls user friendly? Are they well understood?	
How does the temperature and humidity vary during the week and year? (You can measure this with inexpensive data loggers.)	

Note: Levels of relative humidity should be kept at 40-70% RH and ideally 45-55%. Below 40%, loss of moisture causes damage to pores in wood. Above 70% allows moulds to develop and insect infestations to proliferate.)

F Listing and interiors

What fragile or precious objects/materials do we have, and what needs special care?

What listing is our church? What features of the church contribute to this listing? If you're not sure, refer to the quinquennial report or look up your church on: https://facultyonline.churchofengland.org/churches (If you have an existing Statement of Significance, please include this when returning this form to the DAC.)	
What does our building contain in terms of historic fabric, timber elements (such as screens, pews or altarpieces), pipe organs, wall or other paintings, or other items which will require special consideration?	
At what rate does our building heat up and cool down? (More than 2°C temperature rise per hour is considered damaging to fabric.)	
Are wall-mounted panel heaters a realistic option, or do historic fabric or finishes prevent this?	
Are pew heaters a realistic option; i.e. you have pews, and the pews are not historic (pre 1850)?	
Is digging in the grounds to install a ground source heat pump a realistic option? They are much harder to install if burials surround the church, although not impossible. (There are two options for the pipework; snaking pipework near ground level or deep vertical boreholes.)	
Is under floor heating a realistic option? Historic floors should generally not be lifted.	
Are there monuments or brasses which would be affected by having heaters or heating pipes close to them?	

G Energy use

What is our current energy use, utility cost, and carbon footprint?

What is the annual usage of oil / gas / electricity? (litres or kWh per year)	
What is the annual spend on oil / gas / electricity?	
Do we buy electricity on a '100% green tariff' (where bill payments are used to buy renewable energy directly, not just 'offsetting')	
What is our gross carbon footprint? (This can be calculated quickly using the Energy Footprint Tool section of the Parish Returns website: https://www.churchofengland.org/about/policy-and-thinking/our-views/environment-and-climate-change/about-our-environment/energy-footprint-tool))	
What is our net carbon footprint? (Use the Energy Footprint Tool online.)	
What are our two energy efficiency ratings, from A+ to G? (Use the Energy Footprint Tool online.)	
How many gas/electric meters are there? If more than one, which building or parts of the building does each monitor?	
Has the lighting in the church already been changed to LED bulbs or fittings? If not, is this planned?	
Who reads the meters, and how often?	
How is information about energy use shared with the church community?	

H Money

What budget do we have for up-front capital, for maintenance over time, for running costs every year, and for future replacement?

What budget has the PCC set for replacing the heating system?	
What amount can the church realistically afford to spend on maintenance, over (say) the next ten years?	
What amount can the church realistically afford each year for utility bills?	
What amount can the church realistically afford to invest in a 'sinking fund' for the systems' eventual replacement?	
If we need expert advice, what budget has the PCC authorised for advisors?	

I Constraints

What connection do we have to utilities? What space constraints are there?

Are we connected to gas? If not, is it possible?	
Are we connected to electricity? Single phase or three phase? What load can the system take, and what could it be expanded to?	
Has our QI report recommended improvements?	
What space is there within our boiler room for change in the size of equipment? Are there any other suitable locations?	
Is biomass a realistic option? It generally requires room for a storage hopper for the wood pellets. Could these be sourced locally? It may not be allowed in some areas due to the Clean Air Act. It will require weekly attention and regular maintenance.	

J Advice

Who can we ask, or commission, for advice?

What advice do we need, to help us choose the right heating system (including conserving any historic fabric / interiors)? What questions don't we know the answers to?	
Have we had an energy audit? If yes, what did it recommend? If not, could we commission one? (The Green Journey project offers these at no initial cost to the parish – please ask the DAC staff for details)	
Is there anyone on our PCC who is expert and up-to-date in this area?	
Can our Inspecting Architect / Surveyor offer advice themselves, or recommend a consultant?	

If you need advice and it is not available from the sources above, try the CIBSE directory: https://www.cibse.org/building-services/find-a-specialist

K Consultations

Who do we need to involve, and when?

Which church users should we speak to about our heating system (for example regular hirers or tenants)?	
Which church volunteers and staff should we speak to (for example the treasurer, church wardens, youth leaders, and PCC members)?	

Note that there are various external organisations who you may need to consult about your project, depending on the scale of works. This might include the local planning authority, who might require planning permission separate to faculty permission, as well as heritage bodies. The DAC staff will be able to advise further on this when you have decided what level of work is needed.

L Objectives

Overall, how important are the following to us?	Top three	High	Medium	Low
Environmental factors (For example, cutting our carbon footprint by reducing our energy use and/or switching to a cleaner fuel)				
Conservation of our historic interiors				
Making church users comfortable in the building				
Increasing lettings income				
Capital cost				
Maintenance cost				
Running cost				
Replacement cost				
Ease of use				
Reliability				

M Conclusions

Date review concluded	
What are the main things we learned from this review?	
What are our next steps?	