**Faculty Application References : 637370 /Proposal 2023-089944**

This document is intended as a response to the TWO e-mails received from the DAC, 6th December 2023. It has been completed in the order the comments were sent. Original comments/questions are italicised. The responses follow these.

From the FIRST e-mail received :

*Since we were first in contact in June 2021 about the heating for St John’s, General Synod has changed the Faculty Jurisdiction Rules (with effect from July 2022) so that it becomes harder for parishes to gain permission to install new gas boilers / gas-powered heating systems.*

We note that following a change in the Faculty Rules in July 2022 that it is harder to obtain permission for new gas fired heating systems. We have to demonstrate that we have considered other options. The following comments and attached reports will demonstrate this.

*It is now a requirement for the PCC to demonstrate that it has had ‘due regard to’ the guidance notes from the Church Buildings Council in formulating its proposals for a new heating system.*

*The Church Buildings Council has provided a suite of guidance notes online (*<https://www.churchofengland.org/resources/churchcare/advice-and-guidance-church-buildings/heating>*):*

*Of these, these chapters are ‘required reading’ and I have attached them for your assistance.*

* *1. Heating principles*
* *3. Heating approaches*
* *5. Heating checklist*
* *7. Options appraisals, and getting advice*

Since the Project Team was set up in July 2021, the heating system (Project Warm Church) has been an agenda item at every PCC meeting. All significant actions have been discussed and important decisions agreed. As a result of the points raised by the DAC, a comprehensive presentation was made at the PCC meeting held on the 10 January. In summary, the presentation covered the following:-

* History of the project and the work of the Project Team
* Review of options and how we reached our decision for the new system. The ‘Options Appraisal’ report had been circulated to all members prior to the meeting
* Submission of the Faculty Application
* Response from the DAC and our actions
* The PCC were asked to vote on two resolutions.
1. That the PCC have reviewed the document ‘Options Appraisal’ and support the proposal set out in Section 7 as the best option for St John’s.
2. That the PCC have given due regard to the guidance notes of the Church Buildings Society, sections 1, 3, 5 and 7, in making their decision.

Both resolutions were passed unanimously.

*Normally we would say that a faculty application needs to be accompanied by a completed ‘checklist’ and ‘options appraisal’. In reality, the two reports from Martin Dow (first as DAC advisor and then as consultant), and your own Statement of Needs, will have covered a lot of this material already. However,…*

*You are encouraged to review the ‘checklist’ questions to ensure no aspects have been overlooked.*

We have completed the ‘Heating Checklist’. It confirmed the conclusions we had previously reached in drawing up our ‘Statement of Needs’.

We have produced a comprehensive ‘Options Appraisal’ report which is attached to the resubmitted faculty application as an addendum to the Statement of Needs. The contents of the report are based on our own research, guidance from Martin Dow, of EngDesign, and input from manufacturers, commercial heating engineers including heat pump specialists and numerous site visits. The report clearly demonstrates that we have considered all options open to us and that the conclusion we have reached is the correct one for our church.

*The DAC will also need you to further review and re-draft your Statement of Needs, particularly so as to explain in more detail what your PCC’s response has been to Martin’s advice about the feasible options for St John’s (particularly direct-electric convector or radiant heating, and air source heat pumps).*

The ‘Options Appraisal’ report is an Addendum to the Statement of Needs. A salient point with direct electric is the need for an electricity supply upgrade, its significant cost and the unknown of whether ‘network’ connection would be sanctioned.

*Please also consult the Practical Path to Net Zero Carbon checklist (questionnaire), and provide a completed copy of the ‘Practical Path to Net Zero Carbon’ with your re-submitted application:*

<https://www.churchofengland.org/resources/churchcare/net-zero-carbon-church/practical-path-net-zero-carbon-churches>

We have completed the ‘Net Zero Carbon’ questionnaire and it is attached to the faculty application.

*Martin’s reports have each referred to the visual impact of types of heating-system, and he and I have suggested contacting your church’s QI Architect. Your faculty petition form says that you have asked your QI Architect for general advice in relation to these proposals. Have you obtained a letter/email of advice from him? Or just verbal comments?*

*It would be helpful for the DAC to see his written advice on the options. Could you please follow this up, if he has only given verbal advice thus far.*

We sought advice from our architect and QI, Clive England of Thomas Ford Partners, on the 31 August 2023 but did not get a reply. This was noted on the faculty application. We wrote again on the 19th December 2023 and resent the relevant information on our proposals on the 2nd January 2024. This was acknowledged. We received a reply on 23rd January 2024. In summary, he comments:

*“I have read all of the documents provided. It is good to see such a detailed consideration of the alternatives by both the PCC and the PCC’s consultants, Eng Design. The energy use and running cost calculations are very helpful. I am pleased to support the preferred approach.*

*Careful consideration needs to be given to the finished colour of the radiators and the routing of the exposed pipework. Drawings should be provided by the preferred contractor and approved”*

In addition, I had a telephone meeting with the Archdeacon of Croydon on the 5th September 2023. I outlined our proposal and the advice was to proceed with the faculty application.

*Finally, a specific comment:*

*Considering that the pattern of usage of the main church is described as being one day a week only, radiant heating is a more carbon efficient option, and not as expensive to run, as these systems heat the occupants rather than the fabric.*

*Its capacity can be far less than for a conventional system of radiators.*

*The latest far infra-red systems are also less intrusive than the more conventional near infra-red heaters.*

*Radiant electric heating options should be explored more thoroughly.*

This is duly noted and we perceive that the subject has been addressed in the ‘Options Appraisal’ document supplied

From the SECOND e-mail received :

*As well as your own Inspecting Architect, the other person who it is important to involve in discussions around proposed changes to your church building, is your Archdeacon.*

*Before you re-submit your proposals to the DAC for the committee’s consideration, please do ensure you have discussed with your Archdeacon about the proposed works and their rationale.*

This has been answered above.

*Because of the Diocesan and national C of E targets to aim for ‘net zero carbon’ in the next ten years (2030/2035), when PCCs are considering the replacement or upgrade of their church’s heating, they should* *at least carefully consider* *whether electric-based heating, powered by ‘green’ electricity supply, would be possible for their replacement system.*

*If, the PCC that decides a replacement gas boiler is the* *only* *viable option at the present time, recent cases of other PCCs seeking permission to install gas boilers have not been approved by the Chancellor of the Diocese unless/until the PCC has been able to show in its faculty application (Statement of Needs; options appraisal; completed Practical Path to Net Zero Carbon’ checklist) that it has:*

*carefully considered all the feasible low-carbon / eco-friendly ‘green’ heating options for replacing the system but ruled them out [by seeking appropriate advice and carrying out an ‘options appraisal’]*

*carefully considered whether the current church’s heating could be reconfigured so that some areas of the building could be heated differently, perhaps with a small-scale separate system for a frequently-used or separated area (e.g. electric heating in the vestry only?; switching the hot-water supply to a separate electric heater/boiler?)*

*begun to plan for a future de-carbonised heating system, identifying the hurdles to be overcome and how this might be managed*

*begun to plan for other major improvements to the building to improve energy efficiency (and thus reduce heat-loss), where possible, such as roof, wall, or floor insulation taken account of possible mitigations in the proposals (e.g. more sophisticated controls that will reduce unnecessary heat-usage, such as zoning radiators; or lowering the average intended temperature of the church, even just by 1°C)*

*taken account of possible ‘future-proofing’ in the proposals (e.g. expanding the distribution pipework so as to be ‘heat pump ready’; upgrading the heat emitters to be more efficient; or sizing and installing the boiler in such a way that it could be adapted for use as part of a hybrid system with ‘green’ technologies in the future – such as for back-up or top-up of a heat pump system)*

*considered ‘quick wins’ to reduce the heat-loss from the building (e.g. carrying out any small maintenance tasks that could reduce draughts/heat-loss; or – if technically feasible within the current light-fittings – changed the lightbulbs to LED replacements)*

*explored switching to a ‘green’ electricity supply (if not already on such a tariff)*

*explored switching to ‘green’ gas supply*

*considered if carbon offsetting is appropriate at this stage (in addition to or as an alternative to fundraising for a future eco-friendly heating system)*

*In your case, I realise a number of these aspects are alluded to in your application documentation already (e.g. the separately-heated Garden Room, and the nearby Church Hall heated by Air Source Heat Pumps), but please review these points and – where relevant/necessary – please address them in your Statement of Needs.*

*For example: Are entrance-doors draught-proofed? Have you changed the lighting to LED bulbs/fittings? Are you on a ‘green’ electricity supply? Could you switch to a ‘green’ gas supply?*

*Here are a couple of* *Church Times* *newspaper articles giving instances of where churches (including in this diocese) have still been given permission for gas-fuelled heating systems:*

<https://www.churchtimes.co.uk/articles/2023/3-november/news/uk/southwark-chancellor-urges-realism-over-church-carbon-targets>

<https://www.churchtimes.co.uk/articles/2023/15-september/news/uk/chancellor-grants-faculty-for-gas-boiler-in-carlisle-church-despite-net-zero-goal>

<https://www.churchtimes.co.uk/articles/2023/20-january/news/uk/carbon-goal-no-barrier-to-new-gas-boiler-in-church-consistory-court-rules>

We have noted the comments of the second email. These are largely covered by the additional reports but are as follows:-

* We have considered all feasible low carbon options and sought independent expert advice.
* The proposal has independent electric heating in the vestries, Garden Room and entrance porch.
* All water heating is electric (in the Church).
* The heating system will be designed (valved inputs) to accept any future heat pump source input when that technology has matured sufficiently and is cost effective.
* We have produced an ‘Energy Reduction Plan’ for the church which is attached with the faculty.
* The proposal will have a sophisticated control system to maximise energy savings.
* All GLS lamps in the church have been changed to LED’s where possible, leading to a 90% reduction per lamp in energy used. The Garden Room is lit entirely by LED lamps. As mentioned in the Energy Reduction Report our next major project will be to review and update the church lighting to improve energy usage, performance and accessibility.
* We already purchase electricity from a ‘green ‘energy supplier. We have researched ‘Ecotricity’ as a gas supplier but they are not currently viable.

Conclusion

All of us at St John’s are acutely aware of the issues with climate change and the need to reduce carbon emissions. When we started the project our first investigations were associated around heat pumps and electric heating. We have experience of heat pumps in the church hall. The hall was renovated in 2010 with new insulated roof, double glazing and new floor. Air source pumps and ceiling mounted cassette emitters were installed and they work very well. However, we very quickly realised that this was not feasible for the church; with its large size, high ceilings, uninsulated roof and single glazed windows.

With new high efficiency gas boilers matched to the heat loss of the church and a monitoring control system we fully expect to more than HALF our gas usage and consequently HALF our carbon emissions **and** keep the congregation warm. We will manage the use of the main church by continuing the practise of using the Garden Room for all midweek services.

We trust this has addressed all of the points raised in the e-mails.

Documents to be attached to the resubmission:

* ‘Option Appraisal’ - Addendum to Statement of Needs
* Amendment to Scope of Works’ detailing minor changes
* ‘Energy Reduction Plan’
* ‘Net Zero Questionnaire’
* This report – ‘Response to the DAC’