



Warm Church Project – St Peter’s Church, The Willows, Stevenage SG2 8AN

March 2024

EXECUTIVE SUMMARY

We are a Church of England church of all ages of around 70 adults plus 20 children worshipping every Sunday. During the week we run several activities for the community.

We need to make significant changes to the 1950s building so we can afford to heat it for a wide range of church and community activities.

Currently we cannot afford to heat the church building during the week so we have temporarily moved our midweek community activities to the church hall and vicarage which restricts what we can do and can't continue long term.

This project will ensure warm spaces for all activities in the church. The project is to insulate the roof areas, replace drafty windows and replace the old and inefficient gas boiler with an air-to-air heat pump system. From this we expect to meet our Net Zero Carbon plan.

The cost of the project will be around £90,000. We are looking for funding from the St Albans Diocese of 20% of the cost and other grant funding organisations, around £45,000.



BACKGROUND

We are a Church of England church of all ages of around 70 adults plus 20 children worshipping every Sunday. During the week we run several activities for the community such as a thriving Toddler Group and a drop in for the elderly on a Monday afternoon. On Tuesday mornings we operate a food bank, working with the deprived members of the community. The church is also used by the wider community on other occasions, e.g as a polling station.

We have good links with local schools who come into the church for special events such as harvest, Christmas and Easter and class visits.



THE NEED

Because of huge increases in energy costs, we can no longer afford to heat the church building during the week. We have had to move most activities into the hall or vicarage which restricts what we can do and is not a long-term solution. It also prevents us from starting new activities.

We want to find a sustainable way of heating the church that in addition will reduce our carbon footprint.

There are three major problems:

- 1) It has an old inefficient gas boiler and heating system
- 2) It has no insulation
- 3) It has single glazed windows

RESEARCH

In July 2022 we had a review of the buildings carried out by a heating and sustainability consultant. The resulting report made a number of recommendations and provided options for the future to decarbonise the building.

The report concluded that the current heating system and energy use is in urgent need of replacement, but the first step would be to insulate the building to reduce the amount of heat loss.

OPTIONS

Unusually the church has been designed with roof spaces both in the nave and the chancel. These roof spaces are not insulated and the heating and sustainability consultant recommends that this should be undertaken as a priority.

This will reduce our heating costs by 20-25%.

We have investigated the various options of replacing the gas boiler with some form of heat pump system. An air-to-water system with radiators is not suitable because, ideally, they need to be on all the time and will cost a minimum of £50,000. A new gas boiler system will cost £25-30,000 but will not meet our target for Net Zero Carbon by 2030.

The best option is an air-to-air heat pump system (including destratification fans) which will cost £30,000 (see quote from Aircool Engineering Ltd) and will meet our requirements for Net Zero Carbon. It will also significantly reduce our operating costs. There will be an additional cost of around £12,000 to remove the existing gas heating system and to make good the boiler room (including removal of asbestos) and replacing the flat roof.

There will be an additional cost of (estimate £6,000 – waiting quotes) to make changes to the church electrical system and provide electrical wiring to the heat pump units and destratification fans.

We have investigated the option of infrared heating, but this is not suitable for a number of reasons:

1. They do not easily suit a multifunctional space as they point to a seated congregation whereas for a lot of the time the chairs are put away and the space is used for a mother and toddler group or other similar functions.
2. They are only 100% efficient, whereas heat pumps are between 200 and 300% efficient so will be more expensive to run.
3. The heating is not always comfortable tending to heat the head, but not the feet.
4. More expensive to instal. Quote received for £70,000.

All the roof areas will be insulated to reduce heat loss and to enable the heat pump system to operate efficiently. The cost will be just over £20,000 (see quote from The Attic Guys). This is a significant cost because of the health and safety precautions required to ensure safe installation.

We investigated the option of cavity wall insulation, but found that the external wall is solid so this is not an option. Insulating the internal walls of the church is also not an option as this would be around 50% more expensive than insulating the roof spaces. Also, we want to monitor the cracks in the bare brick walls, which we will not be able to do if they are covered up.

All the windows are single glazed so we are losing a significant amount of our heat through these. It is not practical to do anything with the stain glass windows at either end of the church, but we can replace the high-level windows in the nave, the two small windows in the chancel and the windows in adjoining rooms at a cost of just over £15,000+ VAT (see quote from Grace Improvements).

IMPACT OF CHANGE

This is about serving the long-term needs of the community and the church. If we can heat the church from next winter, it will mean we can continue to provide mid-week activities for the community and we can start new things. It will also secure our ability to worship on a Sunday, which is under threat with increasing heating costs.

ADDITIONAL INFORMATION

St Peter's is within the Broadwater neighbourhood of the 1950s new town of Stevenage.

St Peter's Church is identified as a Building of Local Importance in the Broadwater Conservation Area. It was designed by N.F. Cachemaille-Day and Partners and built in 1954.

The church building has a footprint of 325 m2 which increases to 612 m2 with the hall. The space is flexible with chairs and it is used flexibly, with furniture regularly rearranged to suit the activity in the space. There is an office, kitchen and store.

CONTACT

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