

**St John the Divine, Selsdon
New Heating System
Statement of Needs
September 2023**

The Church

The church was built in 1936 to the designs of Newbury and Fowler. It is constructed of brick under a tiled roof. The church is simple in design with narrow aisles projecting from the nave. There are vestries and tower in the north east corner and the Lady Chapel in the south east corner. There is a further vestry at the west end with the main entrance at the north west corner. The new garden room complex is at the south west corner.

Approximate overall dimensions of the church are: -

42 metres long by 12 metres wide by 15 metres to the ridge of the nave.

There is seating for 280 in the nave, 25 in the Lady Chapel and 20 in the choir.

The heat loss has been estimated at 160kw

The Heating System

The heating system comprises a forced draught gas fired boiler in the basement boiler room feeding 18 heat exchangers built into cavities in the external walls with warm air venting through grills in the window cills. Free standing heat emitters are sited in the vestries. Hot water circulates through 2 1/2" mild steel pipes running under the floor. There are two circuits around the perimeter of the church, one along the north side and west end and the other along the south side and east end.

The original boiler was coal fired. The current Clyde Combustion boiler was converted to gas from oil in 1993.

In 1970, 14 twin panel radiators were installed to supplement the original system. The pipework for these radiators is connected to the original circuits and surface run along three sides of the church. The boiler is rated at 275kw and the total heat output from the current system is estimated at 45kw/h

The Need for Change

- The current boiler is 30 years old and becoming increasingly unreliable. It is inefficient and very costly to run. It is at the end of its useful life.
- On cold days the boiler is turned on many hours before a service and then fails to heat the church to a comfortable level.
- In 2021 we identified a major water leak from the heating circuit under the nave floor. The cause of the leak was a badly corroded wrought iron elbow. The leak has been repaired though its casts doubt on the integrity of the system. The pipework is nearly 90 years old; how many more corroded fittings are there?

The Way Forward

At the July 2021 meeting of the PCC the go ahead was given for a project team to be set up to investigate and recommend a new heating system that will meet the needs of the congregation. The team has met with representatives from the manufacturers and installers specialising in different technologies and has sought expert advice from an independent heating advisor. At all stages in the process the PCC have been kept informed of developments. The team are now in a position to put their proposals for a new system to the DAC.

Running concurrently with the project a 'boiler fund' was set up. Numerous fundraising activities have taken place and along with donations and legacies the fund currently stands at £100,000. Once the faculty is granted we will seek external grant funding.

