**St John the Divine, Selsdon**

**New Heating System**

**Statement of Needs – Addendum 2**

**Statement in support of a Hybrid System**

The original faculty submission was for a two gas fired boilers supplying low pressure hot water to fan convector heaters. This was seen as the most cost effective solution using known technology that met the needs of the congregation. However, in light of the Church of England’s policy to achieve net zero by 2030 the DAC were unwilling to pass the submission to the Chancellor. In order progress our application we were advised to look again at carbon neutral solutions and in particular heat pumps and infrared heating.

The PCC and congregation were advised of the situation at the APCM held on the 5th May

**Options**

**Infrared Heating**

We still reject the infrared solution for the same reasons that were set out in the Options Appraisal report.

**Hybrid System - ASHP plus gas boiler**

Cowley Heating was invited to work up a proposal incorporating heat pumps. They put forward a system using two 40 kwh air source heat pumps providing hot water to a bank of heat stores. On demand the hot water from the heat stores is pumped to the fan convector emitters. To back up the system a 150 kwh gas boiler will be installed. The boiler will only be used to top up the temperature of the heat stores and support the ASHP in very cold weather. A smart building temperature management will be installed to maximise the efficiency of the system and minimise the use of the gas boiler. A further change from the original proposal is install under seat coil heaters in the choir stalls, on a separate zoned circuit to permit the choir to be heated without heating the main body of the church.

**For**

Heat pumps are carbon neutral and therefore emit no carbon (local).

Our supplier, Octopus, is certified a green electricity supplier.

Heat pumps are up to 400% efficient.

A sophisticated building temperature management system will be installed to maximise the efficiency of the system.

The gas boiler will be a high efficiency modulating boiler only used as back up to the ASHP’s.

The ASHP electrical usage is less than 70% of the available electrical supply and therefore negates the need to upgrade the incoming supply.

The proposal is similar to the new installation at St Laurence, Catford.

On current usage patterns predicted carbon emission is 1.54 tonnes per year compared with 7.8 tonnes emitted with the current system.

**Against**

Significant increase in capital cost. The system requires two heat sources – ASHP’s and a gas boiler as well as heat stores and other additional equipment. Current cost estimate is £204k plus vat. The original proposal was £102 k plus vat.

The heat pumps will be sited outside and will require screening and possibly noise suppression.

The proposal for the hybrid system was discussed at the PCC meeting held on the 3 July 2024. Concern was raised at the additional cost though after much discussion it was agreed that the hybrid system wasthe best option to both meet the needs of the congregation and to meet the requirements of the Diocese in achieving net zero by 2030. A vote was taken and it was unanimously agreed to submit the proposal to the DAC.