The Warm Church Team has consulted with Martin Dow, Adviser to the DAC and subsequently retained by us to act as our heating consultant.

The following actions have been considered and a scope of works drawn up:

**Replace heating system, installed in 1936 when the church was built.**

Install twin high efficiency condensing boilers with modulating burners rated at 160kW/h to

 replace the current boiler, rated at 275kW/h with no external controls other than a time clock; **it is either on or off.** The new boilers match the calculated heat loss of the church and will give at least a **42% reduction in gas usage.**

Fanned convectors will replace the current heat emitters to increase the output from an

 estimated 50kW/h to match the capability of the new boilers and to reduce the time taken to warm up the church. Smart controls will be fitted and original, uninsulated, inaccessible

 underfloor LPHW circuits will be replaced. We expect that we will **reduce our gas usage by 50%.**

The new system will be designed to accommodate switching from gas to a lower carbon installation when a suitable alternative is available.

**Modern Electric Heating**

 Electric convectors using green electricity will provide flexible heating in:

server’s vestry

robing vestry

choir vestry

garden room

**North West Porch Lobby**

 LPHW radiator to be replaced with electric heater/blower

**Garden Room**

 Garden room to be used for small weekday services and meetings in cold weather to avoid using gas boilers.

**Double Glazing**

 This was considered, but our heating consultant, Martin Dow, advised that this would have minimal impact given the church is only heated on a Sunday in normal circumstances and would incur a substantial negative cost/benefit. There would also be a substantial carbon footprint in the manufacture of new windows.

**Solar Panels**

 Solar panels were considered but to have any impact at all on heating or lighting, the church would have to have storage batteries and an inverter. These together with the

 panels themselves and all the cabling would have a substantial carbon footprint in their manufacture and be prohibitively expensive.

**Lighting**

 It is anticipated that our next project will be to replace the outdated lighting system, much of which involves halogen bulbs, with new LED system, giving a substantial reduction in our carbon footprint. Where possible, when replacing bulbs, we are using the best available option.

**Energy Supply**

 We have researched energy suppliers to obtain the best green energy prices. We review this annually.

**Church Grounds**

 To assist in carbon capture, the PCC reviewed the church grounds and identified the following as good sequesters of carbon:

* + - Hedging - over 1.5 m high, over 80m in length

Grass lawns with native plants - over 880sq m

Rewilded areas - 156sq m (contains small trees, brambles, shrubs, weeds etc)

Mature trees - 11

Total trees - 31

Woody shrubs - 11

Plus a large number of various small plants

Car bon Reduction Plan 25 1 24