

St John the Evangelist, Waterbeach

A New Heating System for the Churchroom – Proposed Approach

Our proposal is to employ Eco Installer – an Ely based company – to install and commission an air source heat pump (ASHP) and solar PV system. Of three potential suppliers, Eco Installer showed themselves most alert to our particular requirements and offered the most credible technical solution.

The proposed heat pump will be installed just outside the Churchroom. The current situation and an example of a similar installation are shown in Figure 1.

Internally there is very little change proposed. Some radiators will be replaced to accommodate the lower water temperatures used by the heat pump. The internal plumbing associated with the heat pump will be located in the space vacated by the gas boiler. A larder style kitchen unit may need slight adaptation. Otherwise the kitchen will be undisturbed.

The roof configuration of the Churchroom is shown in Figure 2. Nine solar panels will be deployed (please see the drawing package for details of location). There is also a photograph of a similar installation of this same panel type. The panels will be flush mounted with new roof tiles selected to be as similar as possible to those currently installed. On the main gable (west end of Churchroom), the original tiles have a small asbestos content and our work plan and pricing reflect the requirement for their safe removal and disposal.

The inverter for the solar panels will be located in the roof space of the Churchroom. There is capacity in the Churchroom distribution board to accommodate the additional connections needed for the solar PV installation and the heat pump.



Figure 1:

(upper left) current situation with grille for gas boiler exhaust – gas pipes will be removed; note discolouration due to boiler exhaust

(upper right) a typical installation with the type and rating of heat pump specified for St John's

(lower) general view of the Churchroom; the heat pump will be partly concealed by virtue of the wall profile and can be hidden behind a screen if necessary



Figure 2:

(top two photos) Churchroom roof configuration viewed from the car park to the south
(lower left) an example of the installation arrangement with the same flush mounting panels as those proposed for St John's

St John's wishes to use a monitoring system to observe energy flows with a view to identifying the need for battery storage in the future. A monitor displaying energy usage will be displayed on Sundays and at special events and will help explain the benefits. The data will also be available to share with the wider community. We are proposing to install and program an open energy monitoring system (see <https://megni.co.uk/>). Our wish is to encourage use by Church youth groups and local schools for investigations and project work on use of energy in buildings.

St John's will make use of "Explore" days (Children oriented event – timed for after-school) , Church Services and local events to demonstrate and communicate benefits. In this way we would hope to play a significant local role in informing the village community and encouraging people to take up such "eco" developments.

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