St John’s
Waterbeach
Churchroom Heating

Richard Stobart
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Background – a life expired gas boiler in need of replacement

The SCDC “Zero Carbon Communities” scheme gave us the opportunity to look beyond a simple replacement

Floor area 90 sq-m

Worst case heat loss 10.5 kW (for 21degC)

Heat pump rated output 16 kW

Solar PV rated output 2.97 kW
Solar panels would give us a basic generating capability – south facing helped – a simpler roof structure would have been better.

A heat pump would allow some of the solar generated power to be used for heating.
Open Energy Monitor

Heat pump “app” outputs

COP of about 3

Maximum heat output of about 15kW
The Future

• Continue to improve thermal insulation and reduce draughts
• Install a battery to help provide heating and lighting power for evening events (5kW, 10kW?)
• Install solar panels on the South Aisle roof (may add 10kW)
• Replace gas boiler in Church with a heat pump/boiler hybrid