2024 QUINQUENNIAL INSPECTION SURVEY REPORT

Under the Inspection of Churches Measure 1955
as amended by Ecclesiastical Jurisdiction and The Care of Churches Measure 2018

HARTBURN: PARISH CHURCH OF ALL SAINTS

Inspection conducted by:

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Job Ref: Q0128

Hartburn: Parish Church of All Saints

Diocese:	Durham
Contact:	Dave Lawson
Date of Inspection:	11th July 2024
Date of Previous Inspection:	Unknown
Survey Conditions:	Mild and overcast
Limitations:	The inspection was carried out from ground level using binoculars both inside and out where necessary. Compass bearings throughout this report refer to ecclesiastical orientation. Window reference numbers, where given, refer to the CVMA (Corpus Vitrearum Medii Aevi) system.
Disclaimer:	Woodwork or other parts of the structure which are covered, unexposed or inaccessible have not been inspected and therefore it is not possible to report that any such part of the building is free of defect.
Background:	All Saints was built in 1877 as a school. The township of Hartburn had been included in St Peter's parish, Stockton on Tees since 1875, and the schoolroom there was used as a mission hall on Sundays. The school moved to new premises in 1911, and All Saints Church was dedicated on 25 June 1913. The church is situated to a tree lined road in urban Stockton and is used both for worship and as a community facility. The building is located to a conservation area.
Acknowledgements:	Dave Lawson for opening up

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1.0 Works Since Last Report

- None stated.

2.0 General Condition

The church is in reasonable condition, but requires a significant amount of money in heavy maintenance. These items will include fixtures and fitting such as a new kitchen, accessible WC etc. and overhaul of the heating and electrical systems.

In addition to this all the external joinery, including the windows, need fairly urgent attention.

The inspection below outlines the condition of the building and categorises works as follows:

Urgent, requiring immediate attention	1
Requires attention within 12 months	2
Requires attention within the next 12 - 24 months	3
Requires attention within the quinquennial period	4
A desirable improvement with no timescale	5
To be kept under observation over the quinquennium	O

3.0 INTERIOR

3.1 Kitchen

The kitchen is plastered and painted, with a vinyl tiled floor. There is an electric cooker, sink and kitchen units. The boiler is also situated in here.

3.2 Ceiling has clearly been repaired in the past and there are some marks on it which could indicate some damp and condensation issues. It seems more likely that this is a condensation issue as there is a note asking users of the kitchen to use the fan to expel air when the kettle is boiled. Nonetheless, it would benefit from redecoration and tidying up when the lighting has been installed.

3 £500

3.3 Walling is in reasonable condition. It is mainly painted, with a tiled splashback, but is missing some grout around the sink. Re-sealing the hand washing sink is required.

2 £50

3.4 The boiler has not been serviced within the last year. It should be serviced, as it is clearly quite an old boiler.

1 £200

3.5 Electrics are not believed to have been tested within the last five years and there is an issue with the electrics and loading. This should be resolved and a full electrical test should be carried out.

1 £500

3.6 The window in this room is in reasonable condition, but requires redecoration.

2 £300

3.7 The kitchen cabinets are showing their age a little bit, and there is some delamination of some of the veneers in places. However, it remains in relatively usable condition.

3.8 Some re-sealing is required around the kitchen sink and some of the tiles require some additional grouting.

3 £200

3.9 The flooring appears to be in reasonable condition, as it is throughout this building. It should be checked for asbestos.

2 £300

3.10 The glass panel in the kitchen door has slipped. The sealant around the glazing panel should also be checked for asbestos, and the glass panel should be pushed back into place.

2 £300

3.11 Corridor

The corridor is plastered and painted, with a vinyl tiled flooring. It is generally in fair condition, although decoratively a little tired. All the doors and timberwork are in need of redecoration.

3 £1,000

3.12 There is a split in some of the frontage to the cupboard, this should be repaired.

3 £200

3.13 The smoke alarm should be checked for the date of change. This is an older style alarm, and it may well have passed its expiry date.

1 £30

3.14 Female WC

The female WC is in reasonable condition. It is serviceable and the baby change is also in here. It is plastered and painted, with the same vinyl flooring throughout the rest of the building. There is a little bit of damp on the external wall, but this can be redecorated and monitored.

3 £500

3.15 The window would benefit from redecoration.

3 £200

3.16 Male WC

The male WC is plastered and painted, with a vinyl flooring, much like the rest of the building. The room is decoratively a little tired and would benefit from some redecoration, but the WC is functional. There is some mould again on the external wall. It seems likely that this would benefit from redecoration and may actually be related to condensation rather than a damp issue.

3 £500

3.17 The window is in need of redecoration.

3 £200

3.18 It is noted here that there is no accessible WC in the building, and the existing WC is arranged in such a way that it would not easily lend itself to being accessible in any way. The PCC should address this.

3.19 Vestry

Plastered and painted, with a vinyl flooring and houses the large altar and a table for carrying out administrative tasks. For the most part, it's in reasonable condition.

3.20 Plastered and painted, ceiling is in reasonable condition, although there is a plaster fracture running down the ceiling and there is also some water damage. The source of the water damage should be investigated and repaired. The area will need replastering and redecoration. Small plaster fracture can be redecorated and repaired at the same time.

2 £1,000

3.21 The window cill is rotten and as such towels are currently used to stem the persistent water ingress. The window requires repair and redecoration.

2 £300

3.22 Walling and cupboards, for the most part, are in serviceable condition.

3.23 Aside from a small split in the vinyl towards the wall, the cupboard next to the flooring appeared in reasonable condition.

3.24 Cupboard

Storage cupboard is generally in good condition and has been well utilised to store materials. The security of the shelving should be checked, as it does bow slightly, but other than that it appears to be in good order.

3.25 This room does have potential as an accessible WC. It would mean the loss of the storage space, but it is broadly the right size and shape for this function.

3 £10,000

3.26 Walling and flooring is a little damaged from the moving of furniture, and it may be worth adding some protection to the walls to protect them from damage from furniture being leaned up against them, but this is a desirable improvement.

5 £300

3.27 Main Worship Space

The main worship space is plastered and painted, with a vaulted truss arrangement. Flooring is the same vinyl used throughout the rest of the building. The room has been recently redecorated and this is in excellent decorative order.

3.28 The ceiling seems to be in good condition. There is a little bit of unevenness in places, but there is no evidence of any leaks.

3.29 Walling is for the most part in good condition, particularly having been recently redecorated. There is a little bit of dampness towards the lower section of the wall in the middle of the building. This is probably formerly an external wall and it lacks a bit of airflow. Replastering in a lime plaster may well resolve it, but given that the rest of the building is painted in modern materials, it would be best just to keep redecorating this area. The damp is unlikely to be resolved.

2 £300

3.30 Flooring is the same vinyl tile that exists in the rest of building. It is a little uneven in places. It will be a desirable improvement to replace this.

5 £3,000

3.31 Windows are in reasonable condition, but it is understood that they don't open and this is a problem for ventilation. They should be modified so that they can easily and securely be opened.

4 £1,000

3.32 A desirable improvement would be for the windows to be double glazed, as they are currently single glazed, as the thermal performance will be better.

5 £10,000

3.33 Entrance Lobby

The entrance lobby is plastered and painted, with the same vinyl flooring and mat. It has been recently redecorated and appears to be in good condition.

4.0 EXTERIOR

4.1 Roofs

4.2 Front Elevation Right

Roofs to the front elevation are generally Welsh slate with a clay ridge and a lead valley gutter. The roofs appear to be in good condition with no obvious slipped or missing slates. The lead flashing appears to be securely fixed and in good order.

4.3 Side Elevation

Right-hand side elevation of the building appears to also be in good condition. The Welsh slating seems to be in good order and the clay ridge seems to be securely bedded.

4.4 The cross will require redecoration within the next couple of years.

2 £1,000

4.5 Rear Elevation

The rear elevation is also Welsh slate with a clay ridge and lead valley. Again, broadly speaking the roof seems to be in good condition, with no noted slipped or missing slates. Leadwork also appears to be in good order.

4.6 The remains of the snowboards towards the lower reaches of the roof should be removed as they are now heavily rotted.

2 £500

4.7 Extension Roof

The roof of the extension is a modern profile metal roof. It was a little difficult to view from below, but it does broadly speaking seem to be in reasonable condition. However, there is a leak or evidence of some water ingress within the vestry. A roofer should be asked to investigate this further.

2 £500

4.8 Rainwater Goods

Rainwater goods are mainly plastic and generally speaking appear to be in reasonable order, although the upper sections need clearing.

2 £500

4.9 The arrangement of carrying water over the extension roof to the gutter is likely inadequate for the volume of water involved. Additional outlets should be introduced or potential removal of the gutters to the other section and just allowing the water to pass over a wider section of roof.

2 £500

4.10 Walling

4.11 Rear Elevation

For the most part, the pointing and brickwork on the rear elevation seem to be in good condition. The lower portion of the walling has been repointed in a hard cementitious mortar, however, the brickwork is holding up quite well. There is also quite a bit of brick replacement here.

4.12 There is a single brick at high level within the gable which requires replacement.

3 £200

4.13 Brickwork to the extension generally seems to be in good condition. Pointing is tight and the window cills appear to be in good condition. There is a little bit of spalling below the damp proof course, but nothing too concerning.

4.14 All of the timberwork externally is in poor condition, timber bargeboards on both the extension and the main building have failed and require redecoration and repair as a matter of urgency. If this work is carried out sooner rather than later then some of the timber may well be saved, otherwise a significant amount of replacement will be required.

2 £3,000

4.15 On the extension, the timber boarding over the doorway has failed and requires replacement.

2 £1,000

4.16 The windows all require some attention. Those on the main hall are in better condition than those on the extension. The hall windows do require some work, but this is mainly splice repairs, particularly to cills and glazing bars.

2 £2,000

4.17 There are some areas of failed pointing over the windows that would benefit from being refilled.

2 £500

4.18 All of the windows on the extension require attention, particularly to the cills and particularly to the vestry window where the cill has almost completely rotted away. All these windows are single glazed and it would be worth considering upgrading these to double glazed units, which will help with the buildings thermal performance.

2 £5,000

4.19 Front Elevation

Elevation is also brick built, with large stone dressings. For the most part the brickwork is in good condition and pointing seems reasonable at lower level. However, there has been some repointing in cementitious mortar and particularly at low level there is some salting on the brickwork. This may well resolve if the area is raked out and repointed in a soft lime mortar.

4.20 Raking out and repointing to the lower reaches of the wall will assist in the wall drying out.

3 £2,000

4.21 There is some open jointing throughout the dressings of the cills and a little bit of salting here to the mortar surrounding. This is actually very cementitious and very hard. Raking out and repointing would be beneficial here.

2 £1,000

4.22 The lower reaches of the mullion brickwork has also suffered, although the mortar here has weathered back through salting. This has again probably been caused by over hard mortar. Raking out and repointing, with possibly some brick replacement, is needed here.

2 £1,000

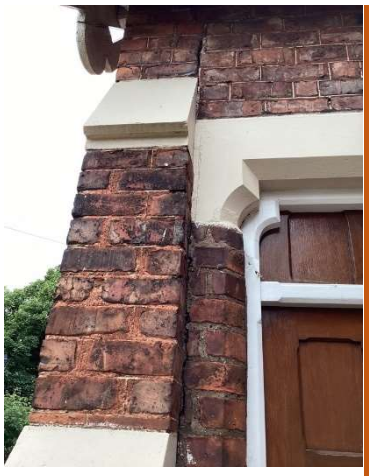
4.23 Again all of the timberwork, bargeboards and decorative external trusses are in poor condition and the timber all needs attention sooner rather than later. If redecorating and repair is carried out soon, it may well be that some of the timber can be saved, otherwise it will need a significant amount of replacement.

2 £3,000

4.24 The same is true of the cills and some of the external window timbers. Some of this is in poor condition and certainly requires redecoration. Again, if this is carried out sooner rather than later, it may well be possible to save some of the timber here, otherwise, splice repairs will be required.

2 £2,000

4.25 There is a little bit of separation between the buttress and the entrance door, and this should be repointed so that it can be monitored.



2 £500

4.26 Again, around the entrance there is a little bit of over hard pointing and salting, and again this would benefit from being raked out and repointed in a lime mortar, particularly in areas where the pointing has completely failed.

3 £2,000

4.27 Side Elevation

The side elevation is within the neighbour's garden and is a blind elevation, with brick buttresses. Generally the brickwork was in reasonable condition, but it would benefit from being repointed. The neighbour should also be discouraged from growing vegetation up against the walls as it will make the walls damp.

4.28 Particular at a low level the wall is very open jointed and would certainly benefit from a programme of repointing.

3 £5,000

5.0 EXTERNAL ENVIRONS

5.1 Rear Garden

The rear garden is a concreted space, with two sheds, a brick boundary wall and a block retaining wall to the rear. The space is generally reasonably serviceable.

5.2 The re-built section of party wall with the adjoining property generally seems to be in good condition. The remaining sections that didn't collapse seem in fair order. Pointing is a little open and certainly cementitious, but it's in fair condition. Any vegetation growing out of joints should be removed and open joints should be repointed.

3 £1,000

5.3 Redundant electrical fittings and wiring should be removed.

2 £500

5.4 The remaining retaining wall of the flower bed is in poor condition and probably should be taken down, particularly if this area is likely to be used.

2 £1,000

5.5 Rainwater gullies seem to be clear.

5.6 Front Elevation

The front of the church is generally paved, with a large memorial stone with some public information and plenty of planting. It generally seems to be in a reasonable condition.

5.7 The front is bound by timber fencing with concrete posts. This looks a little decoratively tired and would probably benefit from a little bit of decoration and remedial work.

3 £1,000

5.8 There is level access via a concrete ramp into the building.

5.9 A handrail should be provided on both sides of the path and the one present should be re-decorated.

2 £500

5.10 There was a bit of spalling brickwork and salting, and loose material should be removed and the salts brushed off.

2 £100

GENERAL GUIDANCE NOTES

A Electrical installation. Any electrical installation should be tested at least every quinquennium by a registered (ECA, NAPIT, NICEIC or other) electrician. Any repairs or maintenance to the system (excluding additions) must be certified for industrial or commercial work and accredited by UKAS. Such works are scheduled under List 'A' (Faculty Jurisdiction (Amendment) Rules 2019), for which consultation is not required. A resistance and earth continuity test should be obtained on all circuits. The equipment should display a note of the date of the inspection and when the next inspection is due. The engineer's test report should be kept with the Church Log Book. This present report is based upon a visual inspection of the main switchboard and of certain sections of the wiring selected at random, without the use of instruments.

B Lightning conductor. Any lightning conductor should be tested every quinquennium in accordance with the current British Standard by a competent engineer approved by the Church Insurers. The record of the test results and conditions should be kept with the Church Log Book. Any work required must be undertaken by an engineer approved by the Church Insurers. Such works are scheduled under List 'A' (Faculty Jurisdiction (Amendment) Rules 2019), for which consultation is not required.

C Heating equipment. A qualified engineer should carry out a proper examination and test of the heating apparatus each summer before the heating season begins. Any work required to a gas fitting must be carried out by a person registered under OFTEC or on the Gas Safe Register. Such works are scheduled under List 'A' (Faculty Jurisdiction (Amendment) Rules 2019), for which consultation is not required.

D Fire extinguishers. A minimum of two water type fire extinguishers (sited adjacent to each exit) should be provided plus additional special extinguishers for the organ and boiler house, as detailed below. Large Churches will require more extinguishers. As a rule of thumb one water extinguisher should be provided for every 250 square metres of floor area.

Summary:

Location	**Type of Extinguisher**
General Area	Water
Organ	CO_2
Boiler House: Solid fuel boiler	Water
Gas fired boiler	Dry Powder
Oil fired boiler	Foam (or dry powder if electricity supply to boiler room cannot easily be isolated).

A competent engineer should inspect all extinguishers annually to ensure that they are in good working order. Further advice can be obtained from the Fire Prevention Officer of the Local Fire Brigade and from your Church Insurers. The introduction, removal or disposal of fire extinguishers are scheduled under List 'A' (Faculty Jurisdiction (Amendment) Rules 2019), for which consultation is not required.

E Asbestos. Regulation of the Control of Asbestos at Work Regulations 2002 became law in 2004. This regulation creates a legal duty to manage asbestos in non-domestic premises. Parishes therefore need to find out whether any building in their care contain asbestos. If they do, an assessment of its condition and the risk to users must be made and a plan to manage that risk must be drawn up. The publication 'Managing asbestos: your new legal duties' can be downloaded from **www.hse.gov.uk** and should help in drawing up the management plan. A copy of the completed plan should be kept into the Log Book.

F Insurance. The PCC is reminded that insurance cover should be index-linked, so that adequate cover is maintained against inflation of building costs. Contact should be made with the insurance company to ensure that insurance cover is adequate.

G Buried elements. Woodwork or other parts of the building that are covered, unexposed or inaccessible have not been inspected. The Advisor cannot therefore report that any such part of the building is free from defect.

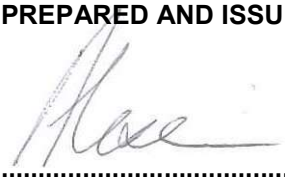
H Repair and maintenance. Although the Measure requires the Church to be inspected every five years, serious trouble may develop in between these surveys if minor defects are left unattended. The Care of Churches and Ecclesiastical Jurisdiction Measure 1991 requires that the Churchwardens make an annual inspection of the fabric and furnishings of the Church, including the safety of Churchyard headstones and other grave markers and prepare a report for consideration by the meeting of the PCC before the Annual Parochial Church Meeting. This must then be presented with any amendments made by the PCC, to the Annual Parochial Meeting. **The PCC is strongly advised to enter a contract with a local builder for the cleaning-out of gutters and downpipes twice a year.** Such works are scheduled under List 'A' (Faculty Jurisdiction (Amendment) Rules 2019), for which consultation is not required.

Further guidance on the inspection and the statutory responsibilities are contained in '*How to Look After Your Church. The Churchwarden's Year'* gives general guidance on routine inspections and housekeeping and general guidance on cleaning is given in '*Handle with Prayer',* both published for the PCC by Church Housing Publishing.

J Nature of this Report. This is a summary report only, as required by the Inspection of Churches Measure. **It is not a specification for the execution of the work and must not be used as such.** Your Inspecting Architect is willing to help the PCC in implementing the recommendations and will, if so required, prepare a specification, seek tenders, and oversee the repairs.

K Legality of repairs. Some of the suggested works will be scheduled under List 'A' (Faculty Jurisdiction (Amendment) Rules 2019), for which consultation is not required. Others will be scheduled under List 'B' (Faculty Jurisdiction (Amendment) Rules 2019), for which consultation with the Archdeacon **is** required and a notice is given in writing that such works can be undertaken without Faculty. Works that can be undertaken under each List are shown under Schedule 1 of The Faculty Jurisdiction (Amendment) Rules 2019 *(Statutory Instrument 2019 No.1184: Ecclesiastical Law, England)*. Reference to these Rules should be made when considering any work to the Church, Churchyard, and any building in the Churchyard or under the care of the PCC. Your Inspecting Architect is willing to advise the PCC on these lists and on which repairs will require Faculty, but the PCC is advised to consult the Archdeacon.

PREPARED AND ISSUED BY:



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Alexa Stephens
For **PEARCE BOTTOMLEY ARCHITECTS**

Quinquennial Questionnaire

DIOCESE: DURHAM

PARISH: STOCKTON-ON-TEES ST PETERS (ALL SAINTS CHURCH HARTBURN VILLAGE)

PROPOSED SURVEY DATE: 11 JULY 2024

Please answer the relevant questions below and return it to **Pearce Bottomley Architects**

1.0	**Churchyard**	
1.1	Bats. Are there any known bat colonies roosting in the building?	NO
1.2	Burials. Are there any burials around the building?	NO
1.3	Trees. Do any trees within the boundary have Tree Preservation Orders on them?	NO
2.0	**Building Services**	
2.1	Accessibility. When was an accessibility audit last carried out?	Don't know
2.2	Electrics. When was the last Periodic Inspection Report?	2015
2.3	Electrics. Have all the recommendations in the report been addressed?	✓
2.4	Fire extinguishers. When were these last checked?	July 2023
2.5	Heating. Is there a maintenance agreement on all equipment?	NO
2.6	Heating. When was the equipment last checked?	Don't know
2.7	Lightning conductor. If there is one, when was it last checked?	N/A
2.8	Loop. Has an induction loop system been installed?	NO
3.0	**Administration**	
3.1	Insurance. Is it index-linked?	Yes
3.2	Insurance. When was it last assessed?	Last renewal
3.3	Log Book. When was it last updated?	No log book
3.4	Reports. Are all maintenance/test reports kept in the Log Book?	
3.5	Terrier / Inventory. When was it last signed off?	2018
4.0	**Report Distribution**	
4.1	Electronic Format. E-mail address(s): info@stpetersstockton.org	
4.2	Paper Format (please note printing costs will be incurred). Name and address of the person to whom the completed report should be sent: No. of copies:	
4.3	Please provide an invoicing and correspondence address:-	
	Invoicing Address: SNC Mines (Admin) 5 Reeth Rd Stockton-on-Tees TS18 5HB	Correspondence Address: ditto.

We have completed this questionnaire as fully as possible and to the best of our ability. We confirm that the proposed date & time quoted for the survey are acceptable and convenient to us.

Signed: J Neal. Date: 5/7/24

Name: JANE NEAL Position held: Churchwarden

Tel: 07940 911557

090823

Sustainability Countdown to 2030

It will be for the PCC to set its priorities for sustainability improvements, and I would encourage you to use the Practical Path to Net Zero Carbon (PPNZC) appended to this Report to help set these. Some easy tasks are to ensure that the Church is on renewable energy tariffs, and that the building is kept watertight. I would also recommend that you look at the Eco Church scheme – which is available as a printable questionnaire or as an app, **https://ecochurch.arocha.org.uk/**

A practical path to "net zero carbon" for our churches

These recommendations aim to help churches reduce their energy use and associated carbon emissions. They are based on the findings of our church energy audit programme and input from of a range of professionals in the field.

NOTE: Many of the suggestions below require faculty; please seek input early on. If the church interior is of historic, artistic, architectural or artistic interest, seek professional & DAC advice first, before making changes; stabilising the environment for these interiors is important to minimise cycles of treatment, with their inherent carbon cost.

A. Where do we start?

These are actions that nearly all churches can benefit from, even low occupancy churches used only on a Sunday. They are relatively easy, with relatively fast pay back. They are a good place for churches to start, when trying to move towards 'net zero'.

The building itself:

A1. Maintain the roof and gutters, to prevent damp entering the building and warm air escaping.
A2. Fix any broken window panes* and make sure opening windows shut tightly, to reduce heat loss.
A3. Insulate around heating pipes to direct heat where you want it; this may allow other sources of heat to be reduced in this area.
A4. If draughts from doors are problematic, draught-proof the gaps* or put up a door-curtain*.
A5. Consider using rugs/floor-coverings (with breathable backings) and cushions on/around the pews/chairs.

Heating and lighting:

A6. Switch to 100% renewable electricity, for example through Parish Buying's energy basket, and "green" gas.
A7. Match heating settings better to usage, so you only run the heating when necessary*.
A8. If you have water-filled radiators, try turning-off the heating 15 minutes before the service ends; for most churches this allows the heating system to continue to radiate residual warmth*.
A9. If you have radiators, add a glycol based "anti-freeze" to your radiator system and review your frost setting.
A10. Replace lightbulbs with LEDs, where simple replacement is possible.
A11. Replace floodlights with new LED units.
A12. If you have internet connection, install a HIVE- or NEST-type heating controller, to better control heating.
A13. If your current appliances fail, then replace with A+++ appliances.

People and policies:

A14. Complete the Energy Footprint Tool each year, as part of your Parish Return, & communicate the results.
A15. Create an Energy Champion who monitors bills and encourages people to turn things off when not needed.
A16. Write an energy efficiency procurement policy; commit to renewable electricity & A+++ rated appliances.
A17. Consider moving PCC meetings elsewhere during cold months, rather than running the church heating.

Offset the rest:

A18. For most low usage "Sunday" churches, once they have taken steps like these, their remaining non-renewable energy use will be very small. For the majority, all they need to do now to be "net zero" is offset the small remaining amount of energy through Climate Stewards or other reputable schemes.
A19. Also, think about your church grounds. Is there an area where you could let vegetation or a tree grow?

B. Where do we go next?

These are actions with a reasonably fast pay back for a church with medium energy usage, used a few times a week. Perhaps half of churches should consider them.

Most actions cost more than the ones above, and/or require more time and thought. Some require some specialist advice and/or installers. They are often good next steps for those churches with the time and resources to move on further towards 'net zero'.

The building itself:

B1. If you have an uninsulated, easy-to-access roof void, consult with your QI about insulating the loft*.
B2. If you have problematic draughts from your door, and a door curtain wouldn't work, consult with your QI about installing a glazed door within your porch, or even a draught-lobby*.
B3. Consider creating one or more smaller (separately heatable) spaces for smaller events.
B4. Consider fabric wall-hangings or panels, with an air gap behind, as a barrier between people and cold walls.

Heating and lighting:

B5. Learn how your building heats/cools and the link to comfort, by using data loggers (with good guidance).
B6. Improve your heating zones and controls, so you only warm the areas you are using.
B7. Install TRVs on radiators in meeting rooms & offices, to allow you to control them individually.

B8. Consider under-pew electric heaters and/or infra-red radiant panel heaters*, which keep people warm without trying to heat the whole church space. Radiant panels are especially good for specific spaces like chapels and transepts, which you might want warm when you don't need the whole church to be warm.

B9. If you have radiators, install a magnetic sediment "sludge" filter to extend the life of the system.

B10. Consider thermal and/or motion sensors to automatically light the church when visitors come in, for security lights, and for kitchens and WCs.

B11. Install an energy-saving device such as Savawatt on your fridge or other commercial appliances.

B12. Get your energy supplier to install a smart meter, to better measure the energy you use.

People and policies:

B13. Vary service times with the seasons, so in winter you meet early afternoon when the building is warmer.

C. Getting to zero

These are bigger, more complex, projects, which only busy churches with high energy use are likely to consider. They could reduce energy use significantly, but require substantial work (which itself has a carbon cost) and have a longer payback. **They all require professional advice, including input from your DAC.**

The building itself:

C1. Draught-proof windows*.

C2. If you have an open tower void, insulate or draught-proof the tower ceiling *.

C3. Double-glaze or secondary-glaze suitable windows in well-used areas such offices, vestries and halls*.

C4. Internally insulate walls in well-used areas such offices, vestries and halls*.

C5. If you have pew platforms, consider insulating under the wooden platform with breathable materials*.

C6. Reinstate ceilings, and insulate above*.

Heating and lighting:

C7. Install a new LED lighting system, including all harder-to-reach lights, new fittings & controls.

C8. Install solar PV, if you have an appropriate roof and use sufficient daytime electricity in the summer.

D. "Only if...."

These are actions you would do at specific times (such as when reordering is happening) or in very specific circumstances. **Nearly all require professional advice, including input from your DAC.**

The building itself:

D1. If you are reroofing anyway, then insulate the roof, if appropriate for your roof*.

D2. If you have an uninsulated wall with a cavity (typically build 1940 onwards), then insulate the cavity.

D3. If the building is regularly used & suitable, such as a church hall, consider appropriate external insulation or render, appropriate for the age and nature of the building*.

Heating and lighting:

D4. If there's no alternative that does not run on fossil-fuels, then replace an old gas boiler or an oil boiler with a new efficient gas boiler.

D5. If yours is a well-used church which you want to keep warm throughout the week, then consider an air or ground source heat pump. Ground source heat pumps are more expensive and invasive to install than air source heat pumps, but run more efficiently once installed, depending on ground conditions.

D6. If you are doing a major reordering or lifting the floor anyway, and yours is a very regularly used church, then consider under-floor heating. This can work well in combination with a heat pump (above).

Church grounds:

D7. If you have car parking that is sufficiently used, EV charging points for electric cars can work out cost neutral or earn a small amount of income for the church. Note, they will *increase* the church's own energy use, but will support the uptake of electric cars. They could be good in combination with solar PV panels.

E. By exception

These actions are often mentioned in this context, but are generally not recommended, because of the risk of harm to the fabric, energy used, and/or the cost.

- × Standard secondary glazing on the main, historic windows (*this can be inefficient, expensive, & cause damage*).
- × Install solar thermal panels to generate hot water (*hot water use is generally not high enough to justify it*).
- × Background space heating at all times unless needed for stabilisation of historic interiors (*high energy use*).

*** If interiors are of historic, architectural or artistic interest, seek professional & DAC advice first.**