

# A practical path to net zero carbon

## *A checklist for your church*

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## Welcome to the Net Zero Checklist.

**The Church of England's General Synod has recognised the climate emergency and called on all parts of the Church to become net zero carbon by 2030.**

This commitment requires us all to take action to reduce our carbon footprint. This will involve making material changes to our buildings and adopting new behaviours that both reduce our energy use and switch usage to renewable sources.

This checklist is a tool for reviewing the carbon emissions of your church building(s) and identifying actions that can be taken to help your church reduce its energy use and associated carbon emissions. It should be used alongside the "Practical path to net zero carbon for churches" guide which provides additional advice and information to help you in this journey.

The actions recommended have been developed based on the findings of a national church energy audit programme and with input from a range of professionals in the field. Depending on the size and complexity of your church, you may also wish to commission a specialist energy audit. Contact your Diocesan Environment Officer to find out more.

**To use this checklist tool**, complete the tick boxes in each section, before identifying which actions you will take as a church. The tool can be printed off or completed by clicking and typing into the pdf form.

We suggest you review progress towards implementing these actions at a PCC meeting.

If you require any support, please contact your Diocesan Environment Officer.

Please note: Many of the actions suggested in this checklist require a faculty. Please seek advice from your DAC before taking action, especially if the church interior is of historic, architectural or artistic interest; stabilising the environment for these interiors is important to minimise cycles of treatment, with their inherent carbon cost.

# Our collective approach to net zero is underpinned by six principles:



## Well maintained

Reduce heat loss by keeping on top of basic maintenance and ensuring the building is wind and watertight. Maintain the roof and gutters, to prevent water from entering the building and warm air escaping. Fix any broken window panes and make sure opening windows shut tightly.



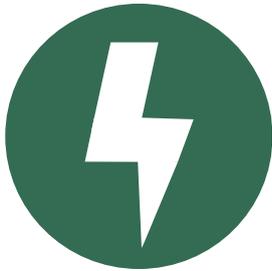
## Buy renewable

Switch to 100% renewable electricity, for example through Parish Buying's energy basket, and 'green' gas. Whilst this does not reduce the energy you use, it means it comes from a cleaner source. It is the simplest thing you can do to cut your net carbon footprint.



## Waste less

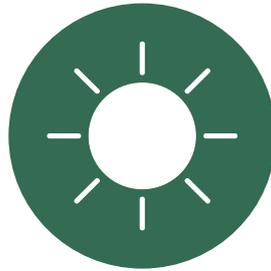
Waste less electricity, waste less gas/oil, tackle any food waste, reduce leaks and wasting water, and avoid unnecessary purchases. Read the "Practical Path to Net Zero" and "Energy Efficiency Guidance" for a wide range of ideas.



## Electric not gas/oil

Burning oil and gas to heat our churches is contributing greenhouse gasses to the atmosphere. We need to 'decarbonise' our heating.

Where possible, move to electric heating, using electricity that comes from 100% renewable sources. There are many options such as heat pumps, pew heaters, and infra-red panel heaters and chandeliers.



## Generate more

For some churches, there are opportunities to generate electricity onsite from solar PV panels, or very occasionally wind turbines or small-scale hydro.



## Offset the rest

Once you have made real reductions in your energy use, you can offset the small remaining amount through Climate Stewards or other reputable schemes to become 'net zero'. Churches with grounds can also consider if there is an area where they could let vegetation or a tree grow, as a natural way to capture carbon from the air.

# CHECKLIST

## Part A - Where do we start?

These are actions that nearly all churches can benefit from, even those primarily used only on a Sunday.

They are relatively easy and are a good place for churches to start, when trying to move towards 'net zero'.

		Already done / up-to-date	Not applicable	Not a priority right now	Explore further / get advice	Priority
<b>The building itself:</b>						
A1.	Maintain the roof and gutters, to prevent damp entering the building and warm air escaping.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A2	Fix any broken window panes* and make sure opening windows shut tightly, to reduce heat loss.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A4	If draughts from doors are problematic, draught-proof the gaps or put up a door-curtain*.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A5	Consider using rugs/floor-coverings (with breathable backings) and cushions on/around the pews/chairs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Heating and lighting:</b>						
A6	Switch to 100% renewable electricity (for example through Parish Buying's energy basket) and 'green' gas.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A7	Match heating settings better to usage, so you only run the heating when necessary*.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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*.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A9.	If you have radiators, add a glycol based 'anti-freeze' to your radiator system and review your frost setting.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A10.	Replace lightbulbs with LEDs, where simple replacement is possible.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A11.	Replace floodlights with new LED units.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A12.	If you have internet connection, install a HIVE- or NEST-type heating controller, to better control heating.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A13.	If your current appliances fail, then replace with A+++ appliances.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>People and policies:</b>						
A14.	Complete the Energy Footprint Tool each year, as part of your Parish Return, and communicate the results.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A15.	Create an Energy Champion who monitors bills and encourages people to turn things off when not needed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A16.	Write an energy efficiency procurement policy; commit to renewable electricity and A+++ rated appliances.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A17.	Consider moving PCC meetings elsewhere during cold months, rather than running the church heating.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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.	<input type="checkbox"/>				
A19.	Also, think about your church grounds. Is there an area where you could let vegetation or a tree grow?	<input type="checkbox"/>				

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

## Part B - Where do we go next?

These actions may cost more than the ones in Part A and some will require specialist advice and/or installers.

They are often good next steps for churches ready to take the next step towards 'net zero'.

		Already done / up-to-date	Not applicable	Not a priority right now	Explore further / get advice	Priority
<b>The building itself:</b>						
B1.	If you have an uninsulated, easy-to-access roof void, consult with your Quinquennial Inspector (QI) about insulating the loft*.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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*.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B3.	Consider creating one or more smaller (separately heatable) spaces for smaller events.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B4.	Consider fabric wall-hangings or panels, with an air gap behind, as a barrier between people and cold walls.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Heating and lighting:</b>						
B5.	Learn how your building heats/cooling and the link to comfort, by using data loggers (with good guidance).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B6.	Improve your heating zones and controls, so you only warm the areas you are using.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B7.	Install TRVs on radiators in meeting rooms and offices, to allow you to control them individually.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B9.	If you have radiators, install a magnetic sediment 'sludge' filter to extend the life of the system.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B10.	Consider thermal and/or motion sensors to automatically light the church when visitors come in, for security lights, and for kitchens and WCs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B11.	Install an energy-saving device such as Savawatt on your fridge or other commercial appliances.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B12.	Get your energy supplier to install a smart meter, to better measure the energy you use.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

People and policies:						
B13.	Vary service times with the seasons, so in winter you meet early afternoon when the building is warmer.	<input type="checkbox"/>				

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

## Part C - Getting to zero

These are bigger, more complex actions, which only 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.*

		Already done / up-to-date	Not applicable	Not a priority right now	Explore further / get advice	Priority
<b>The building itself:</b>						
C1.	Draught-proof windows*.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C2.	If you have an open tower void, insulate or draught-proof the tower ceiling*.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C3.	Double-glaze or secondary-glaze suitable windows in well-used areas such offices, vestries and halls*.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C4.	Internally insulate walls in well-used areas such as offices, vestries and halls*.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C5.	If you have pew platforms, consider insulating under the wooden platform with breathable materials*.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C6.	Reinstate ceilings, and insulate above*.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Heating and lighting:</b>						
C7.	Install a new LED lighting system, including all harder-to-reach lights, new fittings and controls.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C8.	Install solar PV, if you have an appropriate roof and use sufficient daytime electricity in the summer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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## Part D - “Only if....”

These are actions which a church might undertake at specific times (such as when reordering is happening) or in very specific circumstances. They nearly all require professional advice, including input from your DAC.

		Already done / up-to-date	Not applicable	Not a priority right now	Explore further / get advice	Priority
<b>The building itself:</b>						
D1.	If you are reroofing anyway, then insulate the roof, if appropriate for your roof*.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D2.	If you have an uninsulated wall with a cavity (typically built 1940 onwards), then insulate the cavity.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D3.	If the building is regularly used and suitable, such as a church hall, consider appropriate external insulation or render, appropriate for the age and nature of the building*.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Heating and lighting:</b>						
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Church grounds:</b>						
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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# IDENTIFYING NEXT STEPS

Checklist completed by:

Date of the PCC meeting  
checklist results will be  
reported to?

Date completed:

**A) Actions we have marked as 'Already done' which have positively impacted our carbon footprint are:**

1	
2	
3	

**B) Priority Actions:**

*Identify the next step for those actions which you have marked as a priority.  
Who will be responsible for taking these forward. By when?*

Action	Who's responsible?	Target date for completion	Date of review by PCC
1			
2			
3			
4			

**C) Further Actions**

*Identify any actions which you have marked as 'explore further'.  
Who will be responsible for exploring these. By when?*

Action	Who's responsible?	Target date for completion	Date of review by PCC
1			
2			
3			
4			

*If more space is required for creating your 'Next steps action plan', please use additional sheets or your own document template.*

# Church of England guidance and support, to help you take action:

## Net zero carbon church suite of guidance

<https://www.churchofengland.org/resources/churchcare/net-zero-carbon-church>

## Case studies

<https://www.churchofengland.org/more/policy-and-thinking/our-views/environment-and-climate-change/towards-net-zero-carbon-case>

## Net Zero Webinars

<https://www.churchofengland.org/more/policy-and-thinking/our-views/environment-and-climate-change/webinars-getting-net-zero-carbon>

## To calculate your carbon footprint

- Energy Footprint Tool: <https://www.churchofengland.org/more/policy-and-thinking/our-views/environment-and-climate-change/energyfootprinting>
- 360 Carbon: <https://360carbon.org/>

## Sources of funding

<https://www.parishresources.org.uk/resources-for-treasurers/funding/>  
(Section 4 “National List of Charitable Grants”)

## Parish Buying (for switching to green electricity, energy audits, and LED lighting)

<https://www.parishbuying.org.uk/>

## Find your Diocesan Environment Officer

<https://www.churchofengland.org/more/policy-and-thinking/our-views/environment-and-climate-change/deo-map>

## Your DAC Secretary

Details available via your diocesan website. Many DACs have heating and sustainability advisors, who give free advice.

# External partners offering useful resources

## Historic England

<https://historicengland.org.uk/advice/technical-advice/energy-efficiency-and-historic-buildings/>

## A Rocha (Eco Church)

<https://ecochurch.arocha.org.uk/>

## SPAB

<https://www.spab.org.uk/advice/knowledge-base>