

# Net Zero Carbon Churches

There are all kinds of changes that can help your church cut its carbon footprint. Choosing the right actions for your church will help meet the prophetic call from General Synod for all parts of the Church towards 'Net Zero Carbon' by 2030.

Cutting your church building's carbon emissions is an act of discipleship as it puts into practice our love for God, for each other and for all God's creation.

There is a wide menu of actions to choose. No individual church could, or should, do everything. Every church is unique and the right combination of actions for your church will need careful consideration. Some are quick wins, others will need careful planning, expert advice, and fundraising.

Scan on the QR below for more Net Zero Church Buildings resources:



Net Zero  
Carbon  
Resources



Eco Church  
Buildings  
Guidance



DAC  
Environment  
Guidance



C of E  
Net Zero  
Case Studies



Fundraising  
and Grants  
Guidance



## Well maintained church buildings

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 that hopper head windows are openable for ventilation.



## 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. If you combine electric heating with 100% renewable electricity, your church will be approaching net zero carbon.



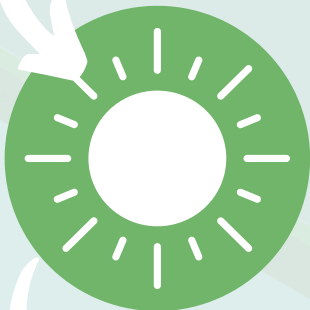
## Waste less

Take small simple actions to waste less electricity, waste less gas/oil, tackle food waste, reduce leaks and wasting water, and avoid unnecessary purchases. Read the DAC's Environmental Guidance, Church of England's "Practical Path to Net Zero" and "Energy Efficiency Guidance" and Eco Church Toolkit for a wide range of ideas.



## Electric not gas/oil

Burning oil and gas to heat our churches are 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 frequent use churches and church halls, there are opportunities to generate electricity onsite from solar PV panels, or very occasionally wind turbines or small-scale hydro. Early advice on feasibility is recommended.



## Offset the rest

Once you have made real reductions in your energy use, your last step is to offset the small remaining amount through Climate Stewards or other reputable schemes to become 'net zero'. Churches with grounds can also consider a 'God's Acre' zone, with vegetation capturing carbon from the air.

# UNDERSTANDING YOUR CARBON FOOTPRINT

## Energy Footprint Tool

[parishreturns.churchofengland.org](http://parishreturns.churchofengland.org)

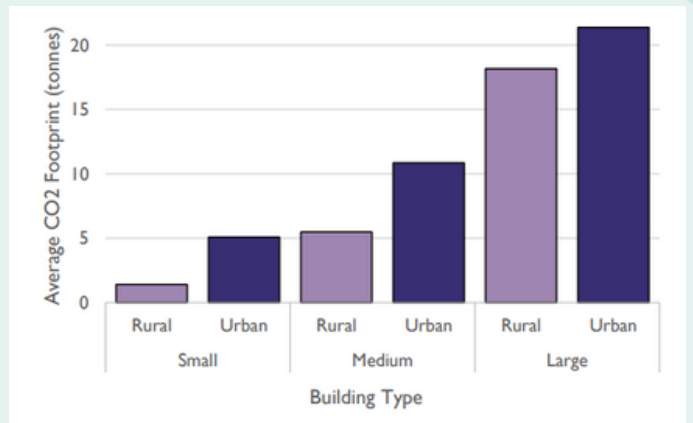
To calculate your church's carbon footprint start with the Energy Footprint Tool opening next in January 2023. This lets you calculate the carbon footprint from your use of electricity, oil and gas.

The results can be reported to the PCC annually to track the total energy efficiency and carbon emissions of your buildings.

As you adapt and make changes to your heating and lighting, share what makes the biggest different to your energy usage and carbon emissions. In 2020:

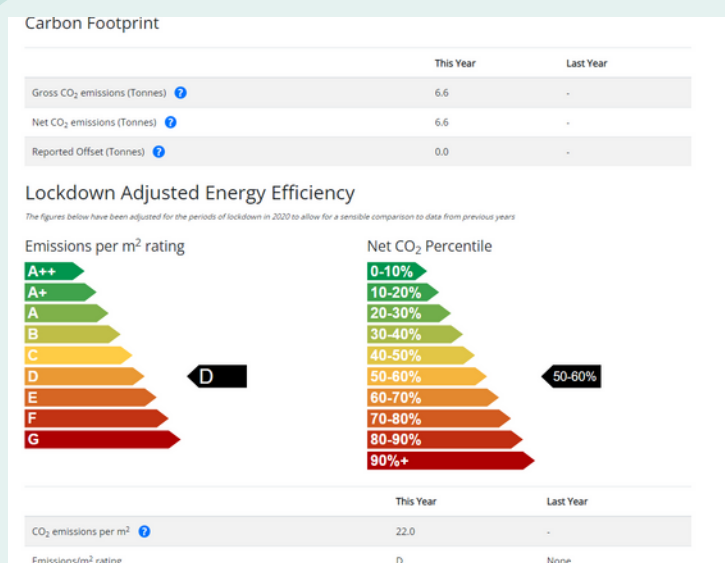
- 18% of churches in England bought electricity from renewable energy suppliers
- 2% were heating their buildings through solar PV.

If you are keen to go further, use [360Carbon.org](http://360Carbon.org) to calculate the carbon footprint of energy, transport, food, and purchases.



The average large urban church emits around 21 tonnes of net CO<sub>2</sub>e, 10 times the amount of an average small rural church, which emits just under 2 tonnes of net CO<sub>2</sub>e. The energy solutions for each church building will vary on: size, usage, location, building type, age, planning permissions.

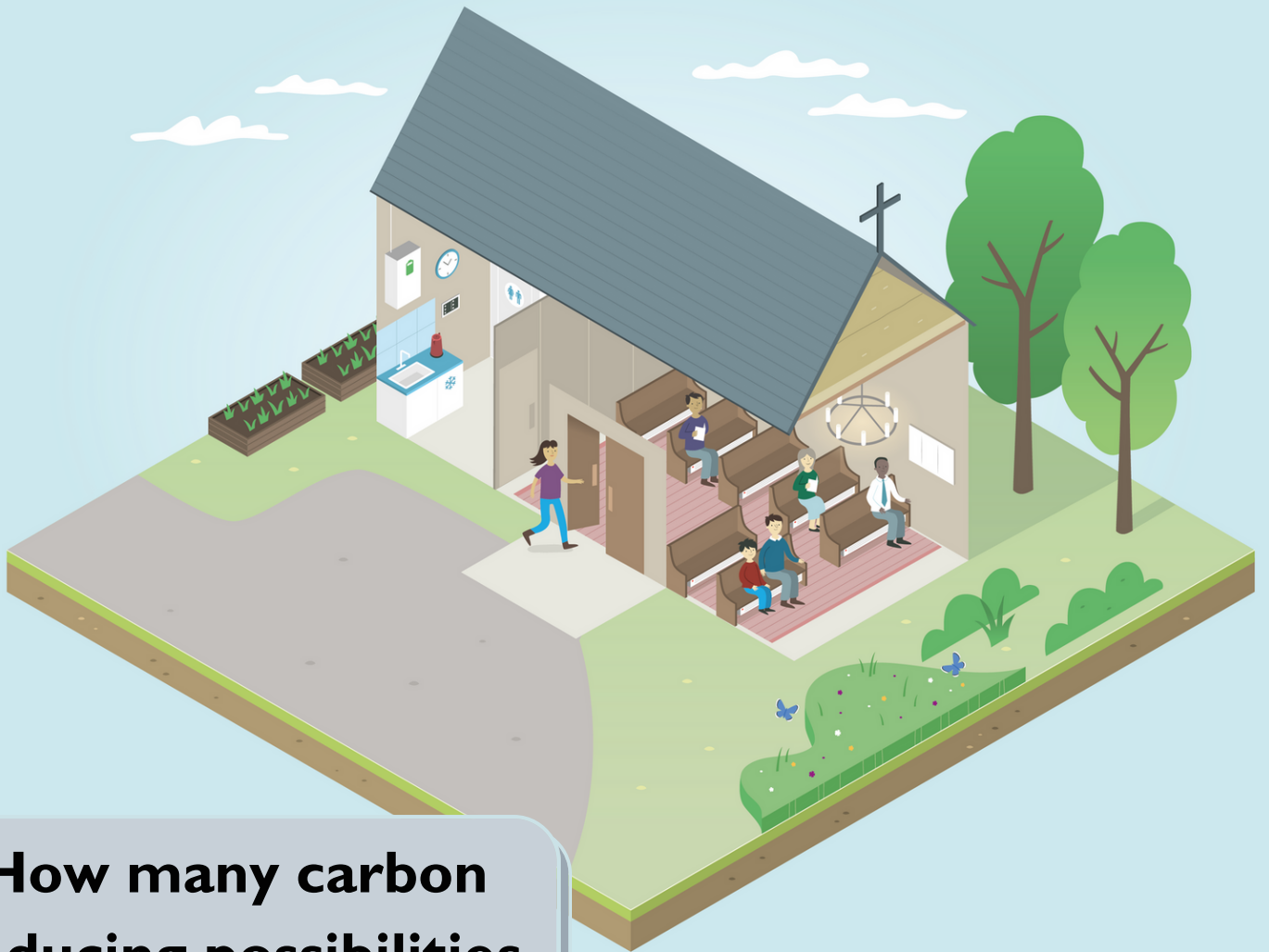
To get started, use the DAC Environmental Guide: Practical Steps to Achieving Net Zero



This Energy Certificate is for a medium sized rural Local Mission Church with a well used church hall. It was generated through the Energy Footprint Tool. This church could:

- Commission an energy audit, identifying energy savings for the church and church hall, switching to greener tariff (eg Green Journey/ Parish Buying)
- Review Church Hall energy usage by different community groups for better efficiency
- Investigate grants for transitioning to sustainable community heating solutions.
- Invest in heated pew cushions for church and lower the background temperature.
- Switch to LED lighting





**How many carbon  
reducing possibilities  
can you spot?**



## Outside:

- EV car charging
- Insulating renders or external insulation
- Solar PV
- LED Floodlighting & Path Lighting
- Well-maintained Roof
- Intact Windows
- Air source Heat Pump
- Draft proofing
- Bike racks

## Inside:

- Battery storage
- Service times vary with the seasons
- Heating and lighting zoned and timed
- Low flush toilets
- Energy-efficient appliances
- Partitions create smaller spaces
- insulation in void or when reroofing
- LED lighting
- Low carbon heating
- Heated cushions or blankets
- Internal draught curtain or lobby

**Some of these are possible in every church, however, most churches will need a mixture. Where will you start?**

# Lighting

New lighting was installed into South Kyme church in 2020. Ann Freeston, churchwarden, explained the motivation. 'The new bulbs enable the congregation to see better but are also more environmentally friendly than the previous incandescent bulbs and should last longer, saving further money.'

With better lighting the church is also equipped to host additional events in the building. This year the LED bulbs are making a significant difference to our energy bills, and combined with a renewal energy tariff results in Net Zero lighting and electric heating.'

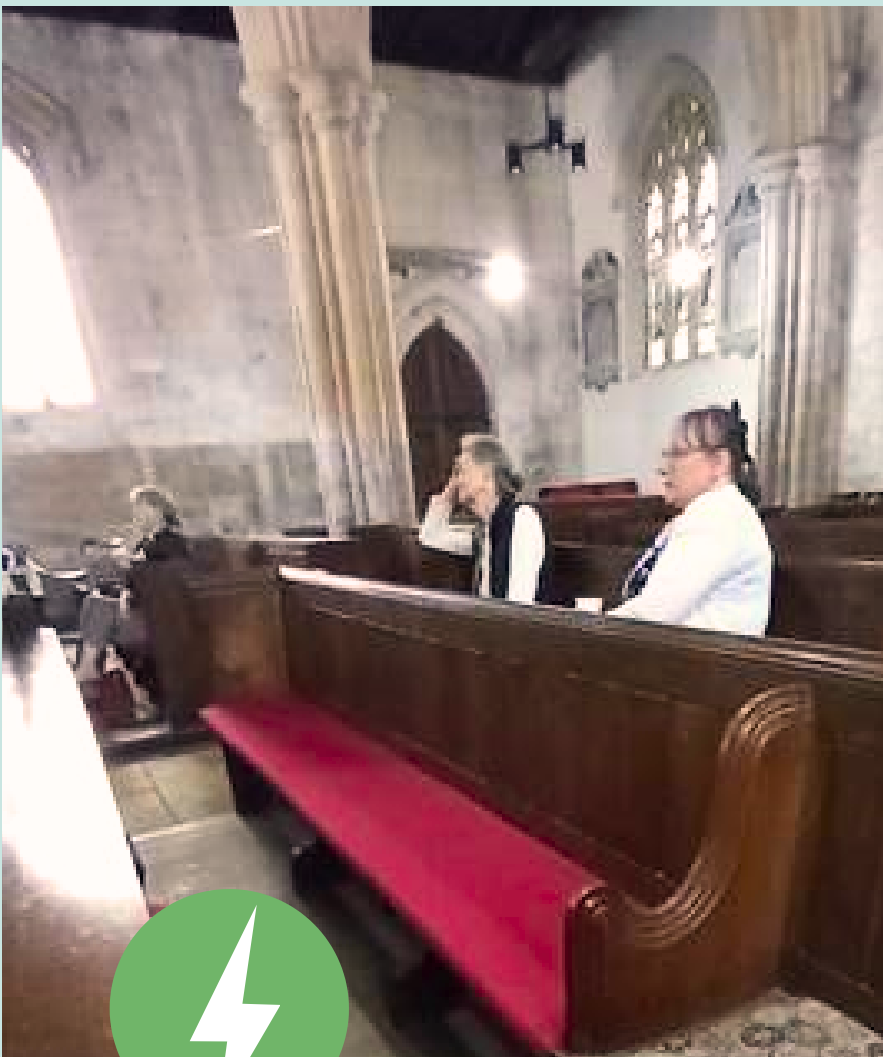


# Pew cushions

As reported in The Sun: Pew, what a scorcher!

'Heated pew cushions have been installed at St Swithin's Church, Leadenham. They use just £1 of electricity to warm 100 worshippers through an hour-long service. Installed in 2021, churchwarden Henrietta Reeve said 'It's a Godsend. Some of the congregation don't want to stand for hymns!'

Each cushion is individually activated by simply sitting on them but can be turned off if occupiers get too warm. When combined with electricity from a renewable source, then this solutions becomes both cost effective and carbon neutral!



**EFT Data 2021**

Elec: £207

Gas: 0m<sup>3</sup> £0

tCO<sub>2</sub> net: 0.23

# Chandeliers incorporating heating

Amcott's chandeliers were an early example of this form of heating which is now seen in a number of churches in the diocese. Installed in 2016, they have enabled the building to be useable throughout the year as the focus of the small community. The chandeliers can be used just for lighting purposes or with the heaters as well and warm the people rather than the building. This means that there is no need to turn the heating on at 4am before a Sunday service!





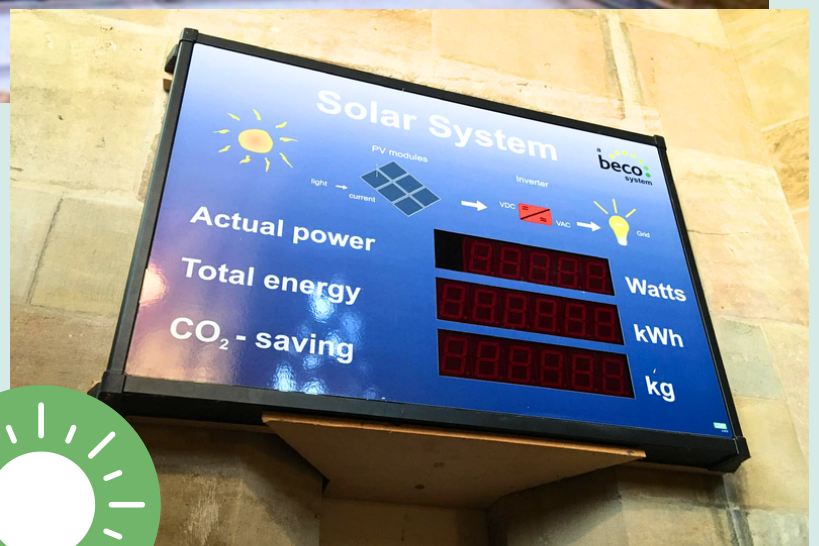
# Solar panels

St Denys' in Sleaford invested £70,000 on 54 panels in 2008, inspired by an article about green energy in the Church Times. Canon John Patrick, the then-Vicar said in 2011 "Our annual electricity bill is about £1,400 - and we reckon that the panels are bringing in an income of more than £2,500 a year. So that is paying for the electricity and making a sizeable contribution towards the gas bill, which is about £5,000 per year," he said. "The panels obviously make a good statement about the environment and the fact that we need to be good stewards of God's earth."

The church also has an electronic sign which shows visitors how much electricity is being generated by the panels.



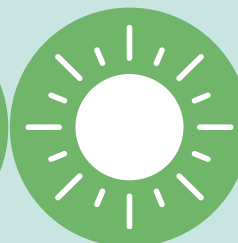
Above: Solar panels on the south aisle roof.  
Right: The display which shows how much electricity is being generated.



# Air Source Heat Pump

St Mary's Church at Carlton Le Morland are delighted with their air source heat pumps. They provide a constant, steady, gentle background warmth all year round. Although the units might look scary up close, they are easily hidden by evergreen shrubs.

A wall mounted heating unit connects inside.



# Churches' Environment Network

All are invited to join these half-termly zooms and connect with others in your Local Mission Partnership, the Deanery Environment Champions, in the Deanery Partnership and beyond. With guest speakers from across the diocese and support from experts in their field. Bring your questions and your stories!

13  
Mar



## Wildlife & Land



Wednesday 13th March 2024 at 07:00 PM on Zoom

Harriet Carty from Caring for God's Acre joins us to explore the potential of our churchyards to support and increase opportunities for wildlife. Churchyards can be a sensitive issue so we will be thinking about sanctuary and hope relating to these spaces. Join us in sharing and hearing stories from across the diocese; leave resourced for your next step.



8  
May



## Outdoor Worship

Wednesday 8th May 2024 at 07:00 PM on Zoom



3  
July



## Connecting Community

Wednesday 3rd July 2024 at 07:00 PM on Zoom

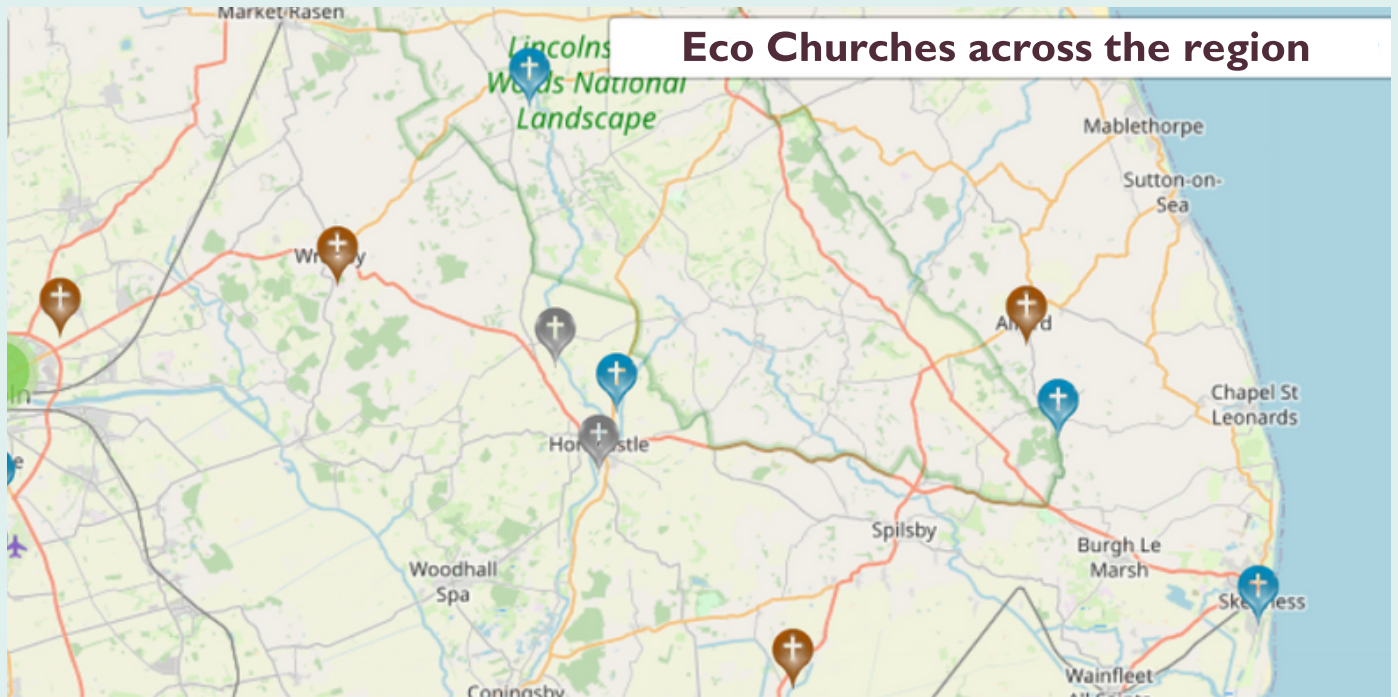


**To watch on catch-up or register:**

**[www.lincoln.anglican.org/diocesan-environmental-network](http://www.lincoln.anglican.org/diocesan-environmental-network)**

**Contact:**

**[sarah.spencer@lincoln.anglican.org](mailto:sarah.spencer@lincoln.anglican.org) - 01522 50 40 75**



**Eco Churches in the area:**

Wragby - Burgh on Bain - Hemingby - West Ashby - Horncastle - Alford - Willougby - Skegness - Stickford

Free online survey and supporting resources are designed to equip your church to express your care for God’s world in how you:

- develop worship and teaching
- engage with your local community and in global campaigns
- engage in the personal lifestyles as a congregation.

The actions you take will count towards a prestigious Eco Church Award at Bronze, Silver or Gold level. Complete the Eco Survey to gauge where your church currently is in relation to the three different levels; you may find you already qualify for an Eco Church Award!

**Sign up here: <https://ecochurch.arocha.org.uk>**

Energy Footprint Tool 2023	N	%
Not Submitted	38	100%
Submitted	0	0%
<b>Total</b>	<b>38</b>	

Bollingbrook 2023 Data

Energy Footprint Tool 2023	N	%
Not Submitted	52	100%
Submitted	0	0%
<b>Total</b>	<b>52</b>	

Horncastle 2023 Data

**Energy Footprint Tool: Opens March 1st - July 31st 2024!**

Treasurers and PCC Secretaries,

please look out for emails with instructions and information from 1st March

2024. <https://parishreturns.churchofengland.org/>