



# NET ZERO CARBON ACTION PLAN

CARLISLE DIOCESE

Environmental and Net Zero Carbon Working Group



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## Introduction

*“The earth is the Lord’s, and everything in it, the world, and all who live in it; for he founded it on the seas and established it on the water” (Psalm 24:1-2)*

As Christians, we are called to be stewards of God’s creation (Genesis 1:28, 2:15). In Cumbria, we have the ecumenical God for All vision, with four thematic areas. One of these is to Tread Gently; to safeguard the integrity of God’s creation, seeking to sustain and renew the life of the earth<sup>1</sup>. This involves

- Developing a biblical understanding of the place of the natural world in God’s plans
- Enabling more sustainable ways of using our resources in our churches (including the buildings)
- Equipping Christians with practical, everyday ways of living more sustainably
- Helping Christians to express a Christian viewpoint on environmental issues.

We are also called to Follow Daily, Care Deeply and Speak Boldly. Climate change is one of the most important and urgent issues we face globally today and as Christians we should be equipped to Speak Boldly about why we are taking action to reduce our emissions, as well as why society more widely should be urgently addressing this challenge.

Our response to climate change is not just about caring for creation but about caring for our local and global neighbours. The effects of climate change are already being felt, in particular by those in the Global South, who historically have contributed least to the problem. Every gram, kilogram or tonne of carbon emissions saved helps to reduce these impacts and is an act of loving care for our communities.

One part of living out the Tread Gently theme is through reducing our carbon emissions, with the target to reach Net Zero by 2030 as set by General Synod in 2020<sup>2</sup> and endorsed by Diocesan Synod in 2023. The scope of this work is shown in Fig. 1. As seen in Fig. 1, the personal emissions of church members are not in scope. However, it’s expected that the church’s work will “spill over”- creation care doesn’t start and stop on a Sunday in church but is something we should all be living out in our daily lives.

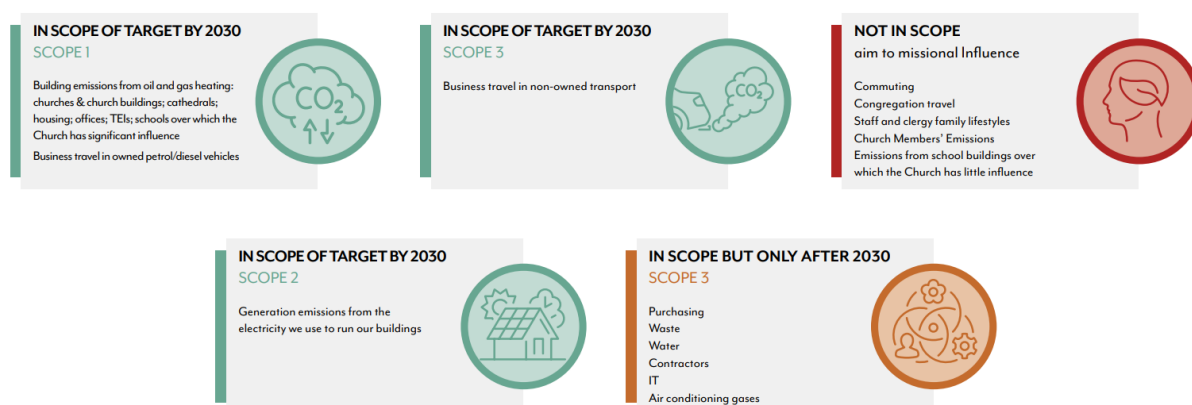


Figure 1. Emissions in scope of the 2030 target, in scope after 2030 and not in scope. For full details, see the Routemap to Net Zero<sup>3</sup>- Appendix.

In 2022, General Synod endorsed the Routemap to Net Zero<sup>3</sup>, the national action plan to reach net zero this decade. The Routemap provides milestones and actions for all parts of the Church, with the expectation that Dioceses would also develop their own action plans. This document (the Diocese of Carlisle Net Zero Action Plan) is that expected plan- it takes the milestones and actions laid out in the Routemap, developing them for our specific context. The Action Plan sits alongside the broader Eco Strategy (Appendix 1), for the four covenantal God for All partners, which recognises that carbon reduction is just one aspect of creation care and encourages engagement with A Rocha UK's Eco Church scheme<sup>4</sup> to fulfil other aspects. The Eco Strategy sits alongside several other strategies, to support the God for All vision across the county.

The Action Plan is divided into the different in scope areas but there are uniting themes and quick wins. Where these themes are identified, the Diocese will provide an overall focus on them, encouraging action across all buildings. One example of this is the LED 2023 Challenge, where funding has been made available to churches and clergy to make the switch to LED bulbs. There's further information on the LED Challenge in the Case Studies section of the Action Plan.

This Plan has been developed by the Environmental and Net Zero Carbon Working Group and is a live document, which will be reviewed annually, taking into consideration any changing national Church of England guidance, Government (national and local) policy and other external factors. More details on monitoring and reporting can be found at the end of the Plan.

In 2021, the Diocese's carbon footprint was 8,363 tonnes of CO<sub>2</sub> (using data from the Energy Footprint Tool (EFT)), which is our baseline figure to reduce from. A breakdown of this emissions figure can be seen in Table 1. This also shows the returns rate for different buildings- the challenge of improving these is discussed in more detailed in the Challenges section.

*Table 1. The baseline emissions, taken from the Energy Footprint Tool, from 2021 by building type. Returns rate for the EFT is also shown, given an indication of the accuracy of the emissions estimates.*

<b>Sector</b>	<b>CO<sub>2</sub> emissions (tonnes)</b>	<b>CO<sub>2</sub> emissions (% of total)</b>	<b>Returns rate (%)</b>
Churches	2486	30	33
Schools	4291	51	37
Housing	1244	15	93
Other buildings	289	3	33
Work-related travel	53	<1	N/A

The Church of England has set the target that offsetting covers no more than 10% of emissions<sup>3</sup>, meaning the Diocesan footprint must be reduced by at least 7,527 tonnes, to 836 tonnes, by 2030. Based on the actions detailed in this plan, the estimated cost of this work is £123,317,000. This total cost is not all within the Diocese's control, some we can only influence- such as the cost of works to individual churches.

## **Theological Reflection- God's Word on God's World**

### **The Earth belongs to God**

Psalm 24:1- *The earth is the LORD's, and everything in it, the world, and all who live in it; for he founded it on the seas and established it on the waters (Psalm 24:1).*

Genesis 1 and 2- God creates the world and it is good. Humanity is part of Creation and is to rule over and care for Creation (Genesis 2:7, 2:15). The first Great Commission is found in Genesis 1:27-28- we are made in the image of God and given dominion over the natural world, to be exercised in a godly way.

### **Creation is for Jesus**

*The Son is the image of the invisible God, the firstborn over all creation. For in him all things were created: things in heaven and on earth, visible and invisible, whether thrones or powers or rulers or authorities; all things have been created through him and for him (Colossians 1:16).*

### **God's covenant is with all of Creation**

Genesis 9:8-10- *Then God said to Noah and to his sons with him: <sup>9</sup>"I now establish my covenant with you and with your descendants after you <sup>10</sup>and with every living creature that was with you—the birds, the livestock and all the wild animals, all those that came out of the ark with you—every living creature on earth.*

Noah and his family are amongst "every living creature" and the earth itself (Genesis 9:8-17). In Genesis 17:3-11, God's commitment to Abraham includes the land. See also Hosea 2:16-20 and, in the New Testament, Luke 22:19-21- Jesus' new covenant uses the earthly signs of bread and wine.

### **But**

Genesis 3:17- Sin leads to the breakdown in relationships between God and us, between each other and with the world.

We see the impacts of sin on the environment in Jeremiah 12:4, Hosea 4:1-3 and Leviticus 18:25-28. The land suffers, mourns, and vomits because of sin. God will judge us for this (Revelation 11:18).

### **It is also an issue of Justice**

Climate change will push at least 132 million people into poverty by the end of this decade alone. We were never called to be mass consumers; social justice is a major theme of the Old Testament prophets and also of the law.

Leviticus 22:2- *When you reap the harvest of your land, do not reap to the very edge of your field or gather the gleanings from your harvest. Leave them for the poor and for the foreigner residing among you. I am the Lord your God.*

The book of Amos is one that particularly focuses on the needs of the poor. Justice, peace, and the environment are all linked. God's covenant is rooted in the land.

### **Sabbath Rest and Recreation as the Antidote to nonstop Consumerism?**

Our renewal comes through rest (Genesis 2:2, Isaiah 30:15). We need to rediscover the lost rhythms of God's grace (Genesis 8:22). The Sabbath is also there for animals (Exodus 20:10) and the land (Leviticus 25). Time is a gift from God, not a commodity, and we should learn to live at God's pace which is also the pace of the land!

### **And finally, the physical matters to God**

Mark 16:1-6; John 20:10-31- Jesus was Resurrected in a body, not as an ethereal Spirit. In Jesus, Heaven had come to earth. The spiritual had fused with the material. The New Testament teaches that just as the 'old' creation was cosmic so is the new creation through the resurrection (1 Corinthians 15:47-49).

## Diocese

In March 2023, Carlisle Diocesan Synod endorsed the Church of England’s national goal of becoming carbon neutral by 2030, welcoming the steps already undertaken towards this goal. The Diocese has a long history of environmental commitment, including co-developing two hydro-electric schemes in the county in the mid-2010’s. These schemes generate around 3,800 megawatt hours of electricity annually- enough to power over 200 homes. One of these schemes lies in the grounds of Rydal Hall, the Diocesan retreat centre, where 15 solar panels were recently installed. The carbon emissions of Rydal Hall and the St John’s in the Vale Youth Centre are both in scope for 2030, but they are responsible for their own planning and funding of any carbon reduction actions, so they do not form part of the below action plan. However, the Diocese will support both sites when possible, for example at Rydal Hall the Diocese supported the installation of two electric vehicle charge points in 2022, in conjunction with Charge My Street.

The action plan below can all be undertaken as part of existing staff time, so there are no additional costs associated with this work.

For the Diocese action plan, and the subsequent action plans for other buildings, there are “Owners” listed- the individuals or Committees who will lead on an action. The majority will be owned by members of the Environmental and Net Zero Working Group (ENZWG), who are Derek Hurton (DH), Richard Waller (RW), Vernon Ross (VR), Anna Newlove (ANe), Ali Ng (ANg), Neal Andrews (NA), Morven Anson (MA), Benjamin Carter (BC), Charlotte Tudway (CT) and Ric Jacques (RJ). Other Owners are Cath Bell (CB), Nick Paxman (NP), Kerry Roughton (KR), Jayne Potts (JP), Bruce Mumford (BM), Steph Carter (SC), the Archdeacons (AD), the National Environment Programme (NEP), the Diocesan Board of Education (DBE) and the Diocesan Advisory Committee (DAC).

Milestone 4.1.1	All dioceses to convene a Net Zero Carbon working group, with senior representatives						
	Task	Objective	Owner	Start	End	Notes	Complete
	Establish a working group to plan and monitor work towards Net Zero, with representatives from across the in-scope areas	Monitoring progress	ANe	Jul-21	Ongoing	Group to meet four times a year	Yes
4.1.2	All dioceses provide an annual carbon emissions report to Diocesan Synod using the results provided by the national Carbon Emissions report from Research and Statistics						

	Prepare report annually, as part of broader report on Net Zero progress for Diocesan Synod	Monitoring progress	ANe	Mar-23	Ongoing	First report delivered in March 2023	Yes
<b>4.1.3</b>	<b>All dioceses develop a communication strategy to churches and schools- focus on the 'why', the theology, and make it positive</b>						
	Create a strategy detailing key audiences, messages, timelines and communication channels	Encouraging behaviour change	ANe	Jul-22	Dec-22	See Communications section of plan	Yes
<b>4.1.4</b>	<b>All dioceses provide an outline of their decarbonisation plans to Diocesan Synod as a Net Zero Carbon Action Plan, to include estimates of costs for different options, as well as the policy changes and levers for change required. To be reviewed annually by senior staff. The plan should make reference to the Practical Path to Net Zero and actively consider implementation of 'quick wins', how to decarbonise heat, how to reduce energy consumption and how to encourage behaviour change.</b>						
	Members of the Net Zero Working Group to create plans for their in-scope area (e.g., churches, schools)	Provide a framework for action	ENZWG	Jan-23	Jul-23		Yes
	Collate individual plans into one cohesive plan, which provides actions needed through to 2030	Provide a framework for action	ANe	Apr-23	Aug-23		Yes
	Provide plan to Bishop's Council and Diocesan Synod	Formalising Diocesan commitment	ANe/DH	Sep-23	Oct-23		Yes
	Working Group to review the plan, noting completed actions and adding additional actions and policies as they are developed	Monitoring progress	ENZWG	Jan-24	Dec-30	The individual areas are under constant review, as Owners complete actions. The overall Plan will be reviewed annually, in October.	
<b>4.1.5</b>	<b>All dioceses audit clergy property (where possible) by 2023 and develop a property retrofitting plan by 2024</b>						

	Instruct Cumbria Action for Sustainability to audit a cross-section of clergy houses, providing reports on retrofitting possibilities and costs	Information gathering	NA	Jan-22	Jun-22	See housing section of plan for further details on steps through to 2030	Yes
<b>4.1.6</b>	<b>All dioceses audit their landholdings and develop a land management plan</b>						
	Audit landholdings	Information gathering	NA	Jan-26	Dec-26	Further planning on land management is needed, pending the national decision on whether to bring these emissions into scope	



## Churches

There are 322 churches in the Diocese. Of these, 263 are listed (Grade I= 49, Grade II\*= 74, Grade II= 140). Using Church of England categories, 64 are small (<250m<sup>2</sup>), 150 are medium (250-650m<sup>2</sup>), 28 are large (650-1,000m<sup>2</sup>) and 4 are very large (>1,000m<sup>2</sup>) (76 are not classified as size data is not known). While there will be resources available to all churches, specific Diocesan support will be phased, starting with the highest emitting churches, who face the biggest reduction target, and moving down the list. This will be based on EFT data.

Several churches in Cumbria are already making significant progress to become net zero, and more environmentally responsible more broadly. Levens St John the Evangelist and Lorton St Cuthbert have both achieved Gold Eco Church awards. In total, there are 60 churches in the Diocese registered with the Eco Church scheme, with 32 of them achieving an award. So far, three churches have heat pumps and one has solar panels, with others actively considering one or both of these technologies.

This plan sets out the high-level actions required to move towards Net Zero, rather than giving a detailed plan that each individual church can follow, as it would not be possible to provide this. Given how varied church buildings are, as well as their halls and any other ancillary buildings, one plan will not suit them all. The top 20% of emitters (Appendix 2) need to produce their own plan by 2027, to be implemented by 2030. They can base their plan on Appendix 3, “Template Net Zero Carbon Parish Plan”. This can also be used by lower emitting churches and is particularly helpful for planning ahead for heating system end of life.

The National Environment Programme Team have provided indicative average costs for the decarbonisation of churches, based on the different size categories. These average costs also include basic maintenance costs; actions which a church is very likely to undertake anyway, so are not additional spending, but have the double benefit of also helping a church to reach net zero. Based on these costings, it’s estimated it will cost in the region of £60,000,000 to get all churches, and ancillary buildings, in the Diocese to Net Zero. This cost does not fall centrally on the Diocese, but will primarily need to be funded by churches, using multiple sources. For help on funding, see the National Environment Programme webpage on the topic<sup>5</sup>.

Milestone 4.2.1	Faculty rule changes were agreed by General Synod in 2022, for a range of changes to the rules to support net zero carbon. Clear guidance to be issued on agreed changes, and wide communication about the implications.						
	Task	Objective	Owner	Start	End	Notes	Complete
	Churchwarden Training in November 2022 to inform about changes	Information sharing	MA	Nov-22	Nov-22		Yes

	February newsletter to churchwardens to include details and where to find support	Information sharing	MA	Feb-23	Feb-23		Yes
<b>4.2.2</b>	<b>Promote the <i>Practical Path to Net Zero Checklist</i>, Heating Options Appraisal guidance and church energy audit programme to all those responsible for church buildings.</b>						
	Regular updates and advice, including signposting to the Practical Path to Net Zero, in e-news	Encourage behaviour change	MA/ANe	Sep-22	Ongoing		Yes
	Spring DAC Newsletter for churchwardens to include details of church energy audit programme	Encourage behaviour change	MA	May-23	May-23		Yes
	DAC to encourage use of Heating Options appraisal guidance when considering heating replacement faculties	Encourage behaviour change and provide a framework for action	DAC	May-23	Ongoing		Yes
	Churchwardens training in September 2023 to include signposting to guidance	Encourage behaviour change and information sharing	MA	Sep-23	Sep-23		
<b>4.2.4</b>	<b>Over the duration of a Quinquennium and from 2022, all cathedrals and the top 20% of energy-consuming churches to develop net zero carbon action plans for completion by no later than 2027. These should include, as a minimum, low-carbon heating options to replace fossil-fuel heating at end-of-life, such as heat pumps or far infra-red heating panels. The Action Plan should also contain a Heating Resilience Plan which should consider how to manage heat should the existing system fail, to avoid needing a quick like-for-like fossil-fuel replacement.</b>						
<b>4.2.14</b>	<b>At least the top 20% of energy consuming churches, to deliver the actions in their Net Zero Carbon Action Plans</b>						

	Ensure 20% of energy consuming churches develop net zero carbon action plans by no later than 2027	Provide a framework for action	MA/ANe	Nov-22	Dec-27	Task taken directly from the Routemap	
	Ensure at least the top 20% of energy consuming churches deliver their Net Zero Carbon Action Plans	Decarbonise heat and reduce energy consumption	MA/ANe	Nov-22	Dec-30	Task taken directly from the Routemap	
	Establish a list of the top 20% of 'energy consuming churches' using a combination of local knowledge and EFT data	Information gathering	MA/BM	Dec-22	Jul-23	See Appendix 2	Yes
	Support those churches in creating a Net Zero Carbon Action Plan, including a Heat Decarbonisation Plan.	Provide a framework for action	MA/BM/ANe	Jan-23	Dec-27	To pilot in 2023	
	Arrange proactive DAC visits to support the development of plans for the largest, busiest churches	Encourage Behaviour change	DAC	2023	2026	Aim to visit the ten highest emitters in 2023 and 2024	
	Develop Case Studies for tried and tested technologies in Cumbria to encourage support between churches.	Information sharing	ANe/DAC	2023	Ongoing	See the Case Studies section	Yes
	Develop a database of grant opportunities to enable churches to actively plan and fundraise to implement their Net Zero Carbon Action Plan	Information sharing	MA/JP	2023	Ongoing	To be updated as new opportunities are announced	

4.2.5	Every Diocese has a 90% + completion rate for the Energy Footprint Toolkit by 2023						
	90% completion rate for Energy Footprint Toolkit	Encourage behaviour change and information gathering	MA/ANe	Jan-23	Jul-23	Task taken directly from the Routemap- the six tasks below set out mechanisms to achieve this	A 90% completion rate has not been achieved in 2023. Therefore, additional actions to the six below will be developed, to better support churches to complete the EFT.
	Regular reminders in the e-news, with signposts to online training and support	Encourage behaviour change and information gathering	MA/ANe	January	July		
	Hold a 'surgery', or equivalent event, to aid completion or offer 1:1 support	Encourage behaviour change and information gathering	ANe	May	July		
	Regular reminders in DAC newsletters	Encourage behaviour change and information gathering	MA	January	July		
	Discuss at every DAC Site Visit and include in Site Visit Report. Offer to help complete at site visit.	Encourage behaviour change and information gathering	DAC	Jan-23	Ongoing		

	To be discussed at the Archdeacon's Visitations and included in the Articles of Enquiry	Encourage behaviour change and information gathering	AD	Jan-23	Ongoing		
	Request from DAC- EFT for all faculties involving heating and lighting	Encourage behaviour change and information gathering	DAC	Nov-22	Ongoing		
<b>4.2.9</b>	<b>Eco Church Registration: 10% of local churches in every diocese registered; 5% of local churches awarded at least bronze by 2023. 40% of local churches registered; 30% of local churches awarded of which at least a third of these should be silver or higher by 2026.</b>						
	10% of local churches registered and 5% awarded at least bronze	Encourage behaviour change	MA/ANe	2023	2023	Task taken directly from the Routemap	Yes
	40% of churches registered and 30% of local churches awarded of which at least a third of these should be silver	Encourage behaviour change	MA/ANe	2023	2026	Task taken directly from the Routemap- the four tasks below set out mechanisms to achieve this	
	Promote in e-news and newsletters	Encourage behaviour change	MA/ANe	2023	Ongoing		
	Provide case studies or 'buddy up' churches						
	Ongoing Churchwarden training						
	Recruit Eco Church expert to DAC		DAC Chair	Jan-23	Dec-23		Yes
<b>4.2.10</b>	<b>At the point of contract renewal, switch to 100% green electricity tariff, encouraged through major national switching campaign (Timing to be kept under review, depending on stabilisation of the energy markets)</b>						

	At the point of contract renewal, switch to 100% green electricity tariff	Decarbonise energy	NEP	Jan-24	Dec-24	National campaign to be held to encourage the switch- Diocese to promote	
<b>4.2.11</b>	<b>Having reviewed options to replace fossil fuels, all churches and cathedrals that remain with gas heating, switch to a 'green' gas tariff at the point of contract renewal, based on national advice about the criteria to apply. (Timing to be kept under review, depending on stabilisation of energy market)</b>						
	All churches to switch to 'green' gas tariff at the point of contract renewal	Decarbonise heat	National	Jan-24	Dec-24	National campaign to be held to encourage the switch- Diocese to promote	
<b>4.2.12</b>	<b>No new oil boilers installed in churches and cathedrals after this date (Contingent on govt action to connect rural communities to the grid)</b>						
	Establish a list of all churches currently using oil through EFT or QQ reports	Information gathering	MA	Nov-22	Jul-23	There are 77 churches in the Diocese using oil	Yes
	Ensure any Faculty requests for new oil boilers or oil tanks submit a Heating Options Appraisal to the DAC	Decarbonise heat	DAC	Nov-22	Dec-27		
<b>4.2.13</b>	<b>All churches to have energy efficient lighting installed throughout, with timers and light and motion sensors where appropriate</b>						
	All churches to have energy efficient lighting installed throughout with timers and light and motion sensors where appropriate.	Reduce energy consumption	ANe/DAC	Nov-22	Dec-25	Task taken directly from the Routemap	
	Establish rough estimate of how many churches have LED lights through Articles of Enquiry	Information gathering	AD/ANe	Spring 2023			

	LED Light Bulb challenge	Reduce energy consumption	ANe	Jan-23	Dec-23		
	Ensure any new lighting schemes are only for energy efficient lighting and ensure timers and motion sensors have been considered	Reduce energy consumption	DAC	Nov-22	Dec-25		
<b>Other Actions</b>							
	Embed the Fifth Mark of Mission in the work of the DAC and create an environmental policy, appropriate to the diocese.	Encourage behaviour change	DAC	Sep-23	Sep-24		
	Review the QI inspection template to identify opportunities for energy efficiency measures	Information gathering	MA	Sep-23	Jan-24		
	Carry out a skills audit of the DAC and recruit new advisers where needed (heating advisers)	Developing expertise	DAC	Sep-23	Sep-25		Yes

## Cathedral

Carlisle Cathedral is England's second smallest cathedral, with a footprint of 2,141m<sup>2</sup>. The Cathedral itself is Grade I listed and the Precinct is a Scheduled Monument. There is a complex estate of buildings in the Precinct, including commercial buildings, private and rented property. In addition to the Cathedral, there are two further Grade I listed buildings and five Grade II and II\* listed buildings.

Work on Net Zero is already underway, with Energy Performance Certificates (EPCs) updated for all residential and commercial properties, a rolling programme to upgrade lighting to LED's and a programme to upgrade windows in residential properties.

Based on the cost estimates given in the Church section of this plan, and classifying the Cathedral as a very large church, it is estimated it will cost £1million to decarbonise the Cathedral.

Data Collation							
Milestone	Task	Objective	Owner	Start	End	Notes	Complete
	Confirm complete record of EPCs for all Cathedral properties	Information gathering	BC	Jul-23	Dec-23		Yes
	Undertake assessments of current maintenance needs for properties, including the state of windows in residential properties.	Information gathering	BC	Jul-23	Dec-23		
Energy Footprint Tool							
	Analyse EPC reports to provide basis for EFT reporting	Information gathering	BC	Jan-23	Jul-23		
<b>4.2.5</b>	Complete the EFT on remaining properties, including the Cathedral	Information gathering	BC	January	July	To complete annually	
Framework for Cathedral Chapter							



4.2.6	Use the Church of England Net Zero check list to identify quick wins across the Cathedral Estate	Provide a framework for action	BC	Aug-23	Dec-23		
	Establish working to Net Zero within Fabric and Property working groups	Monitoring progress	BC	Aug-23	Dec-23		
4.2.9	Register Cathedral for Eco Church	Encourage behaviour change	SC	Jul-23	Aug-23		Yes
4.2.10, 4.2.11	Move Cathedral to carbon neutral tariffs (100% green electricity and "green" gas, subject to market stabilisation)	Decarbonise energy	BC	Aug-23	Dec-24		
	Identify test-case property to work towards Net Zero	Information gathering	BC	Jan-24	Dec-24		
4.2.4	Establish Cathedral Net Zero Strategic Plan	Provide a framework for action	BC	Jan-25	Dec-25		
4.2.14	Deliver Cathedral Net Zero Strategic Plan	Decarbonise building	BC	Jan-26	Dec-30		
<b>FAC and Fabric Sub-Committee</b>							
	Establish Net Zero delivery group to assess and develop plans for Net Zero across the Cathedral estate	Monitor progress	BC	Jan-24	Dec-24	Possibly provide best practice and guidance for projects across the Diocese	
	Ensure environmental issues are included in upcoming Quinquennial Report	Encourage behaviour change and information gathering	BC	Aug-23	Dec-23		

Partnerships							
	Create appropriate links with external partners who may be able to help with decarbonisation	Information gathering	BC	Jan-23	Dec-30	To include financial and human resources	
	Create plan for mixed-use estate model for shared energy generation and use	Provide a framework for action	BC	Jan-24	Dec-24	To work across the Cathedral, residential properties, commercial space, office space and school building (St George's URC). There is potential to apply for funding to develop a model for wider application.	

## HR and Governance

This section of the Action Plan deals with the Diocesan Office, staff travel and employee engagement. Staff commuting is not included in the national scope but given the size of the Diocese and the distance staff have to travel, we have taken the decision to include it in our emissions reports. We cannot collect commuting data through the Energy Footprint Tool, so we will be calculating these emissions ourselves, using conversion factors<sup>6</sup>.

Cumbria Action for Sustainability have undertaken an audit of Church House and estimate it will cost between £95,000 and £165,000 to decarbonise the building.

Employee Engagement							
Milestone	Task	Objective	Owner	Start	End	Notes	Complete
	Include net zero in all employee objectives	Behaviour change	Line managers	Nov-23	Ongoing	To form part of annual reviews	Yes
	Increase carbon literacy understanding of employees through appropriate training	Behaviour change	ANg	Jun-23	Ongoing	Previously included in all staff away day, other training options to be considered	Yes
	Enable employees to claim for LED lightbulbs in their home office	Reduced energy consumption	ANg	Nov-22	Mar-23		Yes
Church House building							
	Check if existing utilities tariffs are renewable. If not, seek to switch to renewable ones at next point of renewal	Decarbonise heat and energy	CB/ANg/NA	Feb-23	Mar-23		
	Check status of LED lighting and plan for complete switch	Reduced energy consumption	CB/ANg/NP	Apr-23	Dec-23	Emergency lighting has been switched, CB arranging for remaining lights to be done	
	Undertake feasibility study on the viability of Church House		ANg	Feb-23	Jul-23	Decision- Church House to be kept but use of space to be changed	Yes

4.6.1	Register for Eco Church and achieve Bronze	Behaviour change	ANe	Jan-23	Dec-23	Registered July 2023, work underway to achieve award	
	Achieve Eco Church Silver	Behaviour change	ANe	Jan-24	Dec-26		
4.6.3	Create a detailed net zero action and heating resilience plan	Reduced energy consumption and framework for action	ANg/ANe/ NP	Jul-23	Dec-23	See separate note detailing the draft content for this plan. Following creation of this plan, the action list for Church House will be expanded in 2024	
	Ensure equipment replacements are energy efficient	Reduced energy consumption	CB	Feb-23	Ongoing		
	Ensure equipment is not left on standby	Reduced energy consumption	CB	Feb-23	Ongoing	Lights already sensor controlled	
	Investigate change of heating controller	Reduced energy consumption	CB/ANg/ NP	Jan-24	Mar-24	To enable zoning	
4.6.2	Measure and report on carbon emissions annually	Information gathering	CB/ANe	Mar-23	Ongoing	Use EFT	Yes
<b>Work related travel</b>							
5.3.3	Create a travel plan which includes "no travel" option	Behaviour change and emissions reduction	ANg	Jan-23	Dec-23	See travel hierarchy in routemap	
	Offer EV car leasing to employees	Behaviour change and emissions reduction	ANg/ANe/ KR	Feb-23	Jul-23	Announced in July 2023, with additional details to be follow	Yes

	Offer EV car leasing to clergy	Behaviour change and emissions reduction	National			As this is being led nationally, a timescale cannot be given	
<b>5.3.4</b>	Rewrite travel and expenses policy to include section on encouraging sustainable transport and ability to work from home	Behaviour change	ANg	Feb-23	Dec-23		
	Following the decision that commuting is in our scope, despite being outside the scope of the national 2030 target, assess ways to monitor and report on these emissions	Behaviour change and emissions reduction	ANg/ANe	Jan-23	Jul-23		Yes
	Investigate EV travel for Archdeacons	Behaviour change and emissions reduction	National/ANg			As this is tied to the national scheme for clergy, a timescale cannot be given	
<b>Other</b>							
	Include carbon footprints into reporting at APCMs	Information gathering	National	Jan-24	Ongoing	Requirement will come from General Synod	
	Undertake DAC skills audit and recruit new advisors as appropriate	Developing expertise	DAC	Jun-23	Ongoing	In 2023, three new advisors have been recruited but will appoint more as needed	Yes

#### Church House Net Zero Action and Heating Resilience Plan

An action and heating resilience plan should map out what to do if the existing heating system fails, to avoid a like-for-like fossil fuel replacement. It will build on the audit Cumbria Action for Sustainability have undertaken of the building, along with meeting Eco Church criteria, with short term actions

including upgrading roof insulation (estimated cost £2,000), installing dual flushes on toilets, organising recycling collections, the possibility of car parking and EV charging provision, installation of direct water heaters at sinks (estimated cost £4,000). Longer term actions will include the possible installation of solar PV & batteries and an air source heat pump.

## Housing

As of August 2023, there are 140 clergy houses in the Diocese. At any one time approximately 40 are tenanted, approximately 15 will be unoccupied in vacancies and the balance will be occupied by clergy. It is anticipated that by 2030 the number of clergy houses will have reduced to approximately 120.

131 of the 140 houses have EPCs. None achieve an A Rating. One (0.7%) is rated B, 28 (20%) rated as C, 73 (52.1%) as D, 28 (20%) as E and one (0.7%) is an F.

Cumbria Action for Sustainability (CAfS) undertook retrofit reports on a small representative cross-section of clergy houses. The average cost to retrofit a house, allowing for consequential costs, was £159,600 (January 2022 prices). This gives an estimated cost of £19,152,000 to retrofit 120 houses.

Milestone 4.4.2	<b>Housing Management: Have retrofitting and maintenance plans in place. These should include a Heating Resilience Plan which should consider how to manage heat should the existing system fail to avoid needing a quick like-for-like fossil-fuel replacement.</b>						
	Task	Objective	Owner	Start	End	Notes	Complete
	Surveyor briefings for quinquennial reports to ensure sufficient information is provided on thermal elements	Information gathering	NA	Sept-23	2027	The Commissioners roadmap significantly overestimates how much information is available from past reports. There is insufficient current information for a retrofitting plan.	
	Write a heating resilience plan	Provide a framework for action				It is not currently considered practical to have a heating resilience plan for each house	
4.4.3	<b>Dioceses: All dioceses to have commissioned stock surveys such as EPC+ reports for at least a representative sample of clergy housing.</b>						
	Retrofit survey on a sample of housing	Information gathering	NA	Sept-21	Feb-22	Small sample. No further reports proposed pending policy decisions on proposed target for/extent of retrofitting	Yes
	Commission EPCs where outstanding on houses	Information gathering	NA	Sept-23	Dec-23	EPCs are of limited use but give some indication of performance	

4.4.4	<b>Housing Management: Run switching campaigns to encourage occupiers to switch to ‘green’ electricity and, having reviewed options to replace fossil fuels, any building remaining with gas heating should be encouraged to switch to green gas tariffs at the point of contract renewal, based on national advice about the criteria to apply.</b>						
	Run energy switching campaign	Encourage change	NP	Jan-24	Dec-24	Timing to be kept under review, recognising the need to be sensitive given the energy crisis	
	Encourage all new occupiers to sign up to green tariffs – add to the Welcome document	Encourage change	NP	Sept-23	Ongoing		
4.4.5	<b>Have a stock improvement plans in place, having regard to the timing of when properties become vacant. The plan should make reference to the Practical Path to Net Zero for Clergy Housing (Milestone 4.4.1) and actively consider implementation of ‘quick wins’, how to decarbonise heat and how to reduce energy consumption.</b>						
	Review Practical Path to Net Zero for Clergy Housing document		NA	TBA	TBA	Commissioners, as of Aug 2023, have still not issued the “Practical Path” document.	
	House replacement programme: <ul style="list-style-type: none"> <li>Identify houses by empirical assessment where age/nature suggests significant improvements for net carbon zero are impractical</li> <li>Implement programme to replace unsuitable houses where practical</li> </ul>	Carbon reduction	NA	Aug-23	Ongoing	<ul style="list-style-type: none"> <li>Some may be difficult to find suitable replacements for</li> <li>Replacement may not be sensible, nor will significant improvement, where a house may become redundant</li> <li>Local resistance could delay replacements</li> </ul>	Houses identified, programme to be implemented
	Continue with the current policy of “easy wins” on the quinquennial works and ingoing works programmes:	Carbon reduction & Reduced occupier costs	Property	Ongoing			



	<ul style="list-style-type: none"> <li>• Insulate roof voids to above current building regulation standards</li> <li>• Access inaccessible roof voids and insulation</li> <li>• Replace single glazed windows</li> <li>• Replace light fittings where required to take LED bulbs</li> <li>• Improve draught proofing as required.</li> </ul>					
	<p>Consider changes to housing policy for early further improvements:</p> <ul style="list-style-type: none"> <li>• Provision of raised loft storage platforms (insulate below)</li> <li>• Replace timber/single glazed external doors with composite</li> <li>• Replacement of older/inefficient oil/gas boilers</li> <li>• Replacement of older/first generation timber double glazed windows</li> <li>• PV solar panels and battery storage</li> </ul>	Carbon reduction & Reduced occupier costs	NA/NP	Feb-24	Mar-24	<p>Recommendations from Joint Parsonages Conference Feb 24 to be considered by Finance Committee Mar 24</p> <p>Timing for implementing any policy changes to be considered but generally expected to be on the quinquennial works and ingoing works programmes.</p>
	<p>On all replacement/new build houses consider possible measures including:</p> <ul style="list-style-type: none"> <li>• General Insulation upgrading</li> <li>• Heat pumps</li> <li>• PV solar panels &amp; battery storage</li> </ul>	Carbon reduction & Case study for information gathering	NP/NA	Dec-22	Ongoing	<p>Currently:</p> <ul style="list-style-type: none"> <li>• Grasmere replacement rectory</li> <li>• Wigton replacement vicarage</li> <li>• Natland replacement vicarage</li> <li>• Netherton re-build (to Passivhaus standard?)</li> </ul>

	Continue with cavity wall insulation where suitable and grant funding is available	Carbon reduction	NP	Ongoing		Grant funding is generally not available at present for clergy housing	
	Enable occupiers to have EV charging points installed where self funded/ funded by Commissioners EV scheme for clergy	Carbon reduction	NP	Ongoing		Tied to national EV leasing scheme for clergy- see HR and Governance plan	
	Produce a housing improvement and retrofit plan, based on a review of case studies and available information, considering the cost/benefit of carbon reduction targets.	Forming policy	NA	Jan-25	Dec-25	Process for approval of the plan to be established.	
	Implement the agreed housing improvement and retrofit plan on the quinquennial and ingoing works cycle	Carbon reduction	NP	2026	2030	If the extent of agreed retrofit work is impractical to carry out on occupied properties then some may need indeterminate extended implementation dates to coincide with an interregnums	
<b>4.4.8</b>	<b>Housing Management: At change of occupancy, and no later than 2030, install smart meters to assist with monitoring and management of energy consumption.</b>						
	Smart meters: <ul style="list-style-type: none"> <li>Run meter switch campaign for existing house occupiers</li> <li>Encourage new occupiers to apply for smart meters where not installed – add to welcome document</li> </ul>	Encourage change	Property	Jan-24 Sept-23	Dec-24 Ongoing	Note – can only encourage, no ability to compel. Timing slots for fitting meters make it difficult to arrange in vacancies.	

## Schools

The Diocese of Carlisle has 104 schools across Cumbria- 48 of these are in scope for the 2030 target. A number of schools are already undertaking work to become more sustainable, including projects to replace windows and external doors, refurbish roofs, upgrade to more efficient boilers and install an air source heat pump. There is a tension between the Church of England’s 2030 target and the Government’s target of 2050, meaning national support for all schools, not just Church of England schools, has not been developed yet. There are however actions, as set out in the plan below, which can be undertaken so that schools are in the best position to take advantage of Government support when it becomes available.

There are also national Church of England and DBE Services initiatives which schools can engage with. In particular the new National Framework for Net Zero Carbon Schools, which will encourage and support existing initiatives alongside appointing expert energy consultancies to support DBE’s. There is also the A-G Decarbonisation Diamond (Appendix 4- Diamond and sample Heat Decarbonisation Plan<sup>7</sup>). The diamond provides a sliding scale of actions from ones every school can do, such as encouraging behaviour change, to bigger actions only some schools can do, such as installing a heat pump. The DBE is also working regionally to pool SCA funding to enable more projects to be undertaken.

As information on the current net zero status of many schools is lacking, the first priority is to survey schools, which will then allow the DBE to further develop this plan as appropriate.

Based on the experiences of DBE Services, who have data from over 500 Heat Decarbonisation Plans for schools, the average cost to decarbonise a 1 Form-Entry primary school (210 pupils) is £800-900,000. Using this as a proxy, the expected cost of decarbonising the 48 in scope schools is between £38 and £43 million. This could be an overestimate, as 37 of our 48 in scope schools are smaller than the average schools these costs are based on.

	Knowledge of the Schools Estate						
Milestone	Task	Objective	Owner	Start	End	Notes	Complete
	Diocesan Board of Education to survey schools, asking them to evaluate themselves against Appendix 4	Information gathering	DBE	Sept 2023	July 2024	To gather information on the status of schools, including what actions they have already undertaken	
<b>4.3.4</b>	<b>Diocesan Board of Education to promote the Energy Footprint Tool to schools</b>						

	Ensure annual submissions to the Energy Footprint Tool are made	Information gathering	DBE/ANe	January	July	To be repeated annually	Yes
<b>4.3.6</b>	<b>Diocesan Board of Education to promote smart meters</b>						
	Promote smart meters to all schools	Monitoring energy use	DBE	May-23	Ongoing		
	Where possible, analyse data from smart meters as part of the EFT returns	Monitoring energy use	DBE/ANe	Jan-24	Ongoing		
	<b>Diocesan Board of Education to support schools to make their own commitments and changes, through promotion of the ideas below</b>						
	Following the 2023/24 schools survey, the DBE to encourage schools to move one step along the Appendix 4 framework	Provide a framework for action	DBE/Schools	Sept-24	Jul-26		
	Schools to switch to green energy tariffs at the point of contract renewal (subject to stabilisation of the energy markets)	Behaviour change, decarbonise heat and energy	DBE/Schools	May-23	Dec-25		
	Schools to use the National Framework for Net Zero Carbon Schools	Provide a framework for action	DBE/Schools	May-23	Ongoing		
	Schools to make a formal declaration to become net zero by 2030	Encourage Behaviour change	DBE/Schools	May-23	Ongoing		

	Undertake energy efficiency measures, including improving insulation, windows and doors, switching to LED bulbs and installing more efficient boilers (where installing a low carbon heating system is not possible)	Decarbonise heat and energy, reduce energy consumption	DBE/Schools	May-23	Ongoing		
	Installing solar PV	Decarbonise electricity	DBE/Schools	May-23	Ongoing	DBE to advise schools on appropriate installation arrangements, with schools purchasing their own panels the preferred install method	
	Installing EV charge points	Encouraging behaviour change-switching to greener transport	DBE/Schools	May-23	Ongoing		

## Communications

This Action Plan will not be achieved if we do not communicate throughout the Diocese the reason for and contents of the plan. It's important that knowledge and experiences (good and bad) can be shared, so that others can learn from it. We can reach net zero if we all play our part and support one another over the next seven years.

The key communication audiences are clergy, church officers & members and schools, DBF and Rydal Hall staff.

For churches, Mission Communities will provide an important network for sharing. This Action Plan is specifically for the Diocese of Carlisle, but our God for All ecumenical partners all have their own environmental targets and we should not be rigid in sticking solely with Church of England guidance. The God for All Eco Strategy (Appendix 1) provides other useful resources, as well as a proposed framework to work ecumenically. Churches can also share their experiences throughout Benefices and Deaneries, and across the Diocese by contacting the Pastoral and Net Zero Officer to develop case studies for the Diocesan website (see Case Studies section for examples of these).

The Diocese will continue to use existing communication networks (Diocesan enews, DAC newsletter, DBE communications, and the God for All Environmental Facebook Group<sup>8</sup>) to share key messages. These key messages will include resources, webinars, and updates on progress on both net zero and Eco Diocese. Alongside the Eco Diocese updates, we will continue to encourage Eco Church, which doesn't just help churches make changes but can form part of a church's witness to their wider community about what it means to be a Christian and care for creation. There is no strict timeline for these key messages- they will be shared as and when they're relevant. At a higher level, the Diocese will continue to collaborate with other dioceses to share best practice and work at economies of scale.

The county's ecumenical, digital newspaper, The Way, is another existing communication method which will continue to be used to share environmental work. A recent edition of The Way<sup>9</sup> included pieces on the Green Space Friends at St John's Workington and the installation of LEDs at St Michael's, Burgh by Sands as part of the LED 2023 Challenge.

There will also be a focus on digital media, revitalising the existing God for All Environmental Facebook Group so it becomes a space for peer learning on environmental actions. Other digital media platforms, such as YouTube and podcasts, will also be developed and utilised.

Regular messages promoting the Energy Footprint Tool will be shared between January and July every year. There will also be regular promotion of any key focuses, such as the LED 2023 Challenge. Possible future focuses include the national campaign to switch to green energy suppliers and sustainable travel options.

The aim of this communications plan is that if a spectrum of churches and schools share their experiences, it will help to demonstrate that there are multiple routes to get to net zero and be an encouragement. There are challenges, to be covered in the next section of the Plan, but knowing there is not one single correct way to reduce your environmental impact should not be seen as one. It is in fact a good thing! Every member of a church, clergy person, member of Diocesan staff, and school can do their bit and make a route to net zero that works best for them.

## Challenges

While this Action Plan sets out a way forward for the Diocese to reach Net Zero, there are challenges to achieving this target.

### Funding

With an estimated cost to decarbonisation of £123 million there is a clear, significant challenge to funding this work. Churches, the Cathedral, schools, and the Diocese will all need to find funding options to support their journey to Net Zero.

The DBF has already committed £250,000 per year for the next five years to decarbonisation work, principally on housing and other Diocesan buildings. This money will be used for maximum carbon reduction, recognising it will be more effective to make reductions in emissions across the housing stock than spending a significant amount of budget getting one house as close to zero emissions as possible.

The Church Commissioners have committed £190 million to be spent over the next 8 years, to be leveraged to source more funding from other routes. The Diocese will bid into any Church Commissioner funding pots we can. The Diocese will also share information on funding sources with churches and schools.

Finally, while we currently estimate a total cost of £123 million to decarbonise, it is expected that costs of technologies will decrease as more are installed, similar to the price falls in solar PV between 2011 and 2020. Therefore, the Diocese recommends schools and churches prepare their own net zero plans as soon as possible, so they are ready for installation when costs and funding opportunities allow.

### Offsetting

Given the complexity of buildings in the Diocese, and across the Church of England as a whole, it's recognised that it won't be possible to achieve Net Zero without some level of offsetting. The National Environment Programme Team will be assessing offsetting opportunities to provide a list of approved suppliers with credible offsetting schemes. They will be undertaking this work so that the supplier list is available in the latter half of the decade.

While it's recognised there will be a cost to offsetting, it cannot be budgeted for at present. The Diocese will need to consider whether the outputs of the hydro-electric schemes can be used as an offset and how to account for this within carbon reporting. Therefore, a more detailed plan for offsetting will be developed once the supplier list is published, the hydro-electric schemes are accounted for, and it is possible to budget for the remaining offsets needed. Any offsetting through suppliers will be implemented in 2030.

### Land

As the emissions from church land are not within the scope of the 2030 target, the Diocese is not actively creating policies on the management of its glebe land. For churchyards, or other land owned by individual churches, the Diocese encourages churches to engage with the Eco Church scheme and Caring for God's Acre's resources.

If, following the national review in 2025 of what emissions are in or out of scope, the decision is made to bring church land within scope, a detailed plan will need to be developed to guide the Diocese's actions in this area.

### Embodied Carbon in Building Projects

Embodied carbon is “the carbon dioxide associated with the manufacture, installation, use, maintenance and disposal of a product”. As stated in the Routemap, there is currently no clear way to measure embodied carbon which works for historic buildings. The National Environment Programme Team are actively researching suitable methodologies to measure the embodied carbon of building projects before General Synod consider whether to bring it into scope. Until this national work and decision has been made, and guidance produced, the Diocese will not be developing any guidance of its own.

### **Local Planning Authorities and National Parks**

In 2022, the Faculty rules were changed to help churches reach net zero. The DAC is broadly supportive of net zero measures, though considers each case on an individual basis. The challenge of getting permissions to undertake net zero works is therefore particularly prominent if the Local Planning Authority (LPA) or National Park Authority becomes involved. Previous experience suggests they are less accepting of these works than the DAC. This is a challenge many charities or organisations responsible for heritage buildings are going to face in the transition to net zero. Therefore, the Diocese will discuss with the LPA’s and National Parks how to balance the need to reach net zero with the need to protect heritage buildings, to see if a balance can be reached to make gaining permission less difficult for churches over the coming years.

### **Skills Shortage**

There is a shortage of qualified contractors to undertake net zero works. This is not just a challenge for Cumbria but is seen across the country. There is also the additional aspect to this for churches, where professionals will need to have not just the relevant net zero knowledge but also have experience of working on heritage buildings. There needs to be a mindset change for some contractors too, away from non-sustainable materials to more sustainable options, even if there is an additional cost.

The Diocese cannot solve this challenge- we will be reliant on Government policies to encourage professionals to train in these areas.

### **Reliance on External Factors**

Much like with the skills shortage, there are other matters outside the Diocese’s control which may delay our transition to net zero. These include a lack of electric vehicle charging infrastructure, delaying the take up of EVs and preventing significant falls in emissions relating to mileage. There is also the challenge of poor public transport links in Cumbria, particularly if travelling East-West in the county, meaning cars remain necessary.

We are also limited by national timescales- both those of the Church of England and of national government. For example, clergy who are interested in EVs must wait until the national EV leasing scheme has been set up.

Finally, as low carbon technologies are not yet the mainstream choice, we must wait for technologies and pricing to become more viable options, much like with solar PV and feed in tariffs in the 2010s.

### **EFT lack of data**

The final challenge was already mentioned in the Churches section of the Action Plan. The Routemap sets a target of a 90% returns rate- in 2022 we achieved a 33% rate. There is a clear need to improve this, so we can be more confident in our baseline and monitoring data. The Diocese is actively considering how best to improve this, with administrative and data entry support in 2024 a likely option.



## **Case Studies**

While there are a number of challenges, reaching net zero is possible. There are several buildings who have already made significant progress and a suite of resources is slowly being added to the Diocesan website<sup>10</sup> to share experiences and knowledge. The below are some examples of the work being done across the Diocese already.

### **LED 2023 Challenge**

The LED 2023 Challenge has been running for 8 months. So far 37 churches and 17 vicarages have been switched to full LED lighting, with over 1,000 bulbs changed. This has an estimated saving of five tonnes of CO<sub>2</sub>.

### **Gold Eco Churches- Levens and Lorton**

Two of the 32 churches who have achieved Eco Church awards in the Diocese have received Golds. They are Levens and Lorton. You can hear more about Lorton's experience of becoming an Eco Church on the Diocese's website<sup>11</sup>.

### **Leven Valley Primary School**

Leven Valley Primary School has been working since 2008 to reduce their environmental impact and carbon footprint<sup>12</sup>. In summer 2020, a ground source heat pump was installed, replacing their oil-fired boilers. They have a 24.8kW PV system installed, as well as LED lighting with movement sensors and insulation.

### **Heat Pump Installations- Ings St Anne and Mungrisdale St Kentigern**

Two of the three churches who have air source heat pumps have shared their experiences as case studies, available on the Diocesan website<sup>11</sup>. Mungrisdale St Kentigern has an air to air heat pump and Ings St Anne has an air to water, so you can compare the two types and consider which might work in your church.

### **Rydal Hall- solar PV and EV chargers**

In 2022, two electric vehicle charge points were installed at Rydal Hall in conjunction with Charge my Street, a community benefit society which installs EV charge points. On 25 May 2023, the installation of 15 solar panels went live. After 50 days, they had generated 1.14MWh of power- saving 220kg of CO<sub>2</sub>.

## Monitoring and reporting

To monitor progress, regular reporting is required. The Bishop's Council will continue to receive a report at each of their meetings and an annual report will be given to Diocesan Synod, which will include the carbon footprint figures. Reports to the National Environment Team will be submitted in 2025, 2028 and 2031.

Data from the Energy Footprint Tool will be used for the annual carbon footprint figures for Diocesan Synod and to monitor the year-on-year reduction in emissions.

The Net Zero Action Plan is a live document. The individual area sections are under constant revision, as actions are taken, and the Plan as a whole will be reviewed by the Net Zero Working Group annually.

In view of the challenges already outlined, we recognise progress may be slow to get going, so do not expect an immediate, significant drop in emissions. It is challenging to predict when we might hit certain benchmarks (for example a 50% reduction in emissions), but there are actions we expect to have quantifiable carbon savings in the near future. These include

- The LED 2023 Challenge
- Encouraging sustainable travel
- Encouraging the switch to green energy suppliers

Larger scale savings, including those associated with the installation of low carbon technologies, cannot be predicted currently, as we don't have the EFT data to show associated reductions. As more installations take place and further data is gathered, this section of the Action Plan will be reviewed to provide quantifiable interim targets before 2030.

## References

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9. The Way, Summer 2023, p. 7 and 8- [https://cofecarlisle.contentfiles.net/media/documents/document/2023/08/The-Way\\_Summer-2023.pdf](https://cofecarlisle.contentfiles.net/media/documents/document/2023/08/The-Way_Summer-2023.pdf)
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11. Diocese of Carlisle website- Eco Church- <https://www.carlisle-diocese.org.uk/eco-church/>
12. Leven Valley Primary School- <https://www.levenvalley.cumbria.sch.uk/Green-Credentials/>

## Appendix 1- Eco Strategy

### Introduction and Rationale

As Christians we are called to be stewards of creation (Genesis 1:28, 2:15). This is not only a matter of protecting biodiversity or reducing carbon emissions, but an act of care for our neighbours and of challenging injustice, as the impacts of climate change start to be felt globally.

While each partner denomination has its own policies and timescales for environmental action, and reaching net zero specifically,<sup>1,2,3,4</sup> we have a shared vision in Cumbria to safeguard the integrity of God's creation, seeking to sustain and renew the life of the earth. The Eco strategy therefore gives ways we can work together on environmental action, while also giving more specific actions for individual denominations.

As we develop our individual denomination's plans and actions we expect more common themes to emerge which may be suitable for collaborative working across the denominations.

### Approach

#### Ecumenically

- To support engagement with the Eco Church award scheme
- To work towards the relevant denominational Eco award (Eco Circuit, Eco Diocese, Eco District and Eco Synod)
- To work through Churches Together in Cumbria to encourage environmental action across the county
- To identify, communicate and share, through an annual conference or similar event, emerging good practice between denominations

#### Diocese of Carlisle

- The Net Zero Working Group to continue meeting, to monitor and support progress towards the Net Zero by 2030 target across the Diocese
- To support quick wins through focus years, such as LED 2023, providing funding when possible
- To monitor carbon emissions, providing an annual carbon emissions report to Diocesan Synod
- To develop decarbonisation plans for each in scope area, collating these into one Net Zero Carbon Action Plan to be shared with Diocesan Synod, along with estimated costs (to be reviewed annually)
- To develop a communications strategy, communicating what we're doing and why (to be incorporated into the Net Zero Carbon Action Plan)
- To develop environmental policies and resources as needed

#### Cumbria Methodist District

- To engage with and support the God for All Eco Strategy
- Encourage churches to follow the *Action for Hope Six Steps to Net Zero*<sup>5</sup>, to encourage churches to steward and manage church assets in a way that is consistent with faith, including having net zero emissions by 2030 and producing resources to assist members of churches in reducing their personal carbon footprint
- Encourage churches to engage with the report and study guide *Hope in God's Future*<sup>6</sup>
- Equip children and young people to lead the way in response to the climate crisis using the resource *God's World, Our Home*<sup>7</sup>

- Encourage churches to use the resource *Getting Your Building Down to Net Zero*<sup>8</sup>, which includes small steps through to bigger steps to take to achieve net zero
- Encourage Circuits to incorporate progress towards net zero emissions in their mission plans
- Intentionally publicise and celebrate churches positive actions and progress with the Eco Strategy

#### URC Cumbria Area

- To affirm with the General Assembly that living lightly on the Earth, caring for God’s creation and protecting the environment are fundamental Gospel commitments
- To reduce the day-to-day CO<sub>2</sub> emissions from Synod activities and churches by 2030, reducing the total carbon footprint of the Synod to net zero by 2040
- Recognises the significance and hope of the 2015 Paris Agreement and the imperatives of the 2018 IPCC Special Report on Global Warming, the 2019 UNFAO report on the state of the world’s biodiversity for food and agriculture and the global Fridays for the Future campaign
- Pledges to seek to protect biodiversity by all means, combatting the causes of biodiversity loss, encouraging church members to enjoy nature as part of their discipleship, to engage with political representatives and to campaign with others
- Pledges to support and encourage the Youth and Children’s work in activities and campaigns to address climate change and biodiversity loss
- Supports people in living joyfully, simply and responsibly with respect to God’s creation, promotes an environmental theology, training preachers and leaders, appoints “Green Apostles” within the Eco Network, celebrates “Time for Creation”, undertakes practical projects, celebrates the Creator God and works in collaboration with others in all of this

#### Salvation Army Cumbria

- To follow the Net Zero Strategy for the whole United Kingdom and Ireland Territory (currently under development)
- Two Divisional Environmental Champions to lead on environmental comm’s and engagement with Eco Church
  - To aim for 30% of corps to be registered with Eco Church by the end of 2023
- To “Tread Softly”, as one of the five Mission Priorities<sup>9, 10</sup>

#### Local Church level

- To work through the Eco Church award scheme, providing a framework for actions on
  - Worship and Teaching
  - Buildings
  - Land
  - Community and Global Engagement
  - Lifestyle
- To monitor their carbon footprint through
  - The Energy Footprint Tool (Anglican only)<sup>11</sup>
  - 360carbon (any denomination)<sup>12</sup>
- To use frameworks to work towards Net Zero
  - The Practical Path to Net Zero (Anglican)<sup>13</sup>
  - Six Steps to Net Zero (Methodist)<sup>5</sup>

## References

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## Appendix 2- Highest Emitting Churches

This is a list of the 20% of the churches in the Diocese with the highest emissions. This is based on data from the EFT and, when churches have not submitted an EFT return, on utility bills and local knowledge of church size and weekly usage. As more churches complete the EFT, this list may change slightly- however it is recommend all of these churches start work on their own Net Zero Plans regardless. Even if the list changes and they are no longer in the top 20% of emitters, a Net Zero Plan will still be beneficial for them.

- Arnside, St James
- Ambleside, St Mary
- Appleby, St Lawrence
- Bampton, St Patrick
- Barrow, St James
- Barrow, St Paul
- Brathay, Holy Trinity
- Bridekirk, St Bridget
- Broughton in Furness, St Mary Magdalene
- Burton, St James
- Carlisle, St Aidan
- Carlisle, St Cuthbert
- Carlisle, St Herbert
- Carlisle, St James
- Carlisle, St John the Evangelist
- Carlisle, St Luke
- Cartmel Priory
- Crosscrake, St Thomas
- Crosthwaite, St Kentigern
- Cockermouth, All Saints
- Cockermouth, Christ Church
- Crosby Ravensworth, St Lawrence
- Dalton in Furness, St Mary
- Dearham, St Mungo
- Dent, St Andrews
- Egremont, St Mary and St Michael
- Field Broughton, St Peters
- Gosforth, St Mary
- Grasmere, St Oswald
- Grayrigg, St John
- Hayton, St Mary Magdalene
- Hensingham, St John
- Holme, Holy Trinity
- Kendal, Holy Trinity
- Kendal, St Thomas
- Keswick, St John
- Kirkby Ireleth, St Cuthbert
- Kirkby Lonsdale, St Mary

- Kirkby Stephen
- Lanercost Priory
- Maryport, St Mary
- Natland, St Mark
- Orton, All Saints
- Patterdale, St Patrick
- Penrith, Christ Church
- Penrith, St Andrew
- Sedbergh, St Andrew
- Shap, St Michaels
- St Bees, The Priory
- Troutbeck, Jesus Church
- Ulverston, St Mary
- Wetheral, Holy Trinity
- Whitehaven, St James
- Whitehaven, St Nicholas
- Wigton, St Mary
- Windermere, St Martin
- Workington, St John
- Workington, St Michael
- Wreay, St Mary



### Appendix 3- Template Church Net Zero Plan

**Church name:**

**Date:**

Commitment to achieving Net Zero

..... is committed to achieving Net Zero emissions by 2030. Set out below are the steps the PCC will take over the coming years to achieve this.

Action	Objective	Estimated impact	Cost	Responsible	Date	Comments
<b>Measure and Monitor</b>						
Enter energy data to EFT	Calculate emissions	Informs Action	Volunteer Time	Church Treasurer	Annual	EFT = Energy Footprint Toolkit on Online Parish Returns, open 1 January to 31 July annually for data entry
Add EFT report to annual reports	Accountability on carbon emissions	Influences Change	Volunteer Time	PCC Secretary	Annually (April)	
<b>Plan and Prepare</b>						
Use the <i>Practical Path to Net Zero: A checklist for your church</i>	Assess what actions to take	Informs Action	Volunteer Time	Church Warden		<i>Practical Path to Net Zero: A checklist for your church</i> <a href="https://www.churchofengland.org/sites/default/files/2021-01/PP2NZC_SelfGuidedChecklist_onscreen_version.pdf">https://www.churchofengland.org/sites/default/files/2021-01/PP2NZC_SelfGuidedChecklist_onscreen_version.pdf</a> Use this to develop the net zero plan further, with specific actions for your church
Appoint a Parish Environment Officer	Someone to direct and monitor	Equips church for change	Volunteer Time	PCC		Inform Anna Newlove (Pastoral and Net Zero Officer) who the Parish Environment Officer is, so resources and support are available to them
<b>Essential Energy Actions</b>						
Investigate a renewable electricity tariff	Cut emissions from electricity	Reduced emissions from electric	Neutral	Church Treasurer		At the point of contract renewal, switch to 'green' electricity tariff (dependent on stabilisation of the energy markets)

Investigate a "green" gas tariff	Cut emissions from fossil fuels	Reduced emissions from gas	Neutral	Church Treasurer		At the point of contract renewal, switch to 'green' gas tariff (dependent on stabilisation of the energy markets)
Investigate a low carbon heating system	Find the best options for our church	Informs change	Volunteer Time and Architect's costs	Church Warden		Seek advice from the DAC and explore options using the C of E guidance and webinars. Produce an appraisal document, detailing which has been decided on as the best option and why
Replace lightbulbs and where necessary light fittings with LEDs	Cut emissions from electricity	Reduced electricity consumption	Cost of replacements	Church warden		
<b>Essential Travel Actions</b>						
Schedule PCC and other meetings in convenient locations or online	Cut travel miles	0.22Kg CO2 saved per mile not driven	Saving on petrol/diesel	PCC Secretary		Think about possible alternative venues which are easier to walk/use public transport to travel to. Also consider what spaces are easier to heat in winter- can the church hall be used instead of heating the entire church?
<b>Stepping Out and Up</b>						
Use the Climate Emergency Toolkit to declare an emergency	Raise public awareness of being an active and relevant church	Influences change in the community	Volunteer Time	Parish Environment Officer		The Climate Emergency Toolkit for churches <a href="http://www.climateemergencytoolkit.com/">www.climateemergencytoolkit.com/</a>
Register for the Eco Church scheme and work through the award levels	Celebrate our eco success	Encourages change	Volunteer Time	Parish Environment Officer		<a href="https://ecochurch.arocha.org.uk/">https://ecochurch.arocha.org.uk/</a>

Carbon Offsetting						
Investigate carbon offsetting options	Budgeting for the full price of church energy use	Reach net zero	Dependent on option chosen	Church Treasurer	2025	Use the national guidance and supplier list, which will be produced in 2025. Offsetting should not be implemented until all possible emission reductions have been made.

## Appendix 4- A-G Decarbonisation Diamond and sample Heat Decarbonisation Plan for schools<sup>7</sup>

Church of England Schools Decarbonisation  
Delivery proposal by DBE Services



	What?	How?	Who?	Cost?	Outcome?	
<p>HDP Remit</p>	<u>A</u> ttitudes <u>B</u> ehaviours <u>C</u> ulture	Enable schools to make operational changes that impact on decarbonising in schools and their communities.	Providing training, documentation and access to help to support and signpost schools.	National Education Office to lead an Eco-system of providers.	Cost to fund support officer and national roll out to CofE Schools	All schools know where they are on the journey to decarbonise.
	<u>D</u> ecarbonisation Plan	A Heat Decarbonisation Plan for all schools	HDP data to drive strategy for schools	DBE Serv. PMO	£2k (Primary) to £5k (Secondary)	4600 school HDPs & strategy
	<u>E</u> nergy Procurement and Savings	Best value for energy and electric generation	Access to energy deals, PVs, EV chargers.	DBE Serv. Energy Consultant	DBE Serv. energy, LED, PV & EV scheme	Optimised energy solutions
	<u>F</u> abric improvements	Insulation, draught-proofing and windows	Standardised school design and installation.	School Building Consultants	See below	EPC fabric ratings improved to max.
	<u>G</u> as & oil fired heating system removal	Heat pumps to replace hydro-carbon sources.	Standardised school design and installation	School Building Consultants	See below	No hydro-carbon sourced fuels
	<b>A B C – All schools</b>	<b>2023 to 2030</b>	<b>Scope</b>	<b>Yearly Cost</b>	<b>Total Cost</b>	<b>Funding</b>
	<u>D</u> – Nearly all schools	4000 (say 3600 primary and 400 secondary) schools	Approx 500 HDPs per year	£1.3m	£9.2m	CofE/Diocese and SCA funding
	<u>E</u> – Most schools	Target 700 schools with PV & EV scheme	PV panels and EV chargers to 100 schools per year x £50k cost	£5m	£35m	Diocese funding payback scheme
	<u>F</u> – Some schools	Target worst 700 schools x average cost £350,000	Wall and roof insulation, double glazed windows	£35m	£245m	SALIX, DfE, SCA, Private funding
	<u>G</u> – Few schools	Target worst 700 schools x average cost £400,000	ASHP, GSHP, new distribution and consequential works	£40m	£280m	SALIX, DfE, SCA, Private funding
	<b>Worst schools (say 20%) fully decarbonised by 2030</b>					<b>Note: 10% VA SCA contribution and 20% VAT issue</b>