

Scottish Episcopal Church Net Zero Action Plan (2023-2030)

May 2023, Provincial Environment Group (PEG)

Foreword

Thank you for all that you, your Charge and your Diocese are doing to engage with the urgent challenge of climate change, for your response to the Energy Footprint Analyser as we sought to establish a carbon emissions baseline, and for the many other actions you are already taking.

The size of the challenge is complex and overwhelming. But we can make a difference if we act together.

This Net Zero Action Plan for the Scottish Episcopal Church provides a practical pathway for the whole church to follow as we move towards General Synod's target of Net Zero by 2030. It has been the subject of wide consultation and discussion across the Province, including at Diocesan Synods and in webinars and presentations. This has allowed a wide range of views, expertise and experience to influence and shape it.

The Provincial Environment Group was set up in response to the General Synod motion in 2020 to form a structure at Provincial level to lead the action towards the target. We presented the first steps at General Synod in 2022, and now in this Net Zero Action Plan we have developed proposals that will support and empower the actions that will be necessary. As a church we have set ourselves the aim of achieving Net Zero by 2030. I hope that you will find that this plan will enable you to consider how we can turn our ambition into action. This is not a plan for individual charges to decide what steps they need to take to reduce emissions; the first port of call for this is the Net Zero Toolkit - an update of which will be produced for General Synod.

We have developed this plan to prioritise the areas that would be addressed by Provincial, Diocesan, Charge, and individual action. As you will see, it proposes significant support in terms of both finance and expertise at Provincial and Diocesan levels. The appointment of a full time Director of Net Zero for the Province has already been agreed, but there is also the need for Dioceses to have a Champion of Net Zero. Their role would embed Net Zero thinking in Diocesan considerations and will include helping Charges navigate the complex process every step of the way.

The Scottish Episcopal Church is a diverse church, with a wide range of different circumstances in different places. No one set of actions would suit every charge, but the Anglican Communion's *Five Marks of Mission* are a common set of principles for the whole church. These principles will help to shape the vision of *discipleship, justice and hope* which is offered as the basis of this Net Zero Action Plan. We hope that this will inform you and enable you to embed the principles in your own reflections and the steps you, your Charge and Diocese will be taking between now and 2030.

The Right Revd Ian Paton



Bishop of St Andrews, Dunkeld and Dunblane
Convener of the Provincial Environment Group (PEG)

1. Introduction

This Scottish Episcopal Church Net Zero Action Plan (2023-2030) answers the call of the General Synod 2020 motion for ‘urgent action in relation to the global climate emergency’ by bringing forward a programme of actions “to resource the Scottish Episcopal Church in working towards achieving net zero carbon emissions by 2030.”

Many charges are already leading the way and have been doing so for many years. As we move forward, we hope to learn more from these pioneers, showcasing their work and the lessons learnt so that others can reap the knowledge obtained through their approaches.

This action plan is *not* a document that gives charges a simple step-by-step guide on how they might work towards net zero. Those wishing to take steps forward on the net zero journey are recommended to download the Net Zero Toolkit where they will find resources to take appropriate action as well as information on where to find help and assistance on many of the elements included in this plan.¹ This document has been created to help bring the church together – to help chart a net zero pathway towards a flourishing future. It is thus primarily an internal strategy document providing the Province with a route map and stable definition of what we mean by net zero 2030 which enables the church to hold itself to mutual account.

Overview of the sections

Section 2 reviews the values which have guided the Net Zero Action Plan: discipleship, justice and hope. These are the lens through which we take on the task of a net zero future ensuring that these fundamental values guide and inform everything we do. They are accompanied by a net zero vision of a flourishing future.

To outline how we define net zero 2030, section 3 provides an overview of what activities are included within the definition as well as where the operational boundary of the church is placed. This is complemented with a description of the way the initial carbon emissions baseline has been estimated along with a monitoring and reporting framework that enables carbon emissions to be calculated across the Province. Consideration is also given to the external guidance we have sought in setting a ratio of carbon emissions: offsetting for the net zero 2030 target.

The overall approach taken is underpinned by six foundational principles which are outlined in section 4. These are; a moral imperative to act with urgency; an ecologically sound approach; a fabric first approach; making use of technically viable solutions; maintaining financial prudence and; ensuring carbon credibility. From these principles, three high-level goals are then outlined: 1) to support clergy and vestries with the resources and tools they need every step of the way; 2) to work towards reducing absolute carbon emissions by 90% by 2030 based on our 2018 baseline and; 3) to significantly reduce operational costs through energy demand reduction and efficiency measures whilst unlocking substantial Scottish Government funding.

A brief overview is then provided as to the provision of resources being made available including the new Net Zero Delivery Director (approved by Standing Committee in 2022), five local Net Zero Champions, a heritage energy expert, three provincial funding grants and a plethora of tools, templates and sources of guidance.

The bulk of this document is in section 5, which provides a detailed overview of the ten core objectives of the Net Zero Action Plan. These are accompanied by 16 desired outcomes which we hope will help all parts of the church understand how their actions are contributing the whole programme of action, helping align our efforts as we collectively work towards achieving net zero by 2030. An overview of the anticipated costs for implementing this plan, which were presented by PEG in draft form to Standing Committee in January 2023 and then again in April 2023, are included in Appendix One.

¹ which is available on the Scottish Episcopal Church website

Our hope is that this plan provides an overall framework to help align the church towards our transition to net zero 2030, translating what can feel overwhelming into a structure that breaks down the goal into more manageable pieces.

2. Values & Vision

Guiding values

Our approach to tackling the significant challenge of Net Zero 2030 is guided by three Christian values: discipleship, justice and hope that guide all that we strive to do. As we join together in this shared journey, it is hoped they will also sustain us for the journey ahead. Collectively, they are the lens through which we see the task ahead.

Discipleship: As disciples we are all called to live out the teachings of Jesus in our day-to-day lives, following Christ's advocacy for love, justice and compassion in the world and responding in ways that imitate the life of Christ in our thoughts, words and deeds. Discipleship is, in the words of Rowan Williams, about "going on asking whether what we do, how we think and speak and act, is open to Christ and Christ's Spirit; developing the skills of asking ourselves the difficult questions about our consistency and honesty, about how seriously we take what we say."² We acknowledge that this calling is not about one off 'net zero fixes' but about the active and continuous participation in the transformation of the world, fusing our lives into alignment with Christ. As disciples, we are called to protect and care for God's creation and to hold steadfastly to the Anglican Communion's fifth mark of mission – 'to strive to safeguard the integrity of creation and sustain and renew the life of the earth' – transforming this mission into our actions.

Justice: We embrace the command to "love your neighbour as yourself", acknowledging that powering our churches with fossil-fuels and continuing church-as-usual is causing devastating impacts on our fellow brothers and sisters across the world. We want to bring the voice of those on the receiving end of climate change into the room, recognising that those most affected by the climate emergency – those that have done least to cause it – do not have the luxury of choice. In doing so, we acknowledge the "radical discrepancy between those who have a say and those who feel the pain."³ We therefore stand in solidarity with those most impacted by the climate crisis.⁴ We also support the people in Scotland whose health and livelihoods are impacted by air pollution as well as the financial cost of the transition to net zero. In this regard, we support a fair and just transition for the people of Scotland, ensuring that as we navigate towards a regenerative future this is done in an equitable way, materially enhancing the livelihoods and well-being of all people.

Hope: In the face of the climate crisis and intense sufferings of our world, it is easy to become overwhelmed with despair. Our work as disciples is to find the hope that pulls us ever forward whilst contending with the grief of the world. As we undertake this work, we trust in God's love, trusting in our role as agents of change, and recognising the gifts and resources that have been entrusted to us all. We recognise that hope is not a state of mind passively accepted, but a radical act of faith which comes through the active choices and decisions that we make and in the actions that we undertake. We will work to support and inspire one another, remembering that we are not alone in this struggle, and that together we can make a difference. We will always hold in faith that through focused effort, we can make a positive impact in the world and that a flourishing future is possible. Through grace, hope will pull us forward.

² Williams, Rowan (2016-07-20T23:58:59.000). Being Disciples . SPCK. Kindle Edition.

³ Cripps, Elizabeth (2022-02-02T22:58:59.000). What Climate Justice Means And Why We Should Care. Bloomsbury Publishing. Kindle Edition.)

⁴ We accept that 'those' people are not a single homogenous group of people in the 'global south', but are individuals from "local communities, Indigenous groups, peasants, and territorial organisations that are victims of the impacts of capitalism, patriarchy, colonialism, structural violence, and extractivist development policy" as well people that are from "vulnerable populations displaced, sacrificed, polluted, politically persecuted, intimidated, and threatened by corporations, the financial system, and States." See Climate Justice Glossary, issued by the Latin American and Caribbean Platform for Climate.

These values inform how this plan has been constructed. Discipleship calls us to be steadfast advocates for justice and compassion, and to take urgent action to protect the planet and its inhabitants. Justice requires that those most affected by the climate crisis are considered in every decision we take. Hope encourages us to find strength in the midst of uncertainty, to trust in God's universal love, and to keep working for a flourishing future.

Hope-filled vision

This Net Zero Action Plan lays out a positive future for the church, tackling head on the UN triple planetary crises of climate change, nature and biodiversity loss and pollution.⁵ With unerring focus and dedicated resource, we can address these challenges, transforming the operations of the Scottish Episcopal Church to act in harmony with the living ecosystems in which it resides.

Our 2030 vision is of a flourishing future for the whole church. One in which:

- ⇒ We are realising the 5th mark of mission 'to strive to safeguard the integrity of creation and sustain and renew the life of the earth' – embedding the principles of discipleship, justice and hope in all we do – giving voice to those on the receiving end of climate change and supporting a just transition for the people of Scotland.
- ⇒ Our churches & ancillary halls are resilient places of warm welcome at the heart of the communities they serve, with lower operational costs and powered by renewable energy. Our rectories are warmer, lowering costs for clergy & contributing to their wellbeing.
- ⇒ The land we care for is rich in biodiversity, providing places of refuge and calm for nature to thrive.
- ⇒ The products and services that we use are carefully considered, based on the principles of reject, reduce, reuse, recycle and restore. We are a zero-waste church, contributing to the circular economy.
- ⇒ We are a climate literate church, fully understanding the systemic link between climate change and biodiversity loss, acknowledging that climate change and biodiversity loss are part of a wider set of planetary boundaries which we must seek not to transgress further.
- ⇒ Our worship is rooted, rejoicing in our interdependence within the ecosystems of creation.
- ⇒ We maintain a prudent but holistic approach to finances, embedding climate justice in all the financial decisions we take.
- ⇒ We are part of a broader movement of change both nationally and internationally, resolute in our call for system change within the current cultural milieu in which we live and move and have our being.
- ⇒ We are a church that maintains a credible voice for justice in the world, being an active part of the solution in Scotland's journey to net zero and taking a leadership role in the process.
- ⇒ We are beacons of hope in action, actively participating in the process of healing creation.

Our intent is that with this hope-filled vision, each diocese and charge will adapt it and make it their own, contextualising it for your mission whilst transforming it into living practice. This plan is a call for the whole church to draw together in hope-filled passion, using its collective energy and determination to make a flourishing future a reality.

3. Defining Net Zero 2030

Net zero in simple terms is where the greenhouse gases released into the atmosphere are balanced by their removal out of the atmosphere.⁶ This section gives an overview of how this plan defines Net Zero 2030. It reviews: 1) the scope of activities included within the definition and where we place the organisational boundary of the Scottish Episcopal Church); 2) how an initial carbon emissions baseline estimate can be created from which to review future emissions reductions; 3) how we intend to calculate carbon emissions in a standardised way and report them in a transparent manner; 4) the ratio of carbon emissions:offsetting we intend to use to guide our overall approach and; 5) a simple summary of the net zero equation. Delving into the nuances in

⁵ <https://unfccc.int/blog/what-is-the-triple-planetary-crisis>

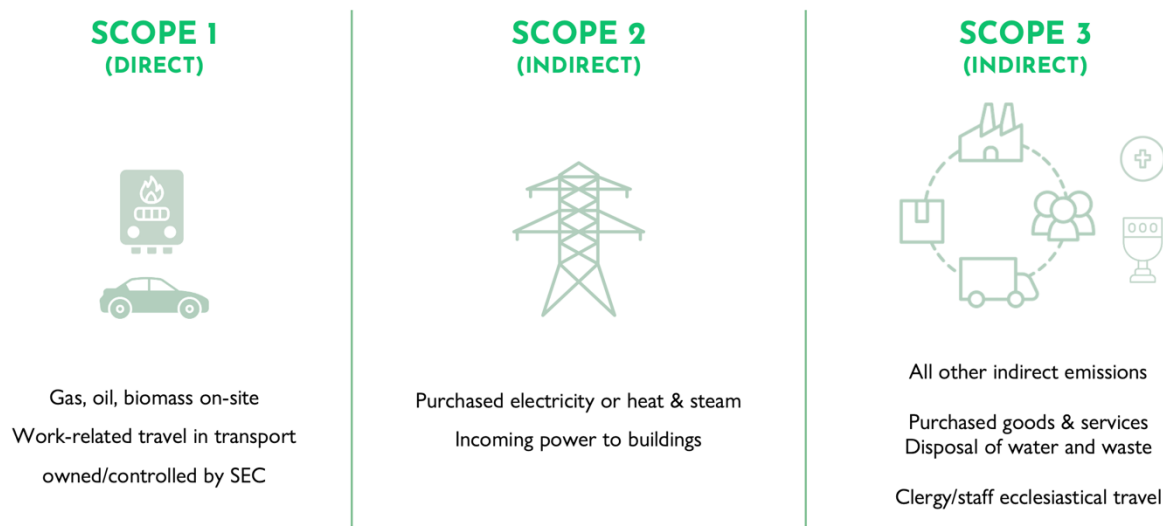
⁶ A good way to understand Net Zero is to compare it with 'carbon neutral'. See webinar on this topic on the PEG area of the SEC website.

each of these areas provides transparency into the plan and enables resources and investments to be focused on those activities that fall within the proposed definition.

Defining the scopes of inclusion and organisational boundary

The Scottish Episcopal Church intends to disclose the gross carbon emissions included in our Net Zero 2030 target based on the categorisation of emissions outlined by the Greenhouse Gas Protocol.⁷ Namely:

- *Scope 1 emissions*: direct emissions arising from on-site generation of energy in our buildings, vehicles, or land.
- *Scope 2 emissions*: indirect emissions associated with the use of electricity, heat, steam, and/or cooling.
- *Scope 3 emissions*: all other indirect emissions that occur in the church’s ‘supply chain’ – in other words the purchased goods and services the church uses, its waste, water use as well as reimbursable work-related travel.





To focus our Net Zero 2023-2030 approach, we need clarify which of these scopes of activities is included within Net Zero 2030 as well as what entities are included within the Scottish Episcopal Church organisational boundary. The following section gives an outline of how the plan defines both scopes of activities and where the boundary of inclusion is placed.

Scopes of activities: For the scopes of activities for Net Zero 2030 we include all scope 1 and scope 2 emissions, as well as reimbursable work-related travel from scope 3. We believe that taken collectively these activities reflect the *material* emissions of the Scottish Episcopal Church.

Organisational Boundary: For the organisational boundary for Net Zero 2030 we include all those entities that are within the sphere of the Scottish Episcopal Church that are under our control or significantly under our influence. This includes the operations of all charges including cathedrals, churches, church halls and ancillary buildings, owned clergy/staff/bishop housing, all provincial/diocese offices and the Scottish Episcopal Institute (SEI).

In deciding what scope of activities to include within the 2030 target and where to place the operational boundary, PEG has sought to balance the aspiration of the prophetic 2020 General Synod motion (to work towards net zero by 2030) with the practical ability to monitor, report and implement such action in a credible, transparent way. The following table provides a summary of the entities and activities that are included within the Net Zero 2030 target:

⁷ This method enables the church to align with international standards ensuring our reporting can be independently scrutinised. See: <https://ghgprotocol.org>

Scottish Episcopal Church Net Zero 2030 target	Boundary/Activity
<p>Net Zero 2030 inclusion</p> 	<p>Energy usage for our buildings and land:</p> <ul style="list-style-type: none"> • Gas, oil, or other GHG related fuel use (biomass, etc) • Electricity purchased <p>Where we define our buildings as:</p> <ul style="list-style-type: none"> • All churches, church halls and ancillary buildings • All cathedrals and the buildings that they control • Clergy/staff/bishop housing • All provincial/diocese offices • Scottish Episcopal Institute (currently resident in General Synod Office) • Any other property, including common parts of tenanted properties <p>All ecclesiastical or work-related travel:</p> <ul style="list-style-type: none"> • All petrol/diesel used by clergy/staff, reimbursable clergy/ordinand travel, reimbursable staff/volunteer travel, reimbursable train journeys, staff/clergy flights for work/ministry <p>From these emissions, we will subtract the following in our net reduction calculations:</p> <ul style="list-style-type: none"> • Verified 100% renewable energy tariffs that meet certain criteria (see Clean Energy section below) • Excess energy exported to the grid from on-site solar generation • Verified carbon offsets (with an ambition to limit this to 10% of 2018 baseline emissions - see focus on absolute carbon emissions reductions below)
<p>Net Zero Post 2030 inclusion</p> 	<p>All other Scope 3 emissions within the sphere of SEC that are under our control or significantly under our influence including:-</p> <ul style="list-style-type: none"> • Products and services that we buy, air-conditioning gases, building projects, investments, waste disposal & water/drainage.
<p>Not included, but within our sphere of influence.</p>	<p>Whilst the following activities are within the church's influence; they are not under its control and are therefore not included:-</p> <ul style="list-style-type: none"> • Congregational personal GHG emissions - i.e. travel (incl. to/from church), personal energy bills, food and consumables, holidays, etc) (see Build A Movement – Objective Ten for ways the church proposes to reach out to engage with congregations in this regard) • Staff/clergy travel to/from work • Clergy family's & residents' GHG emissions (consumer goods, travel, holidays)

Our aim in setting the above scope of emissions and organisational boundary is a focus on including the material emissions. This approach aligns with others in the Anglican Communion across the UK.⁸

Calculating our carbon emissions baseline

In 2022, PEG released the Energy Footprint Analyser tool which enabled charges to calculate the carbon emissions associated with their energy usage for 2018, 2019 and 2021. This was a significant task which empowered charges with useful data from which to judge their future emission. It also enabled PEG to estimate carbon emissions for a 2018 baseline across the

⁸ Both the Church of England and Church in Wales have similar approaches and do not include either all scope 3 emissions nor congregations within their Net Zero 2030 targets.

Province for the first time. 25% of all charges shared data for buildings which showed a total of 1440 tonnes Co2e across 155 buildings during 2018. A simple extrapolation of this data to the total number of charges across the province results in an initial estimation of total emission from all buildings at around 5760 tonnes Co2e.⁹ However, we recognise that this calculation is approximate and needs to expand to include all scopes of activities within Net Zero 2030. To refine this further, there is work to be done to obtain additional data points from across the Province in terms of individual building type and size. Having access to such data will enable PEG to refine this initial 2018 baseline further and therefore have a more accurate baseline from which to judge future emission reduction trajectories.

Monitoring and reporting carbon emissions

To have a credible approach to net zero requires a consistent approach to carbon emissions calculations as well as a standardised monitoring and reporting framework across the province. For churches and hall energy usage, it is planned that carbon emissions calculations will be calculated using the Energy Footprint Tool (to be licensed from Church of England) which will be complemented by additional procedures that enable the emissions associated with clergy and staff reimbursable travel to be included and reported accordingly. To account for the carbon emissions associated with scope 2 electricity inclusion, our approach intends to use a market-based methodology as outlined in the GHG Protocol.¹⁰ As transparency is important, it is recommended that all charges, dioceses, and the province publicly share emissions data in appropriate ways (for more information see Shared Governance – Objective Six).

Absolute carbon emissions reductions focus

In any discussion on net zero, the question regarding carbon offsetting is paramount. In particular consideration as to what guardrails are put in place to guide the organisation towards absolute carbon emission reductions. This is important as “net zero pledges alone are not a sign of climate leadership - they must be accompanied by a deep emission reductions commitment to be meaningful.”¹¹ The approach we are taking to this is guided by UN High-Level Expert Group on the Net Zero Emissions Commitments of Non-State Entities which states that organisations should approach net zero with “ambition which delivers significant emissions reductions”.¹² Our approach is also informed by the principles outlined by the Science Based Target initiative (SBTi) which advises that net zero approaches should “prioritize rapid, deep emission reductions” in the near term and that any long-term net zero target should result in emission reductions of 90% of their baseline emission calculations, with the remaining 10% of ‘residual’ emissions (stated as those that “cannot be eliminated”) being offset via permanent carbon removal and storage. Lastly, we take on board the seven attributes of net zero as outlined in the *Nature Climate Change* journal article “The meaning of net zero and how to get it right” which, recognising the urgency of ‘zero’ emissions, advises that priority should be placed on ‘front loaded emissions reductions’, with comprehensive emission reductions in real-terms with only ‘cautious use of carbon dioxide removal’.¹³ Acknowledging this guidance, our approach to net zero therefore prioritises efforts toward absolute reduction carbon emissions rather than relying on carbon offsetting. In general, therefore, we recommend that carbon offsetting only be used to counterbalance ‘residual’ emissions – emissions that are left after all reasonable efforts have been exhausted to abate them. Further, we recommend that the Scottish Episcopal Church be guided toward the ratio outlined by SBTi, focusing its efforts on the hard work of reducing 2018 carbon emissions in absolute terms, working towards a target of 10% residual emissions for carbon offsetting. Whilst we wholeheartedly

⁹ To calculate the emissions associated with heating and electricity, we use the Green House Gas (GHG) conversion factors provided by the UK government. We include within these conversion factors the emissions associated with both “well to tank” and “transmission and distribution” (those factors involved in getting energy to the building) in addition to emissions associated with energy generation. The key metric used in the tool is CO2e, a universal unit of measurement which incorporates not just emissions from carbon dioxide but other greenhouse gas emissions associated with global warming.

¹⁰ See <https://ghgprotocol.org> – Scope 2 Guidance.

¹¹ <https://zerotracker.net/analysis/recommendations-and-current-realities>

¹² The ten recommendations from the ‘Integrity Matters’ report are: 1) announcing a Net Zero Pledge, 2) setting Net Zero Targets, 3) using Voluntary Credits, 4) creating a Transition Plan, 5) phasing Out of Fossil Fuels and Scaling Up Renewable Energy, 6) aligning Lobbying and Advocacy, 7) People and Nature in the Just Transition, 8) increasing Transparency and Accountability, 9) Investing in Just Transitions and 10) accelerating the Road to Regulation. For more information see: <https://www.un.org/en/climatechange/high-level-expert-group>

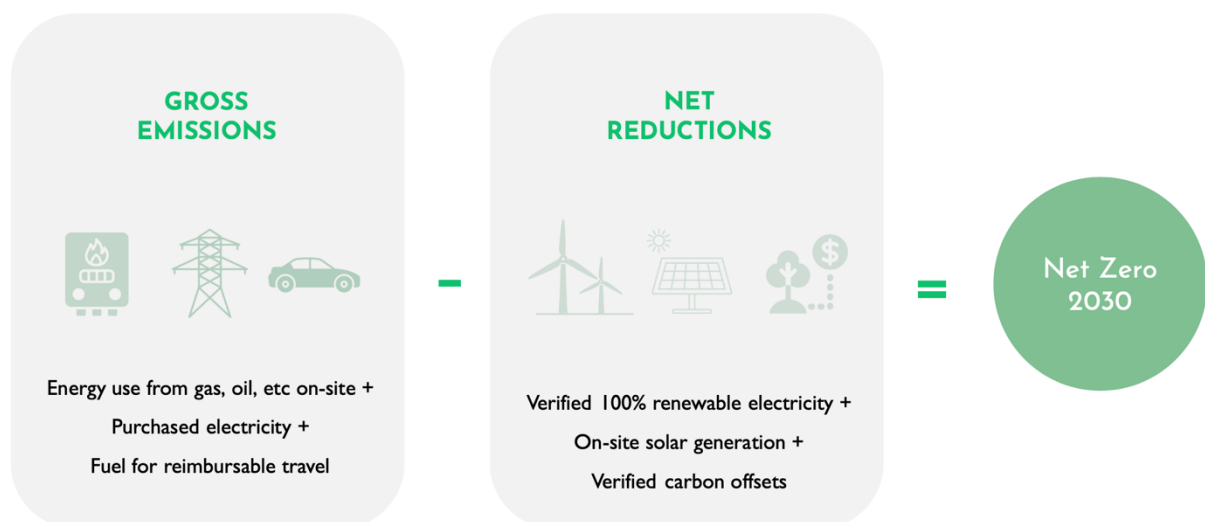
¹³ <https://www.nature.com/articles/s41558-021-01245-w>

recognise the significant challenge associated with this carbon reduction:offsetting ratio, we believe setting such an aspiration aligns our approach to net zero 2030 with the best practice and helps build the necessary momentum for urgent action to address the climate emergency. This work will be refined further when the Carbon Offset Strategy is presented to General Synod (see Positive Finances – Objective Nine).

Net Zero 2030 target equation

With the Scottish Episcopal Church Net Zero 2030 target now defined, to assess the net zero carbon emissions associated with this, we first work out our gross carbon emissions. This is calculated by combining 1) the emissions related to all energy use of oil, gas (scope 1) and electricity (scope 2) in our buildings along with 2) any travel related fuel from work-related reimbursable travel (scope 3). From this *gross* carbon emissions sum, we then subtract 1) any verified 100% renewable electricity (see Clean Energy – Objective Two for more information on verified tariffs), 2) on-site solar generation exported to the grid, along with 3) any purchased carbon offsets.

When gross emissions minus (renewable energy + solar energy exported + carbon offsets) equal zero we can be said to have achieved our goal of 'net zero' carbon emissions.



In defining net zero 2030, this section has given an overview of the scopes of activities that will be included within the target and presented an organisational boundary for the church which collectively encompass the material emissions of the Scottish Episcopal Church. It has shown how we have created an initial 2018 carbon emissions baseline and how we intend to refine this moving forward. A mechanism by which charges, dioceses and the province can calculate carbon emissions has been shown, with the recommended approaches to transparent publishing of this data. An overview has been provided to the guidance we have sought with regards absolute carbon emissions reductions. Finally, a brief overview was provided on the general equation that is used to calculate our net zero 2030 target.

3. Our approach to working towards net zero 2030

With the net zero 2030 target definition outlined above, this section reviews the six foundational principles that underpin the net zero action plan. It then outlines the high-level goals that we aim to achieve before laying out the significant resources that have been recommended to be put in place to support the operational roll-out of net zero across the province.

Six foundational principles

Moral imperative: We embrace climate justice in both heart and mind bringing the voice of those on the receiving end of climate change into the room. We hear the call to act urgently,

acknowledging the ‘slow violence’¹⁴ that many of our actions are having on our brothers and sisters across the world which are resulting in cascading impacts, moving the earth towards irreversible planetary tipping points.¹⁵

Ecologically sound: Our approach is focused on absolute emissions reductions halting the release of carbon emissions from church operations. We acknowledge that science tells us every fraction of a degree of global warming matters, every tonne of carbon dioxide released matters.¹⁶ In doing so, we recognise that climate change and biodiversity loss are intertwined, so the approach embraces the protection of earth’s global ecosystems by addressing these issues together whilst recognising the root causes that underpin them.

Fabric first: Maintaining buildings by taking a ‘fabric first’ approach is of particular importance, with good maintenance and upkeep a pre-requisite for this work. In conjunction with the Provincial Buildings Committee and ecumenical partners, we intend to build a partnership with Historic Environment Scotland, in order to provide the necessary expertise to charges with listed buildings (see also Heritage Energy Expert below).

Technically viable: Our approach is based on the availability of mature resilient technology. Existing technology, such as heat pumps, have been tested at scale and are readily available with the engineering know-how and necessary funding streams to get there. However, it is recognised that no one size fits all and due consideration is needed in terms of the fabric of the buildings, its thermal efficiency, the context of building usage and the heating strategy employed (see Clean Energy – Objective Two).

Financially prudent: Our aim is to assist charges in maintaining a prudent approach to long-term finances. Taking action to reduce carbon emissions in absolute terms will significantly reduce future carbon offset charges - saving an estimated £400k annually by 2030 (high uncertainty). Undertaking the energy efficiency measures outlined in this action plan will lower operational costs for charges by an estimated £2.7m as well as reduce clergy energy bills by £290k over eight years (see Energy Efficiency – Objective One). The action plan also calculates that up to £25m in government funding can be unlocked. Details regarding each of these savings totalling an estimated £1.1m annually by 2030 are provided in Appendix One. With a large proportion of carbon emissions coming from the top 25% of energy consuming churches in each diocese, in the immediate term the priority will be to work with high-energy consuming charges that have active congregations in order to achieve the most significant near-term emissions reductions and ensure investments are sound over the long term.

Carbon credible: To ensure the road we take is credible, our strategy has a clearly articulated net zero definition (see previous section), a specific 2030 target to work towards (set by General Synod in 2020), a transparent monitoring and reporting framework and an alignment with independent guidance from the ‘Integrity Matters’ report by UN High-Level Expert Group on the Net Zero Emissions Commitments of Non-State Entities which states that organisations should approach net zero with: i) ambition which delivers significant emissions reductions; ii) demonstrate integrity by aligning commitments with actions/investments; iii) have radical transparency in sharing relevant data on plans and progress; iv) establish credibility through plans based in science & 3rd party accountability; v) demonstrable commitment to both equity and justice in all actions.¹⁷ We are further guided in our approach by the recommendations provided by the Science Based Targets initiative (SBTi). (To review our approach to ensuring the credibility of verified 100% renewable electricity tariffs see Objective Two – Clean Energy).

¹⁴ Nixon, Rob. *Slow Violence and the Environmentalism of the Poor*. Harvard University Press, 2011. For a good overview of the concept of ‘slow violence’ see: <https://www.bbc.com/future/article/20210127-the-invisible-impact-of-slow-violence>.

¹⁵ <https://www.carbonbrief.org/explainer-nine-tipping-points-that-could-be-triggered-by-climate-change/>

¹⁶ <https://www.ipcc.ch/sr15/about/foreword/>

¹⁷ The ten recommendations from the ‘Integrity Matters’ report are: 1) announcing a Net Zero Pledge, 2) setting Net Zero Targets, 3) using Voluntary Credits, 4) creating a Transition Plan, 5) phasing Out of Fossil Fuels and Scaling Up Renewable Energy, 6) aligning Lobbying and Advocacy, 7) People and Nature in the Just Transition, 8) increasing Transparency and Accountability, 9) Investing in Just Transitions and 10) accelerating the Road to Regulation. For more information see: <https://www.un.org/en/climatechange/high-level-expert-group>

High-level goals

Guided by the three values of discipleship, justice and hope with the six foundational principles we have set the following high-level goals for the province to work towards Net Zero 2030. In doing so, we recognise the aspirational nature of these as the Scottish Episcopal Church moves towards Net Zero 2030. They are outlined to provide a general direction of travel. As more data is shared from across the province they will be further refined. With these provisos in mind, the high-level goals of this net zero action plan (2023-2030) are to:

1. support clergy and vestries with the resources and tools they need every step of the way;
2. work towards reducing absolute carbon emissions by 90% by 2030, based on our 2018 baseline;
3. to strive to reduce charge operational costs by up to £2.8m over the 2023-2030 period whilst unlocking up to £25m in Scottish Government funding.

With all this - and so much else - our strategy is to empower every charge with the resources needed to take the necessary steps to reach net zero. An overview of the various strands of the support programme are now outlined.

Supporting clergy and vestries with resources and tools

To support clergy and vestries in taking further steps on their journey to net zero, a range of resources are associated with this plan including; a Net Zero Delivery Director to bring together the various streams of work into a coordinated programme of action; five local Net Zero Champions to assist clergy and vestries every step of the way; a new cross-Diocesan Net Zero Working group; a heritage energy expert to provide advice on suitable measures and procedures for listed buildings; a set of three financial support funds; iterative updates to the Net Zero Toolkit; a new Net Zero Workshop pilot programme and; a comprehensive set of resources, tools and templates. Details of these support strands are now summarised.

Net Zero Delivery Director: Standing Committee has already approved the position of a Net Zero Delivery Director who will be based at the General Synod Office reporting to the Secretary General and empowering a team of Net Zero Champions across the province. This role will be responsible for bringing together all the elements and delivery of this action plan, finding creative solutions to real challenges, providing guidance and resources to churches and liaising with national partners across Scotland.

Local Net Zero Champions: Recognising the limited capacity and resources available in many vestries across the province and the already significant workload of clergy, it is acknowledged that significant support and assistance is required to provide practical help on the ground to help charges work towards net zero 2030. To assist charges in navigating the complexity of the journey ahead PEG has suggested to Provincial Standing Committee that it help co-fund five local Net Zero Champions. These champions will be there to meet face-to-face with charges to offer advice and support every step of the way. Such support will include providing assistance with grant funding applications (to maximise current funding – see Positive Finances O9), advice on completing the Energy Footprint Tool (to calculate annual carbon emissions – see Shared Governance O6), appraising contextualised net zero action plans, facilitating Net Zero Workshops (see below), interpreting energy assessments (see Energy Efficiency – O1), and convening local meetings to share the existing knowledge and expertise that is already resident amongst peers. They will, in short, be the point of contact for charges to help propel the day-to-day action. It is suggested that these roles are distributed across the province, reporting into appropriate diocese Standing Committees with regular communication and support from the Net Zero Delivery Director. Each champion will also be there to support and assist diocesan Standing Committees in creating a contextualised programme of work that coheres with the

longer-term missional priorities of their diocese, recognising that the work on tackling net zero cannot be separated from wider planning.

Cross-Diocesan Net Zero Working Group: This is a new group made up of environment leads in each diocese which came together for the first time at the end of last year and meets bi-monthly in order to: i) support, encourage, enable and monitor all activities that aim to reduce each diocesan impact on climate change, driving emission reductions in real terms and focusing on the implementation of the Net Zero Action Plan (2023-2030) goals; ii) work to ensure that there is a high level of practical coherence across dioceses, providing a consistent approach to delivery of the 2030 targets and; iii) embrace and encourage local variations of the Net Zero Action Plan to support the priorities and mission of each diocese, enabling broad support in its practical implementation. This group also enables the Net Zero Delivery Director and PEG to assess ongoing needs/requirements from dioceses for Net Zero implementation and take appropriate action to support such requests.

Heritage Energy Expert: Recognising that listed buildings have their own unique set of challenges, PEG has recommended that Standing Committee review the possibility of a partnership with Church of Scotland and Historic Environment Scotland to co-fund a heritage energy expert that will help support and guide charges during this complex process. This resource would assist charges with more specialist building archetype knowledge, Local Authority planning requirements, policy requirements of Listed Building Consent (LBC) as well as provide working knowledge of the implications of the Scottish Government's National Planning Framework 4. Such support will help charges navigate the complex decisions and processes involved, helping the church to maintain and protect the physical heritage of its buildings whilst working towards net zero 2030.

Net Zero Toolkit: The first version of the Net Zero Toolkit, made available in 2022, leveraged the significant work of the Church in Society committee. PEG intends to update this Net Zero Toolkit on an annual basis, with the next version providing a clear step-by-step guide for charges to map out a typical process. It is intended that the toolkit remains the one-stop-shop and central resource for charges wishing to take further steps on the net zero journey. This forthcoming update will also connect the ten sections of the Net Zero Toolkit with the ten core objectives laid out in this action plan, creating a seamless link between the two.

Net Zero Workshops: Taking the required steps, in the right order and prioritising all the various actions is complex and no one size fits all. With this in mind, PEG intends to pilot a new workshop programme that can be organised with charges in conjunction with Heathack. These workshops will help inform and empower vestries and property convenors, enabling them to understand different approaches to heating ('space heating' vs 'people heating'), consideration of choices regarding energy demand reduction (including diagnosing heating system faults, usage patterns and behaviour changes), what energy efficiency measures may be considered, the requirements for thermal comfort within buildings, initial conversations about what zero emissions heating technology options may be suitable for their buildings and exploration of how buildings may be utilised more to support grant funding applications. The intention is to pilot this workshop programme in 2023, rolling out the programme more broadly during 2024.

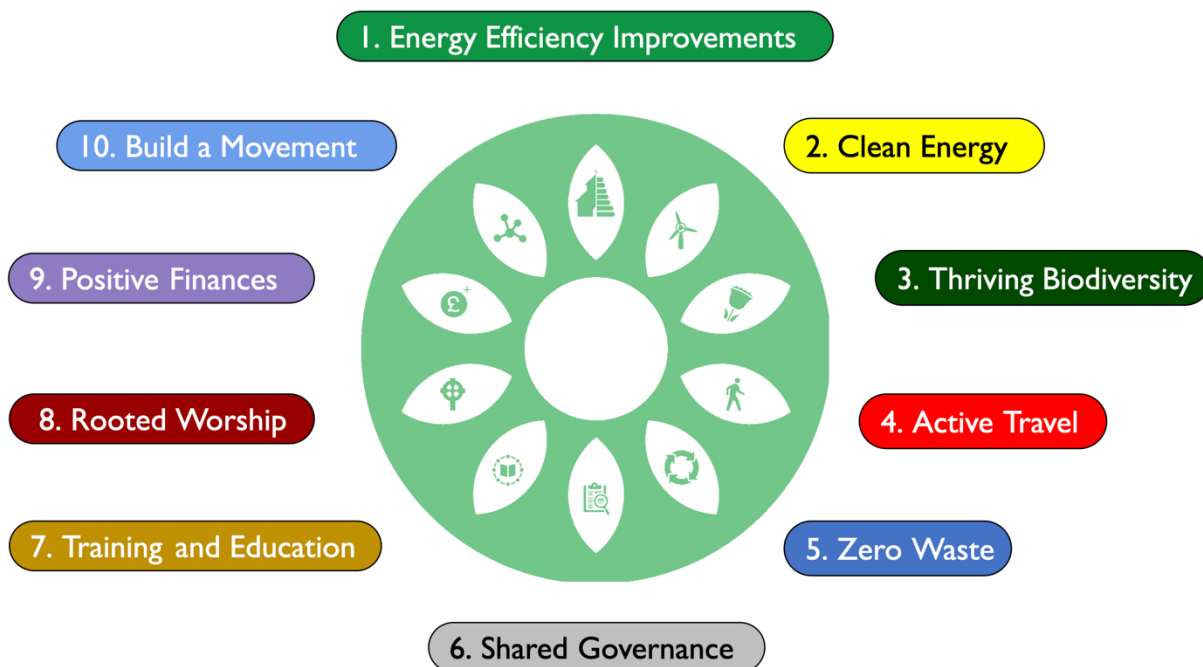
Financial support: In addition to supporting charges to maximise government grants, this plan also recommends three supporting funds. These are: 1) a Rectory Green Fund to increase energy efficiency measures and support clergy well-being (see Energy Efficiency Improvements – Objective One); 2) a significant expansion of the Provincial Buildings Grants fund (see Positive Finances – Objective Nine) and; 3) an Active Travel Fund to encourage clergy to move away from fossil-fuel based transport (see Active Travel – Objective Four). These funds all support the direct reduction in carbon emissions associated with the net zero 2030 definition above. An initial estimate of the anticipated implementation costs associated with each of these funds, along with costing for the new positions identified above can be found in Appendix One.

Resources, tools, templates, etc: The many other comprehensive ways that PEG in tandem with other provincial committees are supporting charges to work towards net zero 2030 (such as the availability of carbon calculators, action plan templates, heating resilience plans, sources of guidance on heating, insulation and lighting, etc) can be found embedded in each of the ten core objectives outlined below.

It is clear that to achieve this programme of action requires the rapid, radical transformation of the energy infrastructure of the church. The intent of this action plan is to support and assist charges with providing the resources and tools that help them appraise the choices that best fit their situation, recognising that every situation is different and that in each case there is a need to find a delicate balance between the many different competing issues and resources at play. It also acknowledges, and seeks to amplify, those actions that are already underway so that they can be visible as part of the collective response of the church. It is understood that further action can feel overwhelming and that the path ahead may be hard. However, we are also cognisant that what is hard for us as a church is a death sentence for those on the receiving end of climate change – for those of the human family that are bearing witness to its devastating consequences of climate change that do not have the luxury of the choice.

5. The ten core objectives for net zero 2030

This plan has ten core objectives; Energy Efficiency Improvements, Clean Energy, Thriving Biodiversity, Active Travel, Zero Waste, Shared Governance, Training & Education, Rooted Worship, Positive Finances and Build a Movement. In isolation, each of the ten objectives are an important element for how change can happen. Together they reinforce each other and are a recipe for transformation which can empower the church to reach net zero in ways that bring about a flourishing future. Many of these objectives are the collective work of different committees coming together to tackle the climate emergency. Each objective outlines a set of resources that are being created to help empower clergy and vestries to continue to take the steps required to work towards net zero 2030.



Our intent in using this ten-point framework is to: a) enable the core objectives to connect seamlessly with the ten-point structure of the Net Zero Toolkit, b) prepare the church for additional scopes of emissions inclusion post 2030 (i.e. the rest of scope 3 emissions incl. products and services, as well as waste and water) and c) provide a holistic approach to change, recognising that all these objectives intertwine with positive reinforcing elements of feedback between them.

Desired Outcomes

To help provide insight into our collective progress as we work towards net zero 2030, 16 'desired outcomes' have been identified within these core objectives. These measurable outcomes are focused on those activities that contribute the most towards achieving the net zero 2030 target. Having such metrics act as 'way markers' and will help all parts of the church understand how their actions are contributing to the whole programme of action, helping align our efforts collectively towards our shared endeavour. Focusing on the tangible outcomes that we want to achieve will also help committees direct energy and resources towards achieving them.

These indicators have been created not to force any one course of action, but to provide a useful set of metrics that can enable the church to collectively understand what progress is being made over time. They are also a demonstration of the significant step-change in approach from previous General Synod motions.



1. Energy Efficiency Improvements

This objective, implemented in conjunction with the Provincial Buildings Committee, aims to help charges reduce overall energy demand and work towards improving the thermal efficiency of our buildings. We estimate that through such measures it is possible to significantly reduce carbon emissions and lower operational costs. In addition, this objective seeks to help address the low energy efficiency of many rectories by recommending a programme of action to, where feasible, get these homes to a minimum EPC rating of C, increasing clergy well-being and reducing the financial burden this carries.

Reduce Overall Demand: Recognising that Energy Demand Reduction is the only approach that can “guarantee zero greenhouse gas emissions” there are a number of ways to eliminate/reduce carbon emissions through either avoiding use or shifting to alternative approaches.¹⁸ Various strategies for Energy Demand Reduction are outlined in the Net Zero Toolkit using either behaviour change, better use of controls and technologies or a combination of both. The forthcoming Net Zero Workshop programme also considers a range of helpful changes that can support demand reduction and, in doing so, may open up broader consideration of building usage and the sharing of buildings with ecumenical partners. Each charge will be different, and there is no one approach that is suitable for all buildings.

Fabric First Approach: Maintaining good repair of our buildings by taking a ‘fabric first’ approach is of particular importance, with good maintenance and upkeep a pre-requisite for this work. Guidance for such work is available from the Provincial Buildings Committee. This approach is particularly

important as climate change increases the intensity of rainfall and therefore the risk of damp. Care should be taken to consider energy efficiency measures in tandem with the latest quinquennial buildings report ensuring a holistic and prioritised approach.

Energy Assessments: After energy demand reduction measures have been identified, another important step in achieving greater energy efficiency is to have an energy audit/assessment carried out. At present, Business Energy Scotland offer a free energy assessment for which, as independent charities, most charges will qualify (subject to certain criteria). Such assessments will present charges with a range of useful data points.¹⁹

However, in some cases, this assessment may not provide the depth of information required for complex buildings nor provide specific advice regarding church-specific heating strategies or the nuances required for improvements to listed buildings. Therefore, a more detailed energy audit may be required from a specialist Mechanical and Electrical Engineer. Every building is different and needs to be considered on a case-by-case basis balancing a range of often competing factors. Further guidance on this, including embodied carbon considerations, can be found in the forthcoming ‘source of insulation guidance’ document issued by the Provincial Buildings Committee. PEG is also working with the Provincial Buildings Committee on providing clarity as to how charges couple energy audits alongside quinquennial surveys.

Rectory Green Fund: Many rectories are below the minimum standard of EPC C rating, losing significant amounts of heat through

¹⁸ See ‘The Energy Hierarchy: a powerful tool for sustainability’ published by Institution of Mechanical Engineers.

<https://www.imeche.org/docs/default-source/1-oscar/Get-involved/specialist-interest-groups/eesg/imeche-ps-energy-hierarchy-2020-final.pdf>

¹⁹ Depending on the specific audit undertaken, it is likely the results of this will present charges with: a) specific recommendations on further energy saving measures suitable for your building; b) estimates for the annual financial savings; c) financial costs for each recommended implementations; d) pay-back period – i.e. the return on investment; e) what permissions may be needed and; f) the net effect of these measures on overall CO2 carbon emissions reductions.

walls, windows and roofs, causing significant challenges for clergy well-being as well as the financial burden that this places on their families. This Net Zero Action Plan therefore supports the Provincial Buildings Committee recommendations that every rectory “should have an Energy Performance Certificate (EPC) rating of at least C” and that all clergy housing “should comply with the Province’s environmental and climate change policies.”²⁰ To do so we have recommended that Standing Committee support the creation of a Rectory Green Fund (proposed co-funded 50% with dioceses) to support the roll-out of insulation and energy efficiency measures up to max £10k per rectory. Given current energy bills, we estimate that carrying out such measures will save each rectory about £500-600 per year, giving an estimated total saving across the province of £300k over the next eight years. More critically, this will support clergy wellbeing through reduction in damp, condensation, and mould lowering the risk of disease and long-term health conditions.²¹ To help prepare rectories to take steps forward we have also recommended that the Rectory Green Fund support 100% of costs associated with obtaining EPC surveys for all rectories across the province. This investment in rectories will increase the overall property value of rectories as assets held by each diocese, with research by BEIS and the University of Cambridge calculating an increased sale value of 6% by just moving an EPC rating from D to C.²²

Government Legislation: The focus on energy efficiency here prepares the church for forthcoming legislation which requires “all private rented sector properties to reach a minimum standard equivalent to EPC C by 2025 where technically feasible and cost-effective, at change of tenancy, with a backstop of 2028 for all remaining existing properties” – although it is unclear whether this would apply to tied-accommodation.²³ Longer term, for domestic properties, the government will also “introduce regulations requiring that all residential properties in Scotland achieve an Energy Performance Certificate rating of at least equivalent to EPC C by 2033, where technically and legally feasible and cost-effective.”²⁴ Even where not feasible or cost-effective, it is proposed that “a minimum level of fabric energy performance through improvement to walls, roof, floor and windows, as recommended in the EPC, would apply”.²⁵ There are also indications that the Scottish Government will introduce minimum efficiency standards in non-domestic buildings too.

Tackling energy efficiency is a pragmatic prerequisite on working towards net zero 2030 – ensuring that the overall energy demand of a building is reduced and thermal efficiency enhanced, reducing carbon emissions, lowering operational costs and enabling the design of any replacement heating system to be as efficient as possible.

Desired Outcomes: Energy Efficiency Improvements

O#	Desired Outcomes
O1.1	75% of charges energy audit/assessments in their churches & halls by 2025, 95% by 2028
O1.2	All charges have energy efficient lighting systems installed by 2025
O1.3	EPC audits for rectories carried out by spring 2024, with a roll-out plan in place for upgrades by end 2024.
O1.4	35% of rectories achieve minimum EPC rating C by 2025, 75% by 2028

²⁰ “Minimum Standards For Clergy Housing” (April 2022) <https://www.scotland.anglican.org/vestry-resources/appointments-and-employment/minimum-standards-for-clergy-housing/>.

²¹ Note the relationship between housing energy efficiency and health is complex. When carrying out energy efficiency measures, it is important to ensure ‘compensatory’ ventilation to ensure positive health outcomes at all income levels. For a broad overview of recent literature see: Symonds, P., Verschoor, N., Chalabi, Z. et al. Home Energy Efficiency and

Subjective Health in Greater London. J Urban Health 98, 362–374 (2021). <https://doi.org/10.1007/s11524-021-00513-6>

²² <https://www.gov.uk/government/publications/house-prices-private-sector-rents-and-energy-efficiency-levels>

²³ <https://www.gov.scot/policies/energy-efficiency/energy-efficiency-in-homes/>

²⁴ <https://www.gov.scot/policies/energy-efficiency/energy-efficiency-in-homes/>

²⁵ <https://www.gov.scot/publications/heat-buildings-strategy-achieving-net-zero-emissions-scotlands-buildings/pages/9/>



2. Clean Energy

This objective, implemented in conjunction with the Provincial Buildings Committee, aims to help move the energy systems of all church buildings and halls across to clean energy by 2030. By 'clean energy' we mean that there are no on-site carbon emissions as a result of their ongoing use and that any energy supplied via the national grid is via a contract with a verified 100% renewable energy tariff (see below for criteria). In addition, there is also scope to generate on-site renewable energy in order to reduce purchased electricity costs, generate income and reduce future carbon offset charges.

Zero Direct Emission Heating: To reach Net Zero by 2030, charges will need to plan for the replacement of gas and oil boilers with low-energy, zero direct emissions heating alternatives. There is no one heating technology that is suitable for all churches, it depends on the church site, building archetype, the usage pattern. This is, without doubt, the most challenging task that lies ahead. However, we believe it is achievable with the right decisions made in terms of 'space heating' or a 'heat-the-people' approach. A variety of solutions exist.

Heat pumps are a mature, readily available technology which has been demonstrated at scale²⁶, recognised by the Scottish Government as a 'strategic technology' for the Net Zero²⁷ and recommended by the Climate Change Commission as a 'low-regret'²⁸ option. They are broadly accepted to be "a big piece of the low-carbon jigsaw puzzle" to rapidly decarbonisation heating.²⁹ Accepting that energy efficiency measures are a likely pre-requisite for installation of heat pumps and that changes may well be needed to the distribution of heat within

existing building systems, they are a highly efficient way of providing space heating in many non-domestic buildings. Indeed, even for listed buildings heat pumps are becoming more popular - with other national churches having success within their own planning systems.³⁰ Other forms of direct heating solutions (such as far infrared "heat the people" approaches) may be more suitable for those buildings that are not in regular use.

The benefits and some of the recognised challenges associated with heat pumps as well as a review of other forms of heating (such as biomass and the far-off technologies such as green hydrogen which are not viable within the net zero 2030 timeframe) will be available in the update to the Provincial Buildings Committee 'Sources of Heating Guidance' document.

Heating Resilience Plans: To assist vestries in planning for the replacement of an existing fossil-fuel combustion system, PEG intend to produce a new 'Heating Resilience Plan' template. This resource will help charges review a step-by-step process for the replacement as well as consider a broad set of factors such as: i) upfront capital expenditures including grants and loans available (with associated payback periods), ii) operational costs over the lifecycle, iii) the efficiency of the system in connection with the building usage pattern, iv) the cost per tonne of carbon abated, v) potential changes to electricity levies as well as carbon tax payments, vii) estimation of the social cost of carbon and viii) an estimation of future carbon offset charges.

Verified Renewable Electricity Tariffs:
Results from the 2021 Energy Footprint

²⁶ Heat pumps have been used for space heating since the early twentieth century, and are a proven, mature technology. Their wide adoption in Scandinavia should give confidence to their ability to operate in Scotland.

²⁷ <https://www.gov.scot/publications/heat-pump-sector-deal-expert-advisory-group-scottish-government-response/pages/14/>

²⁸ <https://www.theccc.org.uk/publication/reducing-emissions-in-scotland-2020-progress-report-to-parliament/>

²⁹ <https://www.economist.com/britain/2023/02/06/the-heat-pump-challenge-in-britain>

³⁰ For example, there are 54 installations in Church of England listed buildings. See: <https://facultyonline.churchofengland.org/renewables>

Analysers data suggest that only 18% of charges are currently on a 100% renewable energy tariff. As a result, the Scope 2 related emissions from the national grid are responsible for a significant portion of the church's footprint. To reduce emissions associated with this, we recommend charges move to a verified 100% renewable electricity tariff. The critical word here is verified, as many tariffs that claim 100% renewable are susceptible to greenwashing. To help charges select tariffs that are credible, PEG intend to use criteria adopted by the Church Advisors Energy Network which go beyond simple reliance on trading Renewable Energy Guarantees of Origin (REGO).³¹

On-site Solar Generation: Whilst moving towards clean energy sourced from the national grid there is an opportunity to generate renewable energy from on-site solar PV.³² Prices for solar power have dropped dramatically over the past decade and may now be an attractive proposition. To capitalise on this opportunity PEG intends to work with partners across the church to create a resource that empowers charges to further consider solar energy generation and accompanying battery storage. This will

include an overview of both the benefits (such as lower bills, increasing income from exporting energy to the grid, reducing carbon offset charges) and challenges (such as unintended consequences for water runoff, maintenance problems and planning permissions).

Prepare for Legislation: Gas and oil boilers are inefficient in comparison to modern alternatives (such as heat pumps) with a far lower Coefficient Of Performance (COP) and creates pollution by emitting carbon dioxide, methane and nitrous oxide.³³ The International Energy Agency has stated that all new fossil fuel boiler installations must end by 2025 in order to reach global Net Zero trajectories by 2050. Fossil fuel-powered boilers will be banned in all new-build homes from 2024 and the Scottish Government "will legislate to phase out the need to install new or replacement fossil fuel boilers from 2025, subject to technological developments and decisions by the UK Government in reserved areas."³⁴ The government also aims to phase out "the need to install new or replacement fossil fuel boilers in off gas properties from 2025, and in on-gas areas from 2030" for both domestic and non-domestic buildings.³⁵

Desired Outcomes: Clean Energy

O#	Desired Outcomes
O2.1	95% of all charges, offices have switched to verified 100% renewable electricity tariff by 2026 or at point of contract renewal (whichever is sooner - subject to market conditions)
O2.2	No new oil heating boiler installations in all buildings from 2024
O2.3	95% of all <i>new</i> heating installations in buildings are zero direct emissions by 2024, 100% by 2028
O2.4	33% of <i>all</i> heating systems are zero direct emissions by 2026, 85% by 2029

³¹ This criteria reviews aspects such as whether a company's tariffs are all renewable, whether they rely on offsetting, whether units sold are the same as those supported by REGO's, whether the company has its own generation and how much and whether purchase from other generators is direct. Note that only verified tariffs are accepted with the Energy Footprint Tool and therefore those tariffs that do not meet these criteria will not be included in a net zero calculations provided by the tool.

³² subject to certain criteria being met, £80k cares electric heating in place.

³³ "The emissions from natural gas-fired boilers and furnaces include nitrogen oxides (NOx), carbon monoxide (CO), and carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), volatile organic compounds (VOCs), trace amounts of sulphur dioxide (SO₂), and particulate matter (PM)." https://www.epa.gov/sites/default/files/2020-09/documents/1.4_natural_gas_combustion.pdf

³⁴ <https://www.gov.scot/publications/heat-pump-sector-deal-expert-advisory-group-scottish-government-response/pages/6/>

³⁵ <https://www.gov.scot/publications/heat-buildings-strategy-achieving-net-zero-emissions-scotlands-buildings/pages/9>



3. Thriving Biodiversity

This objective, implemented in conjunction with Church in Society committee, aims to increase the biodiversity of our church land and encourage it to be a place of refuge for nature to thrive, whilst serving the diverse spiritual needs of the local community. We acknowledge the intertwined nature of climate change and biodiversity loss and seek to take steps to help heal creation.

Biological diversity – or biodiversity – includes both the genetic diversity within species as well as the variation between species and ecosystems. It's an easy way to describe in simple terms the rich variety of life on earth. In Scotland, there are an estimated 90,000 different species of animal, plants and microbes – which collectively form the interconnected feedback loops that create the complex ecosystems which enables all life to be held in balance.³⁶ Biodiversity is “fundamental to human well-being, a healthy planet, and economic prosperity for all people, including for living well in balance and in harmony with Mother Earth. We depend on it for food, medicine, energy, clean air and water, security from natural disasters as well as recreation and cultural inspiration, and it supports all systems of life on earth.”³⁷

In Scotland, however, we've already lost 25% of our wildlife³⁸ and biodiversity is declining faster than at any other time in human history.³⁹ Species loss and habitat loss are caused by multiple factors, including the unintended consequence of overdevelopment, intensive farming practices as well as the forces of unbridled capitalism.

It is now agreed that the climate crisis is inextricably linked with the biodiversity crisis and that tackling these crises is part and parcel of the same objective. Indeed, we are facing 'twin reinforcing crises' with both a

decline in biodiversity that “will make the climate crisis worse” as well as a changing climate that “will increase the rate of biodiversity loss.”⁴⁰ We therefore need to reflect on how we care and nurture the land and ecosystems in which our churches are embedded, helping to heal these ecosystems and provide the conditions in which biodiversity can thrive.

In the small patches of ground which encompass the foundations of our worship, there are opportunities to make a visible difference, creating the enabling conditions for healthy ecosystems – an opportunity to help provide a refuge for God's creatures and critters to rejoice in playing their part in earth's complex living processes. In partnership with an appropriate provincial committee and dioceses, PEG aim to release guidance on sustainable approaches for SEC land and graveyards by 2025, reviewing opportunities for forest planting as well as other carbon sequestration and possibilities for coupling this with enhancing biodiversity.

Promote NatureScot Activities: Learning about the joy and wonder that is in creation gives us opportunities to see where we might take imaginative and practical action together to sustain and renew the life of the earth. We recommend vestries promote the 'Making Space For Nature' campaign from NatureScot to help encourage such practices. Sharing current projects and practices will encourage each other, fire our collective imagination, and help our church have a flourishing future. Links to this will be provided in the Net Zero Toolkit Update (2023).

Chemical pollutants: To limit the immediate degradation of church land, we are strongly recommending that all products containing either glyphosate and metaldehyde⁴¹ are

³⁶ <https://www.nature.scot/scotlands-biodiversity>

³⁷ p.4 Kunming-Montreal Global Biodiversity Framework
<https://www.cbd.int/article/cop15-final-text-kunming-montreal-gbf-221222>

³⁸ <https://www.nature.scot/scotlands-biodiversity>

³⁹ <https://www.cbd.int/article/cop15-final-text-kunming-montreal-gbf-221222>

⁴⁰ Scottish Biodiversity Strategy 2022

⁴¹ This was banned for sale in the UK in March 2022. See <https://www.gov.uk/government/news/outdoor-use-of-metaldehyde-to-be-banned-to-protect-wildlife>

removed from use as it is clear these chemicals cause significant harm, resulting in a decline of avian biodiversity, as well as knock-on impacts to other species.⁴²

Our actions can be small but together they can, step-by-step, help halt biodiversity loss and in turn, help move towards the

restoration and healing of creation. Just leaving small spaces of land to be rewilded can help increase the biodiversity of our land.⁴³ We can start small, with our own church lands, connecting these places of living heritage with other pathways of regeneration.

⁴² For an overview of the evidence, see de Montagu, Cannelle Tassin, and Dave Goulson. "Habitat quality, urbanisation & pesticides influence bird abundance and richness in gardens." *Science of The Total Environment*(2023): 161916. It has been commented that in exceptional circumstances, usage

of glyphosate maybe a last resort to remove some invasive species. We recommend professional advice to be sought in such circumstances.

⁴³ <https://www.rewildingbritain.org.uk/explore-rewilding/rewilding-the-land/rewilding-on-a-smaller-scale>

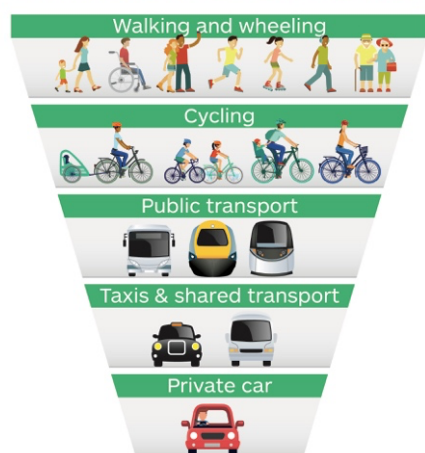


4. Active Travel

This objective aims to reduce work-related travel by clergy in fossil-fuelled transport to address the emissions included within the Net Zero 2030 target. To do so, we have aligned our approach with the Scottish Government's 'active travel' framework which supports the goals in a holistic and comprehensive manner.

By Active Travel we mean, where possible and feasible, clergy are encouraged to make short, local journeys in physically active ways like walking, wheeling (using a wheelchair or mobility aid) or cycling.⁴⁴

Prioritising Sustainable Transport



In doing so, we hope not only to reduce our environmental impacts but also contribute to the Scottish Governments objectives to reduce air pollution, improve the health of communities (and clergy), reduce congestion, have safer community streets and take steps towards a higher quality public realm. Where feasible, an increase in the use of teleconferencing via Zoom or Teams may be appropriate. However there are carbon impacts from such use (see Net Zero Toolkit).

It is recognised that in many rural areas, where distances of travel will be far greater, prioritising sustainable travel will be more difficult to realise. For these longer and more varied journeys the active travel framework encourages the use of public transport, taxis or shared transport. For those circumstances where private car is the only viable ongoing solution for clergy, we recommend the move away from the use of fossil-fuelled vehicles by 2030. Note the Scottish Government intends to ban the sale of all new petrol or diesel cars from 2030.⁴⁵

New Active Travel Fund: As the Net Zero definition encapsulates carbon emissions from reimbursable travel by clergy, PEG has recommended to Standing Committee that an 'Active Travel Fund' is created to support stipendiary clergy who wish to retire their petrol or diesel car and replace this with a bike, e-bike or electric vehicle (or associated charging point) as their primary form of travel. This proposed £1500 grant, which is intended to run on an annual basis from 2023-2028, will lower up-front costs for these modes of transport whilst driving down carbon emissions. Clergy that are living in city centres may also wish to review the Low Emission Zone Support Fund, offering up to £3000 for the disposal of non-compliant vehicles subject to eligibility.

It is clear the direction of travel is away from combustion engines. Indeed, we believe electric vehicles are now a viable option for many clergy across Scotland, especially given the distances now available (an average of 202 miles) as well as the increasing availability of rapid charge points.^{46,47} For clergy that need to travel significant distances across mainly rural

⁴⁴According to Scottish Government figures, 17% of journeys in Scotland were under 1 km, and more than half (54%) were under 5 km. It is these shorter trips that offer potential for a significant shift to active travel.⁴⁴ We hope that through this approach, we can contribute to an overall reduction of 20% in car use by clergy by 2030, contributing to the wider Scottish Government target <https://www.transport.gov.scot/our-approach/environment/20-reduction-in-car-km-by-2030/> &

<https://www.transport.gov.scot/publication/a-route-map-to-achieve-a-20-per-cent-reduction-in-car-kilometres-by-2030/>

⁴⁵ <https://www.gov.scot/publications/draft-energy-strategy-transition-plan/documents/>

⁴⁶ <https://www.which.co.uk/news/article/why-electric-car-owners-are-the-happiest-aS3Aw8V5wBto>

⁴⁷ <https://chargeplacescotland.org>. Please note whilst this shows availability, it does not guarantee they are actively working.

areas, this may still not be feasible. We intend to work with the Scottish Churches Committee on lobbying the government to increase support for charging points across Scotland, and in particular in rural areas.

It is welcome news that when electric vehicles are charged at home they have lower overall running costs than petrol or diesel cars. Servicing and maintenance are also lower due to the reduction in mechanical components.⁴⁸ Indeed, overall, even taking into consideration the upfront cost of a new EV, the lifetime running costs of an electric car are now lower than that for petrol. A full review of the benefits of electric car use in Scotland can be found on the Net Zero Nation website.⁴⁹

EV Charge Point Strategy: Whilst the specific targets associated with our net zero 2030 target are in relation to work-related clergy travel, we hope that congregations will also adopt this approach in travelling to and from their community church where feasible.

With this in mind, to support EV use in some charges, PEG intends with cross-committee collaboration to release a strategy for EV charge points across the province by end of 2024, reviewing support for clergy and congregational travel, mission-related potential, revenue generating opportunities and the planning requirements related to curtilage.

All this being said, we are cognisant of the ecological impacts from the purchase of electric vehicles and in particular the high resource extraction in terms of nickel and lithium, as well as the toxic pollution caused by tyre use, degrade local health and release chemicals in rivers and seas⁵⁰. Electric cars are no silver bullet which is why we have embraced the active travel hierarchy, which tacitly embeds climate justice into the approach. For some, a used EV car purchase or joining a car club may help reduce these impacts. The Energy Saving Trust has a Used Electric Vehicle Loan fund which some clergy may wish to consider to support such a purchase.⁵¹

Desired Outcomes: Active Travel

O#	Desired Outcomes
O4.1	30% of all clergy/staff work-related travel via active travel, public transport or Electric Vehicle by 2026, 70% by 2030

⁴⁸ <https://www.netzeronation.scot/take-action/electric-vehicles/benefits-electric-vehicles>

⁴⁹ <https://www.netzeronation.scot/take-action/electric-vehicles/benefits-electric-vehicles>

⁵⁰ Tan, Z., et al. "Tyre wear particles are toxic for us and the environment." Imperial College London (2023) [https://spiral.imperial.ac.uk/bitstream/10044/1/101707/9/Tyre%](https://spiral.imperial.ac.uk/bitstream/10044/1/101707/9/Tyre%20wear%20particles%20are%20toxic%20for%20us%20and%20the%20environment%200223-2.pdf)

[20wear%20particles%20are%20toxic%20for%20us%20and%20the%20environment%200223-2.pdf](https://www.theguardian.com/environment/2022/jun/03/car-tyres-produce-more-particle-pollution-than-exhausts-tests-show). See also: <https://www.theguardian.com/environment/2022/jun/03/car-tyres-produce-more-particle-pollution-than-exhausts-tests-show>
⁵¹ <https://energysavingtrust.org.uk/grants-and-loans/used-electric-vehicle-loan/>



5. Zero Waste

This objective aims to prepare the ground for Scope 3 emission inclusion post 2030 and empower charges to take steps in preparation for this. We believe the principles outlined here of Reject, Reduce, Reuse, Recycle, Restore, provide a useful framework for churches to adopt.

Every year, over 92% of the 100 billion tonnes of materials that get used in the economy gets thrown away.⁵² This mass consumption of materials in the goods and services we use causes around half of global greenhouse gas emissions and contributes to over 90% of biodiversity loss.⁵³ In Scotland, around 80% of the nation's carbon footprint comes from the all the goods, materials, and services that we produce, use and throw away. Everything we buy as a church – be it the paper for service sheets, the cleaning products in our toilets or the computer screen for emails – they all have a carbon cost and a biodiversity cost.

We will need to take steps to reduce the impact from these products and services, moving away from a linear production model (where products are designed with planned obsolescence and produced via a 'make, use, dispose' production line) to a circular one (where the products are designed to be modular and repairable ensuring materials get recirculated).

To help make this transition the following five principles (adapted from the work of the Well-Being Economy Alliance) will help guide and empower charges.

- **REJECT:** *Question the status quo in your church, whether that be the products that are used, or the behaviours or norms that surround them. Understand some of the root causes of the climate and biodiversity crises and what impacts the products being used have on this. Reject any single-use plastics*

and question any products that do not provide clarity on their consideration of the extractive excesses involved in production and distribution. Reject items that have excess plastic packaging and waste.

- **REDUCE:** *When you must purchase products take steps towards reducing their use through efficiency or alternative approaches. Shift your purchasing towards products that are specifically designed within the mould of circular and regenerative processes.*
- **REUSE:** *Make use of products over and over (e.g., by refilling, repairing, repurposing, and returning); this may mean shifting towards the purchase of goods that have a longer lifespan considering durability, high energy-efficiency, quality and repairability. This will require moving beyond the initial purchase 'price' and instead making-decisions that review of the total life-cycle costs and ensuring climate justice is brought into the decision-making process. Where possible, you may wish to consider leasing products or purchasing second-hand goods that increase the economic value of these items by keeping them in use.⁵⁴*
- **RECYCLE:** *Whatever is left after it has been used, reused and repaired, should be returned to ensure that the materials and modules within the product can be recycled back into biological compost or technical reuse. All churches are recommended to have access to a local comprehensive recycling system and make full use of its facilities.*
- **RESTORE:** *Help protect the planet from the harm that has been caused to enable all ecosystems and communities to thrive. Take steps to ensure your church is part of the process of healing creation, enabling ecosystems to thrive. This means, taking a proactive nature positive approach (see*

⁵² Circle Economy, The Circularity Gap Report 2021 (Amsterdam: Circle Economy, 2022) [ebook], <https://www.circularity-gap.world/2021>.

⁵³ UN, "Facts and figures", 2022, [online] <https://www.un.org/en/actnow/facts-and-figures>.

⁵⁴ <https://www.circularcommunities.scot/map/>

Thriving Biodiversity section), acknowledging past harms and working towards the healing and restoration of creation.

Single-use Plastics: Scottish Government legislation means it is now against the law to commercially supply any of the following single-use plastics: cutlery (forks, knives, spoons, chopsticks and other similar utensils), plates, beverage stirrers, food containers made of expanded polystyrene, cups and lids made of expanded polystyrene as well as plastic straws and plastic balloon sticks. This also includes all single-use items made from plastic which is labelled as 'biodegradable' or 'compostable' that are discarded after one use. When considering alternatives, it is recommended that there are moves away from other single-use items due to the knock-on environmental impacts such as their associated carbon emissions, the damage to ecosystems as well as the additional pressures this places on water resources.

Monitor Water Usage: It is helpful to take steps to carefully monitor the water usage and make changes which minimise wastage.

PEG intends to produce further guidance on single-use plastics, floral foam, peat, recycling approaches (reflecting the disparate schemes across different local authorities) and monitoring water usage in a future update to the Net Zero Toolkit.

We look forward to working with the Liturgy Committee on the uncomfortable questions that were raised during in the consultation with regards to the plastics associated with communion wine transportation, candles, charcoal and incense use, as well as exploring best practice for another aspects of worship and formal rituals.

Prepare for Scope 3 Emissions: The majority of emissions associated with this 'supply chain' area are not included in the Net Zero 2030 definition. However, they are an important part of our longer journey towards net zero and highlighting some of these steps now can help prepare for broader inclusion of Scope 3 emissions post 2030.



6. Shared Governance

This objective aims to provide guidance on helping the church create the enabling conditions that allow this Net Zero Action Plan to flourish in a way that is transparent, credible and robust. This means having the appropriate level of coordination across the province with active monitoring of the various desired outcomes of this Net Zero Action Plan. It is hope that in doing so it will support the church in allocating suitable resources and support.

Calculating Carbon Emissions: Having a credible approach to net zero requires a standardised, transparent approach. So that charges have one place to go to easily calculate their annual carbon emissions, we intend to utilise the Energy Footprint Tool (EFT) from the Church of England as the tool which charges, dioceses and the province can use in order to monitor and report carbon emissions for Scope 1 & 2 emissions. This tool will also enable a charge to see how its annual energy consumption compares to other similarly sized peers, as well as the carbon emissions intensity per person hour. This tool will need to be complemented by new measures to report reimbursable travel at diocese level, enabling all emissions associated with our Net Zero 2030 target to be included.

Reporting Carbon Emissions: In order to increase transparency into how the church is working towards net zero by 2030, it is important to provide insight into carbon emissions in a transparent manner so that the approach does not say one thing and do another. PEG will therefore aggregate the data submitted by charges using the EFT and publish this at General Synod tracking progress annually and comparing this to our 2018 baseline. Dioceses are encouraged to report their annual carbon emissions at each diocesan Synod (also using aggregated data from the EFT), with each charge posting annual carbon emissions inside their church.

A simple A4 'poster' template to help charges with this will be developed by PEG.

Contextual Net Zero Action Plans: Whilst this plan provides a provincial approach to work towards net zero, it is advised that each diocese to create their own net zero action plan based on missional priorities and local context. To help support dioceses with this endeavour, PEG intends to produce a Net Zero Action Plan template later in 2023. The intention of this template will be to empower each diocese to leverage the resources, tools and approach provided by the provincial team helping minimise duplication of resources, tools and expenditures whilst empowering customisation of the approach taken. It is envisaged that a local Net Zero Champion is available to support diocesan standing committees in the creation of their contextualised net zero action plans. Having these plans then approved at diocesan Synods will help increase credibility and transparency. It is also recommended that with the help of the local Net Zero Champion, the top 25% energy-consuming charges in each diocese create their own Net Zero Action Plan – helping each charge to prioritise the difficult tasks that lie ahead and review how these fit with the priorities and mission of each church.

Lobbying Alignment: As part of the church's credible approach, any lobbying or advocacy work that the church engages in with the Scottish Government should align with the principles and objectives of our intent to work towards Net Zero 2030, thereby adhering to the recommendations set out in the UN Integrity Matters 2022 report.

By acting together with shared governance, the church can collectively hold itself accountable and be carbon credible. With robust, transparent monitoring and reporting in place we will be carbon credible, enabling the Scottish Episcopal Church to continue to be a voice for justice and hope.

Desired Outcomes: Shared Governance

O#	Desired Outcomes
O6.1	85% of charges complete Energy Footprint Tool returns on an annual basis by 2024, 100% by 2025 - posting annual updates inside church buildings.
O6.2	Initial Diocesan Net Zero Action Plans drafted and received at Diocesan Synod by 2024
O6.3	Top 25% of energy-consuming charges have contextual Net Zero Action Plan drafted by 2025, moving towards completing measures identified therein by 2030.
O6.4	PEG to publicly report aggregate province carbon emissions to General Synod on an annual basis by 2024.
O6.5	Making use of data from aggregated annual Energy Footprint Tool returns, dioceses publicly report diocese-level carbon emissions to Diocesan Synod annually by 2024
O6.6	Dioceses have net zero related working group in place by end 2023, with desired outcomes monitored by Diocesan Standing Committee from 2024
O6.7	PEG to review and update this Net Zero Action Plan (2023-2030) at least every 3 years (2026, 2029, 2032) presenting changes to General Synod.



7. Training & Education

This objective, implemented in conjunction with Church in Society committee and the Scottish Episcopal Institute, aims to create a competence of climate literacy across the organisation, enabling a deeper understanding of the systemic nature of climate change and its link to biodiversity loss. We intend to partner with Keep Scotland Beautiful on the roll-out of the carbon literacy programme from the Carbon Literacy Trust. We will also co-create with the Scottish Episcopal Institute updates to the IME programme. We will update the Net Zero Toolkit on an annual basis, provide new training webinars and resources as well as create a new area of the SEC website to be a central resource for all net zero information.

Climate Literacy Training: To address the urgent challenge to address the climate emergency and to understand the systemic nature of the climate system and its impacts, we need to enhance climate literacy. Being climate literate means having the deep knowledge and capacity required to create a positive shift in how live, work and behave in response to climate change. It a term used to describe an awareness of climate change mitigation and adaptation, and the climate impacts of the everyday actions that we all can participate in.

PEG, in conjunction with Church in Society committee, is partnering with Keep Scotland Beautiful to rollout training across the organisation using provincial funds. We encourage all senior leaders of the church to complete this training as soon as possible with representatives from all vestries invited to attend the training in 2024.

We will work with the Scottish Episcopal Institute to embed the fundamentals of climate literacy into the core of ministry training, complementing the existing eco-theology initiatives. Building on the work that started in 2021, the initial stage of this will be the inclusion of an 'Introduction to Net Zero' training within IME1 (Initial Ministerial Education 1) during Orientation Week 2023 with the longer term 'Greening the curriculum' via IME1 starting from 2024. The programme will also explore the inclusion of 'climate anxiety' training in order to help sustain clergy well-being as well support them as they engage in pastoral care related to the climate emergency.

New resources: website, webinars, templates and case studies: PEG, in conjunction with the Net Zero Delivery Director, will provide a set of webinars around the core areas of focus for the Net Zero 2030 objectives, helping educate and inform vestries of the various steps and options available to them. This will complement the other resources, including updated to the Net Zero Toolkit, listings of funding streams and templates for Heating Resilience Plans, Net Zero Action Plans and project management.

PEG will also work with the Director of Communications in the General Synod Office on a new website area dedicated to this Net Zero Action Plan. Finally, a range of case studies with regards to various heating and insulation solutions will be created, which describe different use cases, lessons learnt, providing practical advice and confidence to charges providing more confidence on viable pathways forward.



8. Rooted Worship

This objective, implemented in conjunction with the Faith and Order Board, Liturgy and Doctrine committees and the SEI, aims to create a stream of work that embeds the fifth mark of mission more fully in liturgy, rituals, and all forms of worship. This mission is integral to all our preaching, liturgy, worship, and prayer for it recognises the importance of creation as a sacred living gift.

“The climate emergency is not just a physical crisis – it is also a spiritual one.” As the Call for the Environment at Lambeth Conference in 2022 outlined: “We must see the world differently: repenting of and rejecting an extractive world view, which regards the earth and all nature as something to be exploited, and embracing a relational worldview, espoused especially by indigenous peoples, which sees the profound interdependence of all creation.”

As a diverse province, there are many opportunities for creative and imaginative ways of praying and bringing attention to this aspect of our communal mission. There is a great opportunity to engage all ages, and to celebrate creation in new ways, whether that be at harvest-time, in the waxing and waning of the seasons or worshiping in places outside of our physical buildings.

Creationtide: The ‘Season of Creation’ has been introduced into our liturgical calendar to reflect the commitment of our church to respond appropriately to the global climate

crisis. Liturgy for experimental use has been introduced to support this season. However, whilst this provides a month’s focus on creation and climate issues, the fifth mark of mission requires discipleship in action every day. Care for creation must surely break-out of this monthly straitjacket to transmute into a multitude of forms.

Some charges may wish to place a particular emphasis on healing what has been damaged, others on providing a space to process climate grief, others to transform climate anxiety, whilst all will likely rejoice in celebrating creation, directing worship towards stimulating its protection. All these approaches help the church to translate the fifth mark of mission into everyday practice.

SEI Curriculum: Many educational and theological materials around climate change and Christian ecological responses exist, and study groups (around Advent and Lent) can allow congregations to engage in deepening their understanding. PEG is currently exploring with the SEI ways to develop the curriculum to address some of the above approaches within the Initial Ministerial Education (IME) 1 & 2 programmes, including the inclusion of ‘climate anxiety’ and ‘climate grief’ within IME2 by 2025/2026). As part of this, there is also potential to develop connections utilising the knowledge and practice of the Climate Psychology Alliance.



9. Positive Finances

This objective aims to support charges to access the financial resources needed to transition to net zero. This will come through maximising Scottish Government funding, expanding the Provincial Building Grants Fund, providing up-to-date listing of all net zero related grants and having local Net Zero Champion assist charges with navigating the complex funding processes. We intend to explore the provision of a pooled purchasing programme with partners and will create a credible carbon offset strategy by 2025.

Maximise Grants: There are currently two significant funding streams that are available from the Scottish Government which provide financial help to implement measures outlined in this Net Zero Action Plan. These are the Community And Renewable Energy Scheme (CARES) (which covers up to 80% of the total cost for heat pumps up to a maximum £80K via the Let's Do Net Zero: Community Buildings Fund)⁵⁵ and Business Energy Scotland (with a £100k 8-year interest free loan with up to 75% of total costs up to a maximum of £30k available via cashback for eligible measures per independent charity)⁵⁶. We intend to continue to lobby government to keep these funding streams in place via the Scottish Churches Parliamentary Office, the Net Zero Subcommittee as well as through our membership of Stop Climate Chaos Scotland.

Expand Provincial Grants and Loans: To support charges with match-funding opportunities for energy efficiency measures and support for the installation of appropriate zero emissions heating systems PEG has recommended to Standing Committee that the Provincial Building Grant Fund is significantly expanded with a ring-fenced annual allocation of funds to help charges with such work. However, it is recognised, that for the larger churches and cathedrals, additional funding will likely be needed to complement this, especially to install an

appropriate scale zero-emissions heating solution.

Funding database: A listing of all grants and foundations offering support for net zero measures will be included in the Net Zero Toolkit updates. It is expected that in some cases, depending on the financial resources of the charge, fundraising campaigns will likely be needed to complement this.

Pooled Purchasing Programme: PEG will explore the possibilities of a pooled purchasing programme with other faith-based organisations by end of 2024, to review what options there are to join with others to get reductions in unit pricing with suppliers for various products, services (including engineering and installation) and tariffs.

Create a Carbon Offset Strategy: In order to create a credible carbon offset strategy, we will need to carefully consider credible, verified carbon offsets - ones that reduce emissions in an effective and verifiable way based on a science-based approach. Given the contested and complex nature of carbon offsets, criteria such as additionality, permanence, independent verification, and leakage will be considered as well as what opportunities there are to combine with rewilding and biodiversity regeneration. In this regard, we welcome the suggestion to review the restoration of a Scottish peatbog as part of this work. We intend to be guided by a number of independent approaches, including 'The Oxford Principles for Net Zero Aligned Carbon Offsetting' (2021) which state that a credible net-zero aligned-offsetting strategy should "prioritise reduction of your own emissions first" whilst ensuring "the environmental integrity of offsets you use and disclose how those offsets operate".⁵⁷ PEG intends to publish a Carbon Offset Strategy in 2025. In the meantime, we believe efforts should be focused on approaches that reduce absolute carbon emissions.

⁵⁵ <https://localenergy.scot/funding/lets-do-net-zero-community-buildings-fund/>. Please note, a match-fund of 20% is required.

⁵⁶ <https://businessenergyscotland.org/smelan/>

⁵⁷ <https://www.smithschool.ox.ac.uk/research/oxford-offsetting-principles>



10. Build a Movement

Whilst the previous nine objectives are focused on the actions that the church can take to address the emissions associated with its operations, this objective recognises the influence the church can have across our congregations and that we are more effective when we join hands with others. The intent of this objective therefore is to build a movement of change, playing our role as an important node in an ecosystem of changemakers across Scotland.

Congregational Engagement: The elephant in the room may well be how the church engages with all communicants in a positive, helpful manner with regards to the lifestyle changes that are needed to address the climate emergency. Our net zero definition does not include the personal carbon emissions from members of our congregations.

However, recognising the influence the church can have to contribute towards broader cultural change, PEG in partnership with Church in Society committee, intends to create a congregational engagement strategy via the roll-out of an aligned third-party programme by 2024. We are excited by the possibility that this offers along with the potential for working with the Inter Faith Relations Committee (IFRC) on ecumenical and interfaith partnerships. As part of this, we will review the Climate Conversations (being implemented by the Scottish Communities Climate Action Network), the new 'Living with

the Climate Crisis' (developed by Climate Psychology Alliance) as well the *Plenty!* Course (developed by Green Christian's Joy in Enough project). Longer term, this area of work will combine with the objectives outlined in the Rooted Worship and Climate Literacy core objectives, creating groundswell of support for change – also embracing the arts, music and sharing our stories as powerful methods of engagement to effect change.

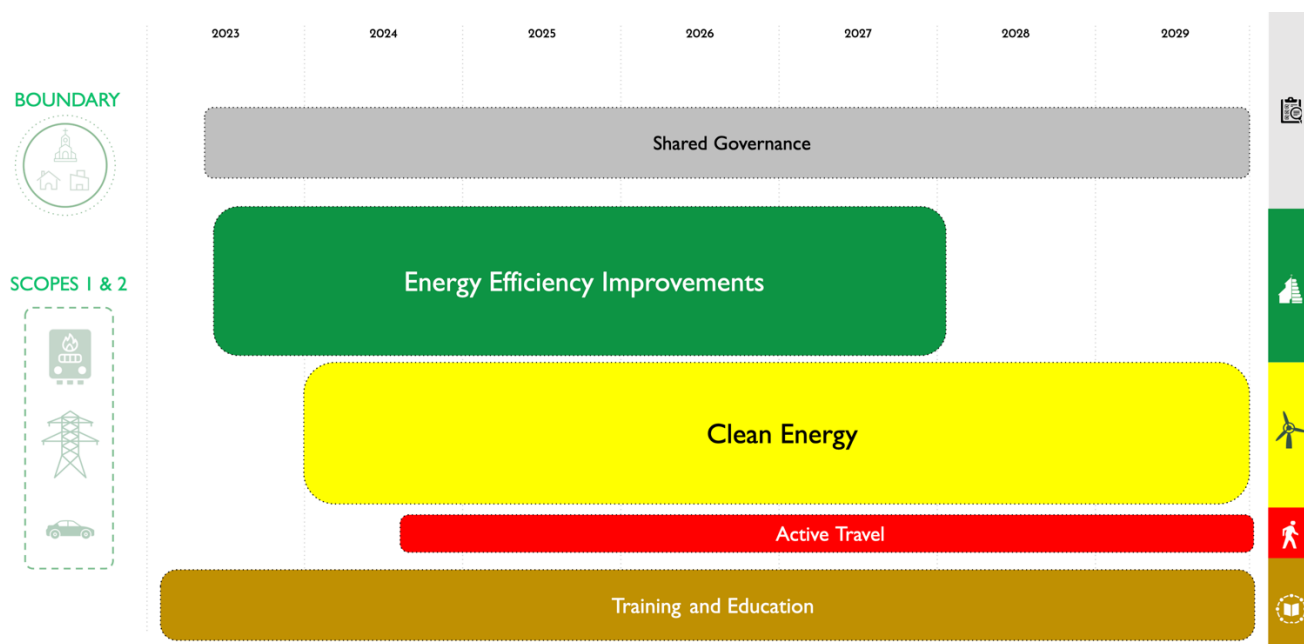
Broader partnerships: This last objective aligns our work with a broad coalition of actors calling for change in our national and international democratic institutions, to enact the required legislations to address the climate emergency with urgency, credibility and integrity. We will do this by energising our current partnerships with the Scottish Churches Parliamentary Office, the Scottish Churches Net Zero Subcommittee, Eco Congregation Scotland and Stop Climate Chaos Scotland (SCCS) amongst others.

Amplify Climate Justice Campaigns: We believe climate justice is central to the mission of the church. We will therefore maintain our voice as a member of the Anglican Communion Environmental Network, Christian Aid, Stop Climate Chaos Scotland and Tearfund as well as develop new engagements with partnerships such as Friends of the Earth Scotland and The Climate Coalition.⁵⁸

⁵⁸ <https://www.theclimatecoalition.org>

6. Moving forward: prioritisation and focus

Given the specific scopes of activities and boundary of our net zero 2030 definition, we advise all charges give initial focus on Energy Efficiency Improvements, Clean Energy, Active Travel, Shared Governance, and Training & Education. We believe it is a focus in these areas that will have the most impact on absolute emissions reductions and ensure that the church's approach concords with the high-level goals outlined earlier. We hope that the 16 Desired Outcomes will help focus energy towards these intents and enable the church to work towards achieving its ambition of net zero 2030. The ten core objectives outlined here, along with the focus on the 16 desired outcomes, will be made available inside the forthcoming update to the Net Zero Toolkit – this being the resource to enable charges to translate these objectives and desired outcomes into practice.



Focus for 2023-2030

Implementing the full set of recommendations outlined in this Net Zero Action Plan (2023-2030) affirm the objectives of the motions passed at General Synod 2021 which called “on the Standing Committee of the General Synod to put in place appropriate structures to enable action at provincial level” as well as “on Dioceses to put in place appropriate structures to enable action at diocesan level.”⁵⁹ It is a plan that requires the whole body of the church to come together, realising discipleship, justice and hope in practice.

⁵⁹ Motion 16 & 17, GS 2021.

Appendix One:
Estimate of anticipated implementation costs
for Net Zero Action Plan (2023-2030)

Appendix One provides an illustration of how the anticipated implementation costs of the Net Zero Action Plan (2023-2030) may be funded. It is intended to provide high-level guidance and should be considered as a document for further discussion. A summary of the suggested costs as well as the assumptions that underpin them are as follows:

PROVINCIAL-LEVEL FUNDING

- **Training, workshops and EFT licensing:** Training includes license from Carbon Literacy Trust as well as cost of training internal 'train the trainer' champions. Net Zero Workshop includes estimated cost of customising and rolling out Heathack programme and associated cards along with training Local Net Zero Champions and alignment of programme with SEC. Carbon emissions monitoring and reporting tool (EFT) licensed from Church of England, of which £10k is a one-off set-up fee, and a yearly hosting fee of £2500.
- **Local Net Zero Champions:** Assumes yearly base salary of £38k + 32% pension + 10% NI = £56.8k. It is suggested that the province contribute a 50% co-fund toward the finances required for these roles, with an anticipation that the remaining contributions be reviewed in conjunction with dioceses with the exact allocations determined based on the workload associated with the number of buildings in each area as well as the geographical distribution.
- **Heritage Energy Expert:** Assumes a base salary of £42k + 32% pension + 10% NI = £59.6k and is a (to be proposed) co-funded role with an ecumenical partner such as Church of Scotland. These are indicative costs and PEG will also seek funding support for this role from Historic Environment Scotland.
- **Rectory Green Fund (co-fund):** To provide a) 50% of funding (in partnership with each diocese) up to a total of £10k for insulation measure per rectory that houses stipendiary clergy and b) 100% of funding for charges to obtain EPC's for rectories.
- **Expansion of Provincial Buildings Grant Fund:** Assumes 50% of charges require funding assistance for zero emissions heating systems capital expenditures. This ring-fenced expansion of the Provincial Buildings Grant Fund aims to support the 20% match fund for CARES heat pump installations (see line item below) as well as a grant of £25k per eligible charge to support radiant heating installations for those adopting a heat-the-people radiant heating strategy. Estimates based on modelling of installations over the next eight years and assumes 1/3rd charges adopt a heat-the-people approach. Further refinement needed as more data is provided on buildings and the level of financial support needed. Criteria for grant award to be developed by PEG in conjunction with Net Zero Delivery Director, Provincial Administration Board (Buildings Committee and Buildings Grants Group).
- **Active Travel Fund:** From 2023-2028 provides up to £1500 direct to stipendiary clergy to move across to active forms of travel and would be applicable to those retiring fossil fuel vehicles and replacing those vehicles with a bike, an electric bike, electric car, or a wall unit to charge an electric car.

DIOCESE-LEVEL FUNDING

See figures above for 50% co-fund for both the Rectory Green Fund and suggested Local Net Zero Champion roles.

GOVERNMENT SUPPORT

- **CARES heat pumps / renewable grants:** These grants provide 80% of costs up to a maximum of £80k per independent charity. This line item assumes £60k of support is offered per charge for the number of installations estimated over eight years.
- **CARES energy efficiency measures grants:** assumes support of £20K grant is obtained and is calculated by aligning this with the number of energy efficiency engagements per year.
- **Business Energy Scotland Loan Scheme:** This is not related to BES loans per se, but an indicative amount associated with the offers of 75% cashback provided by the scheme up to a maximum of £30k. The calculations here assume max £10k heat pump + £20k energy efficiency measures and is tied to the annual conversations modelling.
- **Listed Places of Worship Grants Scheme (VAT):** Assumes 5% of total grant costs can be claimed back via this scheme and is associated with the number of conversions and costs in the modelling.
- **Free Energy Audits from Business Energy Scotland:** assumes value of £470 per audit, based on Church of Scotland The Better Heating Scheme audit cost. This does not make any assumption that the quality of BES funded energy assessments matches the quality/depth of these audits but is an indicative cost to estimate value.

ESTIMATED ANNUAL COST SAVINGS ACROSS PROVINCE

- **Annual energy savings for charges:** Annual energy reduction in charge church/halls energy bills from energy efficiency measures (note: currently based on estimated 2022 figures and does not reflect 2023 increases). This assumes a conservative 25% saving from existing energy bills from Energy Demand Reduction and Energy Efficiency improvements.
- **Annual energy saving for clergy:** Rectory energy bills (reduction in clergy energy bills as a result of efficiency measures (insulation) carried out as part of Rectory Green Fund (note: currently based on estimated 2022 figures and does not reflect 2023 increases). Independent estimates suggest £570 per rectory, whereas £500 used here.
- **Estimated Carbon Offsets Charges from 2030:** These savings represent the indicative costs of purchasing voluntary carbon offsets related to the 2018 baseline (buildings estimate only) and assumes no action is taken on absolute carbon emission reductions. The estimated cost (high uncertainty) of \$70 per tonne of Co2 in 2030 is based on data from International Energy Association (IEA) + Trove Research. There are estimates for high quality voluntary carbon offsets of up to \$300 per tonne. 2023 figures for low quality carbon offsets are significantly lower.

OTHER:

- These costs do not include the existing Net Zero Delivery Director approved by Standing Committee in 2022.
- Costs assume continuation of Government grants beyond March 2025 which is not guaranteed. Also assumes charges understand the good utilisation rates required in buildings to access CARES government funding. There is a risk that there is not sufficient availability of professional engineers or contractors available - in particular for the burgeoning field of appropriate and well-designed systems for heat pumps installations which may risk delay to projects and increase costs. Note Scottish Heat Pump Sector Deal Expert Advisory Group recommended that Scottish Government “increase the funding available through loans and grants to support heat pump installation and provide multi-year certainty on the availability of this funding”.⁶⁰
- Annual cost savings for the period 2030-2040 are estimated at £11.4m (£6.6m from charge energy bill reductions, £625k for rectory energy bills reduction and £4.4m for carbon offset reductions (assuming no action is taken on absolute carbon emissions reduction).

⁶⁰ <https://www.gov.scot/publications/heat-pump-sector-deal-expert-advisory-group/pages/3/>

Appendix One: Estimate of anticipated implementation costs for Net Zero Action Plan (2023-2030)

	2023	2024	2025	2026	2027	2028	2029	2030	TOTALS
	£'000	£'000	£'000	£'000	£'000	£'000	£'000	£'000	£'000
<u>PROVINCIAL-LEVEL FUNDING</u>									
Climate Literacy Training, Net Zero Workshops and EFT icensing	31	17	15	13	13	13	13	13	126
Local Net Zero Champions x 5 (suggested co-fund)	135	139	143	147	152	156	161	166	1,200
Heritage Energy Expert (co-fund)	30	31	32	33	34	35	36	37	265
Rectory Green Fund (co-fund)	40	80	101	126	106	75	50	50	628
Expansion of Provincial Buildings Grant Fund	73	125	250	375	375	463	500	163	2,323
Active Travel Fund	8	24	30	30	30	30	0	0	152
Total Provincial Investment	316	416	570	724	709	772	760	429	4,696
<u>DIOCESE-LEVEL FUNDING</u>	£'000	£'000	£'000	£'000	£'000	£'000	£'000	£'000	£'000
Local Net Zero Champions x 5 (suggested co-fund)	135	139	143	147	152	156	161	166	1,200
Rectory Green Fund (co-fund)	40	80	101	126	106	75	50	50	628
Total Diocesan Investment (across all seven dioceses)	175	219	244	273	257	232	211	216	1,828
<i>Per Diocese Indicative Annual Investment (illustrative only)</i>	25	31	35	39	37	33	30	31	261
<u>GOVERNMENT SUPPORT</u>	£'000	£'000	£'000	£'000	£'000	£'000	£'000	£'000	£'000
CARES heat pumps / renewable grants	180	600	1,200	1,800	1,800	2,100	2,400	900	10,980
CARES energy efficiency measures grants	300	500	700	900	1,100	900	700	500	5,600
Business Loan Scheme 75% cashback	330	600	900	1,200	1,400	1,250	1,100	650	7,430
Listed Places of Worship Grants Scheme (VAT)	41	85	140	195	215	213	210	103	1,201
Energy Audits from BES	18	31	47	63	73	68	61	33	394
Scottish Government Grants Unlocked	868	1,816	2,987	4,158	4,588	4,531	4,471	2,185	25,604
Total investment realised, £'000	1,359	2,451	3,801	5,155	5,554	5,534	5,443	2,830	32,128
<u>ESTIMATED ANNUAL COST SAVINGS ACROSS PROVINCE</u>	£'000	£'000	£'000	£'000	£'000	£'000	£'000	£'000	£'000
Annual energy savings for charges	35	94	177	283	413	519	602	661	2,786
Annual energy saving for clergy	4	12	22	35	45	53	58	63	290
Estimated Carbon Offsets Charges from 2030	0	0	0	0	0	0	0	420	420
Total Annual operational cost savings	40	107	200	318	459	572	660	1,144	3,496