



Diocese of Portsmouth Carbon Net Zero Action Plan V1.0 (for Diocesan Synod) 4th November, 2023

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General Synod made the following decision in February 2020:

That this Synod, recognising that the global climate emergency is a crisis for God's creation, and fundamental injustice, and following the call of the Anglican Communion in ACC Resolutions A17.05 and A17.06:

- a) Call upon all parts of the Church of England, including parishes, BMO's, education institutions, diocese, cathedrals and the NCIs, to work to achieving year-on-year reductions in emissions and urgently examine what would be required to reach net zero emissions by 2030 in order that a plan of action can be drawn up to achieve that target;
- b) Request reports on progress from the Environmental Working Group and the NCIs every 3 years beginning in 2022; and
- c) Call on each Diocesan Synod and cathedral Chapter to address progress towards net zero emissions every 3 years.

The Church of England Environment Programme published The Church of England Routemap to Net Zero Carbon by 2030, which was approved by General Synod in July 2022.

Portsmouth Diocesan Synod ratified the General Synod's challenge.

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Forward

This Net Zero Carbon (NZC) action plan sets out our initial response to the Church of England's challenge to be Net Zero Carbon by 2030.

It is no doubt that we are late to the table compared to some Dioceses, however we are still on target to meet the initial requirements, of which approval of this document is a key part. All credit to David Cain, our recently appointed Diocesan Environmental Officer, in making this significant piece of progress in a short period of time.

This document should be seen as our first step within the required Church of England NZC framework, but it doesn't mean that we haven't already been doing considerable groundwork within the DAC (Churches), Property team (Parsonages and Vicarages) and of course many Parishes, the latter encouraged by the Bishops environmental group.

Our plans for 2024 build on this, we will be sharing a NZC Programme Manager with the Dioceses of Guildford and Chichester and we will be directly employing a Project Support Officer, to provide the necessary resource to David to pursue these aims. It is the intention that these positions will be funded by Church of England Net Zero Carbon grant support.

We will build out this document, and the data within, on a regular basis and report progress to Bishops Staff Team, Bishops Council and Diocesan Synod, your input and attention will always be much appreciated.

In the meantime, in order to meet the required timescales, we would very much like you to welcome and adopt this Net Zero Carbon Action Plan today and support its aims and progress in the coming years.

Philip Poulter

Interim Diocesan Secretary.

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Introduction

The Church of England currently has a target to be net carbon zero by 2030. This includes its 16,000 churches and 4500 church schools. There are 170 church buildings within the Diocese of Portsmouth and the Portsmouth & Winchester DBE is working with some 150 church schools across both diocese. This will be a difficult task to accomplish, but with an action plan in place, it will be possible to break this overarching target into smaller targets. Some are 'quick wins', such as implementing a maintenance strategy, others are larger targets to work towards, such as using renewable energy.

In scope are churches and church buildings, the cathedral, diocesan office and clergy housing. Our church schools are not in this action plan as they are being considered within a separate plan for voluntary aided church schools which is being addressed by the DBE across both the Portsmouth and Winchester diocese.

This Net Zero Action Plan (NZAP) will break down the goals needed to achieve Net Zero into three categories, short-term goals, medium-term goals and long-term goals.

While there are many who may want push for the bigger strategies of Net Zero straight away, such as installing Solar Panels or Heat Pumps, without the shorter-term strategies, like the implementation of an annual maintenance plan, a true zero carbon future will not be achieved.

There are a couple important factors to remember when trying to make a church zero carbon. Firstly, it is not enough to install solar panels, appropriate insulation and LED lights. We need to change our behaviour in the way we use our buildings, a more efficient use of our buildings will increase the energy efficiency of our churches and work towards zero carbon, this is part of the holistic approach. Secondly, the retrofit of our church buildings must be responsible, this means making sure the roof is structurally able to support solar panels, that if insulation is suitable to be used then it is an appropriate breathable insulation. There is no point irresponsibly retrofitting a church as this can cause damage to the historic fabric and cause further problems such as damp that work against the zero-carbon strategy, and will lead to the need for expensive repairs and new more responsible retrofit strategies in the future.

In this action plan short, medium and long term are:-

- Short term: 0-2 years, start implementing these policies now (especially maintenance) and have them completed by 2025
- Medium term: 2-4 years, start implementing these policies in 2 years, have them completed by
- Long term: 5-7 years, start implementing these policies in 5 years, have them completed by 2030.







Important Points to Consider

The bullet points listed below are important points to consider when using this NZAP for your church.

Every building is unique.

- This is not a one size fits all approach, every building is different and some of the suggestions within the NZAP may not be appropriate for every church.
- Church size isn't everything, while there is a correlation between the size of a church and its carbon output, this doesn't mean that every small church can stop at short term actions. High use small churches will most likely need to implement some of the policies in the medium term and even long term goals. In essence, a high use church should act as though it were the next size up. For example, a high use small church should be a medium church in the NZAP.

Maintenance, maintenance, maintenance!

• Maintenance is everything, it should continue throughout the journey to net zero and continue long after it is achieved. Only through maintenance can net zero churches post-2030 be sustained. It does not stop just because net zero is reached.

Energy Footprint.

• By 2024 it is hoped that all churches will complete the Energy Footprint tool (EFT). Currently, only 20% of the parishes in the diocese are completing the data but greater engagement will enable the diocese to look more comprehensibly at which churches have the largest carbon footprint. This will also unlock potential grants for projects in the drive towards net zero. In October 2023 it was announced that £30m as being set aside to help churches with NCZ. Dioceses, parishes and schools can now take advantage of the first round of grants from the Church of England's Net Zero Carbon Programme, made possible by funding from the Church Commissioners. The importance of engaging with the EFT is paramount to unlocking these grants as nationally the 600 churches with the highest energy use will have access to fully funded energy audits, which come with small grants to create action plans and kickstart initial green projects. A further 1,000 churches will be able to apply for subsidised audits. The programme will also offer Quick Wins grants for small scale work in churches such as installing LED lighting or alternative heating solutions.

Eco Church

• All churches are encouraged to engage with Eco Church as a way of demonstrating their commitment to God's creation and the fifth mark of mission. It is designed to equip churches to express their care for God's world in their worship and teaching; in how to look after buildings and land; in how to engage with the local community and in global campaigns, and in the personal lifestyles of members of the congregation.

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The actions taken will count towards the Eco Church awards at Bronze, Silver or Gold level. The church of England Route Map to Net Zero highlights the following milestones:-

By the end of 2023

All Cathedrals to achieve bronze award. 10% of churches registered with Eco Church and 5% of them achieving the bronze award.

We are on track with this. Our cathedral achieved this in 2016 and currently we have 56 churches registered (33%) with 25 churches at bronze level or above (15%)

By the end of 2026

40% of churches registered with Eco Church with 30% awarded bronze (with a third of these at least at silver)

By the end of 2029

All churches achieve gold standard.

What is in scope

The Church of England defines Net Zero Carbon as the reduction, as far as possible, of all in scope carbon emissions (from the oil, gas and electricity used in our buildings, and petrol and diesel transport) and the removal of an equivalent amount of carbon from the atmosphere for the remaining in-scope emissions by use of accredited offsetting schemes.





In Scope

Building emissions from oil and gas heating:

churches & church buildings;
cathedrals; housing;
offices; training institutes;
schools over which the Church has significant influence
Business travel in owned petrol/diesel vehicles

Generation emissions from the electricity we use to run our buildings

Business travel in non-owned transport

Out of Scope (but which the church aims to missionally Influence)

Commuting
Congregation travel
Staff and clergy family lifestyles
Church Members' Emissions
Emissions from school buildings over which the Church has little influence

In Scope (but only after NZC is achieved)
Purchasing, Waste, Water, Contractors, IT & Air conditioning gases

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Short Term: Quick Wins

Going net zero can feel like a daunting task, but with quick wins, like the ones listed below, cheaper, quicker changes can be made which will give instant benefits, this is the best place to start on the road to net zero.

- Regular church maintenance, especially roofs and rainwater goods, should be the first thing to do to achieve net zero. Remember: A damp church is a cold church, if a church is cold it will not run efficiently. Guidance on maintenance and maintenance plans can be found on the Diocese website.
- Deal with draughts from windows and doors to aid heat retention, please note that historical buildings (pre-1919) need adequate ventilation to breathe and prevent damp, please seek advice from your inspecting architect and refer to the advice available from Historic England or the Society for the Protection of Ancient Buildings before draughtproofing a church.
- Where it is suitable, replace existing light fittings with LED lights.
- Change behaviour, turn heating systems off 15 minutes before a service ends, match heating times to usage of the church, and switch off appliances not in use.
- If possible, switch to a 100% renewable energy tariff.
- If affordable, replace old appliance with A+++ appliances.
- Install a smart-meter so you can monitor energy usage.
- Where applicable, insulate heating pipes and systems.
- Add anti-freeze and anti-sludge filters to radiator systems.
- Clean and dust heater units once a year, preferably before the winter season.
- If internet is available in the building, consider installing a HIVE- or NEST-type heating controller to better control the heating.
- Consider moving service and meeting times to suit seasonal weather, for example, move the service to afternoon in winter when it is warmer, if this cannot be done, politely request that the congregation wear suitable clothing.
- During winter months, consider moving PCC meetings elsewhere so as not to expend energy heating the church.
- Use the Energy Footprint Tool as part of the Parish Returns.
- When felling a tree in the churchyard, plant another one in its place or through a scheme such as the Woodland Trust.
- Consider the biodiversity of your churchyard, is there space for wildflowers to grow? Can it be a safe habitat for God's creations? Be careful about what grows here, native species should be the only plant life to grow, and avoid using chemicals in the churchyard.



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Medium Term: What's Next After the Quick Wins?

After implementing the quick wins to chip away at the carbon footprint, further thought should be given to the next stage. A small church may find that it has significantly reduced its carbon footprint and potentially, will not need to do a huge amount of work to offset the rest of the carbon emission. Keep in mind though, that only 15 churches out of the 170 in our Diocese are classed as small, so for the majority there are a lot of medium and long-term ideas to consider.

- If there is easy access to an uninsulated roof void, consider insulating it, consult with your inspecting architect or surveyor beforehand as some roof materials are inappropriate for insulation. In most cases this will require faculty permission.
- If the draughts coming from the door have not been solved with a draughtproofing method, consider installing a glazed door within your porch, such work will need a faculty especially if the building is listed.
- Consider partitioning off a portion of the church for small events and services that can be separately heated. For example, is there a chapel or a chancel that could be used rather than the main church? Glazed panels could be used to form an effective heat barrier and not greatly affect the aesthetic value of the church. Advice should be sort from your inspecting architect or surveyor and a faculty may be needed for such interventions.
- Install a TRV (Thermostatic Radiator Valve) on radiators in offices and meeting rooms so they can be controlled individually.
- Improve the control of heating zones, so that only the used areas are heated, this can be done through a HIVE or NEST system.
- Consider under-pew electric heaters or infrared radiant panel heaters, so specific portions of the church can be heated where people will be and not waste energy heating the whole church. Again, advice should be sort from your inspecting architect or surveyor and a faculty may be needed for such interventions.
- Consider motion sensors for lights in the church, kitchen, and WC that will automatically turn on if visitors come in, and will turn off if they leave.
- Install a Savawatt on fridge or other large appliances.





Long Term: The Final Push for Net Zero

Many churches with a low to medium energy use will have cut their carbon usage significantly by this stage and as such will not need to consider all of the proposal in the long term category. These are for large churches and medium churches with a high use. Please note that these are more expensive, intrusive projects and the positive effects may not be immediately seen, they also release carbon in their implementation so be mindful of this. Finally, all of the projects listed below will require advice from your inspecting architect or surveyor and consultation with the DAC, and will most certainly require a faculty.

- If there is an open-tower void, insulate or draught-proof the tower ceiling.
- Double-glaze or secondary-glaze any suitable windows in frequently used areas such as offices, vestries and halls.
- Internally insulate frequently used areas such as offices, vestries and halls, this will require suitable insulation e.g. if the walls are stone, breathable insulation will be required. Inappropriate insulation will cause damp.
- If there are cavity walls (typical of post 1919 buildings) then insulate the internal cavity with appropriate insulation.
- If there are pew platforms, insulate under the platform with breathable materials.
- If appropriate, reinstate ceilings and insulate above.
- Install a new LED lighting system with new fittings and controls.
- Install solar panels (Photovoltaic panels) on either an appropriate roof or open free space within the curtilage of the church. If installing on the roof, make sure it is structurally sound to take the weight of solar panels.
- Consider the use of an air or ground source heat pump, whilst a ground source heat pump is more expensive to install, an air source heat pump is much less efficient and if not on a renewable energy tariff it will still need fossil fuels to run, unlike a ground source heat pump.
- If there is a plan for re-ordering work on a floor, consider if installing underfloor heating at the same time, which will work very well in tandem with a heat pump, is an appropriate step.
- consider installing EV charging ports for electric cars, this will work very well in tandem with solar panels or a renewable energy tariff.





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Clergy Housing

The Church of England's Routemap to Net Zero Carbon sets the following targets as applied to clergy housing:

4.4 Clergy housing and retired clergy housing

This section considers our clergy housing (owned by the dioceses), Bishopric housing and offices and retired clergy housing (in the care of National Church Institutions) as outlined in the Scope. It is noted that the Channel Islands can only apply influence over housing (since rectories belong to the secular parishes on behalf of the rateavers).

	Milestone	Date
4.4.1.	National: Develop a Practical Path to Net Zero Carbon for Clergy Housing.	2023
4.4.2.	Housing Management: All dioceses and the NCIs to have retrofitting and maintenance plans in place. These should include a Heating Resilience Plan which should consider how to manage heat should the existing system fail to avoid needing a quick like-for-like fossil-fuel replacement.	2023
4.4.3.	Dioceses: All dioceses to have commissioned stock surveys such as EPC+ reports for at least a representative sample of clergy housing.	
4.4.4.	Housing Management: All dioceses, the NCIs and the Pensions Board to have run switching campaigns to encourage occupiers to switch to 'green' electricity and, having reviewed options to replace fossil fuels, any building remaining with gas heating should be encouraged to switch to green gas tariffs at the point of contract renewal*, based on national advice about the criteria to apply. * Timing to be kept under review, depending on stabilisation of the energy markets.	2024
4.4.5.	Dioceses: All dioceses to have stock improvement plans in place, having regard to the timing of when properties become vacant. The plan should make reference to the Practical Path to Net Zero for Clergy Housing (Milestone 4.4.1) and actively consider implementation of 'quick wins', how to decarbonise heat and how to reduce energy consumption.	
4.4.6.	National: All See houses and bishops' offices have energy-efficient lighting installed throughout (interior and exterior) with light and motion sensors where appropriate.	2025
4.4.7.	National: The NCIs to install or upgrade roof and cavity wall insulation, where feasible, to See houses and offices.	2026
4.4.8.	Housing Management: At change of occupancy, and no later than 2030, install smart meters to assist with monitoring and management of energy consumption.	2030

There are two targets to be achieved by the end of 2023.

- 4.4.3 Diocese: All diocese to have commissioned stock surveys such as EPC+ reports for at least a representative sample of clergy housing.
- 4.4.4 Housing Management: All diocese and the NICs to have retrofitting and maintenance plans in place. These should include a Heating Resilience Plan which should consider how to manage heating should the existing systems fail to avoid needing a quick like-for like fossil-fuel replacement. All dioceses to have commissioned stock surveys such as EPC+ reports for at least a representative sample of clergy housing.

We hold stock condition surveys in the form of our ongoing quinquennial inspection program, and we have EPC's on all of our housing stock.

The table below shows the current EPC's rating for our housing stock:

		, <u>_</u>
Number of Properties	EPC Rating	Percentage of Properties
1	Α	0.77%
6	В	4.65%
46	С	35.66%
61	D	47.29%
15	E	11.63%
0	F	0.00%
0	G	0.00%
129		100%

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Whilst over 80% of clergy houses have an EPC rating A-D, it should be noted that only about 40% of our properties achieve an EPC rating of C or above. Whilst the EPC is not an indication of achieving net zero carbon emissions it does give an indication on how energy efficient the property is using a standard formula. It has been widely reported that the proposed date for requiring all domestic let property to achieve a Band C (2027) is to be abandoned by the current government but band C remains a reasonable target to be achieved for all housing.

The Diocesan Surveyor has worked with the Church Commissioners and the Pensions Board and we have been successful in obtaining a grant of £11,250 from the Church of England Environmental Program to cover the cost of carrying out a full surveys and analysis of 15 of our properties. This represents about 12% of our housing stock. We have chosen a mixture of house types and ages.

This work, together with similar work being carried out on the Church of England Pension Board properties and in the dioceses of Exeter, Birmingham and Sheffield, should provide a detailed assessment of houses similar to our housing stock.

The Diocesan Surveyor hopes that extrapolating this data to our other housing should provide a detailed works program to achieve net zero emissions.

The commissioned surveys, which it is hoped will be available before the end of 2023, will provide the following information:

Retrofit assessments; including reduced data SAP* (EPR), condition survey, occupancy survey and data output including costs of improvements compared with an estimate in the carbon emission reduction.

Modelling of properties in SAP - produce options evaluation and retrofit coordination report.

The Diocesan Surveyor has prepared a draft Heating Resilience Plan for clergy housing to meet the requirements of the Routemap. This is currently being considered by the Property Sub-Committee.

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The Standard Assessment Procedure (SAP) is the methodology used by the government to assess and compare the energy and environmental performance of dwellings. Its purpose is to provide accurate and reliable assessments of dwellings that are needed to underpin energy and environmental policy initiatives.

Work with our church schools

Whilst the VA schools across the diocese are not within the scope of this action plan, there is much work being done to work toward CNZ.

Children and young people in our church schools continue to be engaged in a wide range of ecology projects, both in school and out in their parishes. Care of God's creation is taught through the Christian values promoted in our schools. A schools' vision statement, along with the associated values, is required to reflect the needs of the whole school community, the local area and stretches beyond into children learning how to be responsible global citizens. An understanding of responsibility to care for the planet is high on the agenda in the curriculum. Both Bishop Debbie and Bishop Jonathan have asked for pupils to be present in some church meetings to discuss what they are learning about the environment.

The Diocesan Education Team's annual projects are extremely popular with our schools and have been used by dioceses across the country and by schools and churches in America. In recent years the 'Bee Inspired', '10:10#Flourishing' and 'Everyday Ubuntu' projects have all encouraged schools and parishes to work together on ecology projects. These have ranged from a countrywide pollination project which has resulted in a school winning national awards from DEFRA, to intergenerational gardening projects, creating food from scratch to reduce waste and packaging, contractors being asked to leave wild borders around school playing friends and the sowing of beefriendly plants in our link diocese in Rwanda.

Pupils have represented their schools at Winchester Green Week, the Alresford Show and on local radio and television bulletins. Other projects have included planting hundreds of trees, pond clearing and beach cleans. Our Diocese currently holds the most Global Neighbours awards for church schools in the country. The Global Neighbours scheme sees schools developing a culture that encourages justice and courageous advocacy, enabling pupils to make ethical choices and become agents of social change. This year's annual project, 'Gamechangers' will continue to develop children as leaders of change in their local, national and global communities.

Currently the DBE is formulating a high level plan for all VA schools across Portsmouth and Winchester except Alverstoke, as they have their own. The plan will be delivered by March 2024 but it is hoped that if all continues to plan as it is at the moment, it may be available for review in late January.



Current investment, indicative costs and future actions

Pin-pointing the current cost of de-carbonising the diocesan buildings is a challenge as there is, at the moment, insufficient data to work with. Through 2024 further work will be done on encouraging parishes to complete the energy footprint tools to identify where the biggest impact can be made.

As an indicative cost, there are some smaller schemes being worked up across the diocese which suggest a figure of around £50k per building. If that were scaled up across the diocese that would be a spend of around £8m.

The costs towards de-carbonising clergy housing are of similar magnitude although some major work has been done in fitting solar panels and more efficient boilers in recent years. Some of this expenditure will be as part of the regular maintenance of clergy housing. The recently announced programme will also fund a pilot scheme for detailed energy surveys of over 100 Church of England clergy houses across four dioceses (including Portsmouth), representing various housing types and uses. The surveys will help to understand what is needed to achieve their net zero carbon ambitions.

In the push for net zero the diocese is currently employing one member of staff as the Diocesan Environmental Officer for two days a week to assist parishes on the route map. This will be expended in early 2024 to include a NCZ programme manager (working across Portsmouth, Chichester and Guildford diocese (one day Portsmouth) and a full time project officer.

The diocese is currently working with Eco Church towards the Bronze level award. There are reassuring signs that this will be achieved before the end of the year. As the diocese works towards the silver level award, future thought will need to be given to the use of Glebe land and how that could potentially be used for carbon offsetting.

Bishop's Council has agreed that this action plan, (which is a live, working document), will be a standing item on the agenda and will be reviewed and adapted accordingly as we continue towards the 2030 target.

Action Plan Timetable

Diocese to engage with Eco Church and achieve bronze level by the end of 2023

Collect missing data for the energy footprint tool by mid 2024 so that the building which have the largest carbon and energy footprints can be highlighted and further action taken as necessary.

Encourage all parishes to engage with Eco Church and to achieve at least bronze by the end of 2024 Encourage all parishes to complete quick wins by the end of 2025.

Encourage all parishes to complete medium-term goals by the end of 2027.

Encourage all parishes to complete long-term goals by the end of 2030.

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