DIOCESE of WINCHESTER

SUSTAINABILITY & CHURCHES GUIDANCE 2025
from the Diocesan Advisory Committee (DAC)

How To Make Every Church More Sustainable

Foreword by Bishop Philip, Bishop of Winchester

Scripture reminds us that God's redemption applies not only to the people – but to the land too (Leviticus 25.24-28). As Christians that is reflected in the Fifth 'Mark of Mission', we must commit ourselves 'to strive to safeguard the integrity of creation and sustain and renew the life of the earth'.

It is some years ago, now, that the General Synod of the Church of England passed a motion to '*call upon all parts of the Church of England, including parishes…to work to achieve 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*.'

Our Diocesan Synod considered the work necessary to achieve this ambitious aim and has committed us to the 2030 carbon net zero date. However, whilst Synod can set an ambition, we know that the day-to-day care of our wonderful parish churches lies with you, the PCCs and congregations across our diocese, and we are grateful for your deep care.

This guidance from the DAC is there to support and encourage you in your care and to provide some options and approaches that can help lower your carbon footprint. We are all aware that some of the choices which have a lower impact on our planet, have a higher impact on our finances. This is often the challenge of good stewardship and care. The decisions we make about our buildings are likely to last many years and will be the inheritance of others. Wherever possible I encourage you to take on the challenge of providing the best environmental response whilst respecting our heritage; seeking the grants that may be out there and the commitment and cooperation of your communities; and making a prophetic statement of the good news we are called to proclaim, in word and deed. (James 1.22)

I warmly commend this DAC guidance to you and to every parish in our diocese.

Contents

Overview

The parishes of the Diocese of Winchester care for circa 400 church buildings with differing historical ages and significance. This number includes some of the most important and ancient church buildings in the country, so they are perhaps not the most obvious candidates for energy efficiency.

Sustainability is not, however, just about renewable energy generation, and there is an urgent need to address both the cause and impact of climate change. The Church Buildings Team and the Diocesan Advisory Committee must, therefore, offer advice and act accordingly to help church communities lessen their wider impact upon the environment.

Not only is this a significant and necessary step in the right direction, but it will also allow the Church to be a beacon for others to follow. This guidance document, in line with the Diocesan Net Zero Strategy, is intended for clergy, parish officers, PCCs and congregations because all should be involved in this vitally important task.

Sustainability and Theology

Caring for the whole of creation is core to the Christian faith, and as one of the five marks of mission it needs to be taken as seriously as work which concerns the physical and spiritual well-being of people.

We are all now well aware of the damage that human activity has done to the planet, most acutely in the 20th century. We have seen the horrors of the oceans clogged with plastic, and even in our own country poor air quality is directly linked to mortality. Ever extreme weather has resulted in devastating flooding, and the media is swamped with warnings on increases to global temperatures, species extinctions, crop failures, deadly droughts, and eventually extinction of human life itself. God's extraordinarily beautiful creation, planet Earth, is in crisis and we have a Christian responsibility to do all we can to change this by acting decisively and bravely.

The good news is that one does not have to look too far afield to see examples of such practices on Grade I listed church buildings, several successful solar installations have been introduced on such buildings as the ancient All Saints Church, Wing and notably on Salisbury and Gloucester Cathedrals.

Context

At the beginning of 2020, the General Synod set a target of becoming carbon neutral by 2030, meaning that a fast and extensive shift in our current practices will be needed.

Our church buildings are one of the largest causes of carbon emissions from the diocese, from the burning of fuels for heating and electricity generation, to the fuel we all use to get there. With so many of our churches being such *historic* buildings, rooted in the ancient landscapes within which they sit, there is often an assumption that very little can be done to

make a significant improvement to their sustainability. Thankfully, we have learnt much in recent years and know that this is not the case. Church buildings, their grounds and the activities that take place in and around them have the potential to become a shining example of what is possible, even in the most challenging circumstances.

What this Advice is Based Upon

This guidance document is divided into different sections with information provided partly by the Gloucester Diocese and augmented by the experience of the Winchester Church Buildings Team and DAC members over many years, addressing specific areas of church buildings and their operation.

Not every section will be useful to every church building, but we hope to be able to demonstrate that even the most ancient churches can make savings and contribute to achieving greater levels of sustainability without harming their special character as historic places of worship. In each section we will give a brief explanation of the issues, some of the evidence we have gathered, and then offer advice on what options are available to churches.

Finally, where relevant, we give the DACs advisory policy, so that when PCCs are considering works which may need faculty approval, it is clear from the start what level of permission is likely required and what the process will look like.

Intention of the Policies

This is the first time the Winchester Diocesan Advisory Committee (DAC) has had specific policies on this subject, and our reason for doing so now is to help achieve a gradual change in order to meet both our diocesan goals and those set nationally. The policies are not intended as an off-putting list of 'must-nots', but are intended to put our church buildings into a wider context and give clear guidance to those at a local level, making the day to day decisions, about how to use, operate and maintain these buildings and grounds for the benefit of everyone.

The Diocesan Advisory Committee is and has always been an **advisory body**, and is not the final decision maker in the care of church buildings (that is the Diocesan Chancellor and Deputy Chancellor). There may be instances where a PCC feels it needs to submit a faculty for something which is not in line with the DAC's policy. If this is the case, the PCC will need to provide clear and convincing justification in the faculty submission as to why the deviation from policy is necessary. The Chancellor will consider this carefully when making his/her final judgement.

Given that national policy will continue to evolve, and the rate of change in relation to heating technologies, energy supply and other matters, this document, its advice and policies contained within it, will be reviewed on a regular basis. Any comment you may wish to make would be appreciated so that they may be taken into account in subsequent advice.

Small Things to Remember

It is important to state from the outset that lifestyle and management changes that are very simple can make significant impacts. This can constitute simply not leaving unnecessary lighting on, having timers for lighting/heating or having zoned lighting/heating, reducing the loss of heat through ensuring doors are not left unnecessarily open. Some buildings will lend themselves to easier modification than others and it is very important to strike the balance on what is achievable and appropriate for the building and the setting.

Energy Tariffs

Across the whole diocese a huge sum is spent on energy. This is particularly challenging in our context where funds are raised through local giving. However, the energy bills some churches are paying may be unnecessarily high, and a yearly review should be carried out. Comparison websites are available which can help you identify the cheapest supplier in your area and changing energy supplier is relatively straightforward – either by telephone or online. It is particularly important for churches to compare evening and weekend (off-peak) rates as this often corresponds to service times and community activity when church buildings are most likely to be used.

Choosing the right type of tariff is also important, and over the last few years all the mainstream energy suppliers have introduced 'green' tariffs which incorporate varying quantities of renewable energy, or carbon off-setting initiatives to improve their credentials.

Parish Buying, part of the national church, has a range of contracts with suppliers using the bulk purchasing power of all of our parishes to secure better discounts. Please register for an account and check out their energy deals here: Parish Buying.

Advice

- Wherever possible adopt a 'green' tariff, such as those offered by Parish Buying.

DAC Viewpoint

- A parish wishing to seek permission for modifications, replacements or upgrades to any gas fired or electrical systems, will need to demonstrate that alternative energy sources have been explored *and* that the PCC are purchasing their gas and/or electricity from renewable/green tariff suppliers. This should be in the evidenced in the permission application.

Metering and Billing

Please examine your energy bills regularly to check for metering or billing issues. One example of this is parishes being charged the wrong rate of VAT.

Advice

- Check you are being charged only 5% VAT on your energy bills and that Climate Change Levy (CCL) is not being added. You should only be paying for your energy usage, plus a standing charge for each meter. Check your meter to ensure the timeclock is correct and that readings are accurate.

Energy Generation & Heating – Solar, Wind, Biomass, Ground & Air Source Heat Pumps

Church Roof

Installing renewable energy generation equipment to churches is more feasible than you might imagine. Despite conservation area status and high-grade listings, there are many successful solar installations to churches within the Church of England; notably Gloucester Cathedral plays host to a very large self-weighted solar array. Nevertheless, it is not suitable everywhere, and there are several things to consider before contemplating such an intervention.

Firstly, renewable energy needs to be put into a wider context of a church's environmental improvement, so it is vital that the church building has had a recent energy audit and taken steps to address all the low-level improvements. An energy audit should be able to demonstrate the energy usage of the building, the u values, the different options and their varying impacts to the church building.

With Feed-in Tariffs now ended for new installations, and the Renewable Heat Incentive being more restrictive, the financial incentives that were being offered to encourage take up are much reduced. However, installations continue to drop in price and while they can still be costly, with many energy providers offering higher sell back rates the pay back period can be far more attainable. While there may appear to be some disadvantages against this change, they should not detract from our determination to reduce our reliance upon fossil fuels, limit the impact of predicted price rises of traditional fuel, and care for God's creation.

Secondly, it is vital to **take advice early**. That cannot be overstated.

Installation of systems that enable energy generation would likely require a faculty and local authority planning permission so it will be important to engage with both at an early stage. That way you can ensure a joined up approach to the wide range of issues which need to be considered, such as archaeology, ecology (bats), structural impact, heritage impact, community benefit, etc.

In general terms, installations which have the *least* visual impact are most likely to be successful. Historic England's guidance (see link at the end of the document) suggests that wherever possible solar installations should generally only be proposed in unobtrusive locations, such as hidden roof valleys or behind substantial parapets. However, it may be possible to argue for an array to be located on a roof that is not the main façade of the church. As the urgency of measures to combat the effects of climate change grows, it is likely that visible roof panels will become acceptable even on historic buildings. This might especially be the case if the Church, as a whole, were to champion these changes, and ensure that the layout and type of panels used are well-designed, and less ad-hoc than current domestic examples.

A recent survey discovered that modern roof structures often require significant structural upgrades in order to accommodate solar arrays. Whereas a medieval roof can be so heavily overengineered that no strengthening is needed.

When a parish is considering such an installation it should be clearly demonstrated in any permission application (both faculty and local authority) that all options have been considered, as this makes it simpler for both officers and committees to give approval to the best choice.

Hall Roof or Ground Array

Some parishes may have the benefit of a church hall that could offer a more suitable location. Alternatively, a ground-based installation might be achievable. However, these do not come without their own complications. Considering section 16 of the NPPF (National Planning Policy Framework) the parish could still be introducing something that will impact upon the setting of the area and potentially the character of the church especially if located in a rural area.

While many would consider a hall or ground array a better alternative to the church roof, it could still have an impact upon the setting of that area and would need careful consideration. It has been suggested by conservation architects that it might be possible to make a feature of the panels, especially if located off the church roof, for instance as a canopy for a garden of remembrance. Such an array, however, as highlighted in Historic England guidance does come with potential problems. With the array being lower there is more potential for shading which would impact the effectiveness of the panels. Additionally, it could be expensive to lay a cable running from the panels back to the church. Not only can this create archaeological concerns but also brings the potential need for a screen to hide the panels, unless the panels were designed as a feature. The possibility of locating the panels at ground level also requires the church to have a churchyard or suitable space for such an installation, a luxury that not all churches have.

On-going Maintenance

Giving careful consideration to on-going maintenance is also very important as equipment will need to be accessed, serviced and cleaned regularly. Access routes will need to be safe, clear and practical, as well as being located sensibly to ensure the impact on the building, grounds and setting is minimal. You may wish to consider introducing netting or other forms of protection to prevent nesting underneath the panels. It is also sensible to include firebreaks in large arrays; this acts as a simple gap between groups of panels to reduce the risk of spreading fire.

You should note that if introducing changes of this nature to your church buildings and grounds you will potentially face opposition from different groups. Early stage consultation is essential for managing expectations but also for establishing good communication. For instance, if proposing to introduce solar panels to a Victorian church you will potentially face scrutiny from at least: the local community, the DAC, the local planning authority, local

conservation officer, the Victorian Society, the Church Buildings Council and Historic England in determining your application.

Wind

In very rare instances a parish may be able to consider the use of a wind turbine to change wind into electricity.

Advice

- Obtain an up-to-date detailed energy audit or heating feasibility report of your church.
- Assess whether there are viable renewable energy solutions which could serve the needs of your church, and take advice from specialists, the DAC and the local Planning Authority on potential permissions needed.
- **Please note that even a like-for-like change to your boiler if using a fossil fuel will require a faculty.**

DAC Viewpoint

- Where a faculty is to be submitted for the installation of renewable energy generation to a church building, this must be accompanied by an up to date energy audit of the building which can demonstrate that all low-level improvements to energy efficiency have either already been made, or are in progress.
- Any application will need to be accompanied with a document outlining all the available energy saving options and why each was/was not applicable.
- In addition to an energy audit, a feasibility study and options appraisal will need to be included.
- It will be important to include visual assessments of the site for any external addition/change.
- Any application for a change in heating will need to include an environmental impact assessment along with a costings analysis that considers the environmental and financial impact of any new system being installed.

Heating

When considering heating, a good place to start your research would be by looking at the Church Buildings Council's guidance and information on how to heat your church in an appropriate and suitable way: Heating | The Church of England

A substantial percentage of the average church's energy expenditure goes on heating. Any adjustment that can be made to bring this cost down has to be a good thing. Heating is also responsible for the largest part of a church's carbon footprint, so improvements to heating alone will make a significant difference to the environmental sustainability and carbon footprint of your church.

Choosing the right heating solution involves looking at how you use your church building, and for how long, as well as looking at the particular nature and size of your church combined with what energy sources are available locally and what the implications of each would be. Does the PCC want to keep a base level of low heat as background heating? This can be viable in certain scenarios. When considering the historic fabric of the building it is important to try to avoid large fluctuations in heating patterns if possible. It is worthwhile asking your boiler engineer at the annual service how old your boiler may be, and how much longer is may be likely to last. Boilers over 15 years old, even if still fully functional, may be so inefficient that replacing them pre-emptively might start to save you money and energy within 4 to 5 years, perhaps sooner if you upgrade to modern controls as well. It can be quite easy for a parish to obtain permission to install heating control systems that allow remote access and configurable heating programs. Wherever possible check your boiler during the summer months, as breakdowns most frequently occur in winter, so having time to plan for any upgrade is vital.

The Church Buildings Team and members of the DAC can visit your church to help assess what options might be available to you, and the earlier you can invite us out to see you, the longer you will have to plan. Our advice is free and independent and can help you to be better armed with information before speaking to potential contractors.

Oil Fired Boilers

Many churches have varying heating supplies, some more efficient than others and some that will suit certain environments better than others. There may be many factors to consider. Due to their high carbon emissions, *new* oil fired boilers are likely to be phased out within the next decade (much like petrol/diesel cars) so we need to start looking at sustainable alternatives as early as possible and plan for their replacement.

Where gas is available, this is usually the most efficient (cost and carbon) solution provided that you have a modern boiler. However, in many of our smaller, often rural, churches where there is no mains gas supply, an electric heating solution is usually the most viable, and we have a number of successful installations across the diocese. It is worth noting that in some instances the option of BioLPG or biofuel can be used as a more sustainable alternative.

Biomass

In some instances, a parish may wish to consider biomass as an option for heating. Biomass can use a variety of different fuel types though more commonly associated is wood chips/pellets. Biomass requires a large amount of space, more so than a gas option especially when considering the required space for fuel storage and equipment. This form of heating is often a potential option in a heavily used church that is off grid, due to the regular day to day maintenance required.

Heat Pumps

There are a multitude of different types of heat pump technology that exists including: Air source, ground source and water source heat pumps. Within this there are differing distribution methods, for instance an air source heat pump could be an air-to-air or air-to-water system. These traditional heat pumps, due to a lower operating temperature than a traditional gas boiler, rely upon well insulated spaces and/or large emitters. As such it is likely that new, larger radiators would be required to accommodate this. They can also work effectively with an underfloor heating system. It is also important to note that these systems are not very responsive and as such are much better suited to a building that is in regular use, again this can partner quite well with an underfloor heating system. A parish should consider the CoP (Coefficient of Performance) of a heat pump, this is a ratio that determines how much heat is obtained compared to the energy used.

Pew Heaters

Electric pew heaters heat up quickly and provide heat where it is most needed (the people, not the building) as well as being easy to maintain and more easily moveable than a fixed heating system. If considering electric heating, assess whether your existing electricity supply (single or three phase) is suitable or whether an additional upgrade would be needed.

Infra-red Heaters

Alongside under pew electric heating is infrared wall and ceiling mounted heaters. These are electrically powered and produce a concentrated level of heat with very little warm up time. This lends them to being quite effective for a church that is used less frequently and is looking for immediate heat for the congregation rather than the building. This can also be a way of delivering heat to areas not covered by pews or where underfloor heating is not feasible. There are various types of infrared heaters including far and near infrared and it is important for parishes to make sure they are fully aware of the heating requirement for their building and the electrical supply they have versus the load that would be added. It may be that a single-phase electrical supply would not be sufficient and increasing the supply can be a costly endeavour. In addition to wall mounted bar style heaters are

chandelier style heating units that can also double up as housing lighting units, this can be useful when looking to deliver heat to areas where wall space is not available.

Other things to consider

Beyond the heat source, there are a number of other things to consider to ensure that you are getting the most out of your heating system, to ensure the heat is going where you most need it – to the people!

- Make sure that radiators are located sensibly for where people sit or stand most frequently.
- Ensure that any exposed pipework is lagged so that heat is not lost before it reaches the radiators.
- Radiators with fans inside need to be vacuumed so that they run as efficiently and quietly as possible, and to remove dust from heating elements (as this acts as an insulator).
- Reflective radiator panels which slot behind the radiator can also be added to help improve efficiency.
- Installing simple to use heating controls is also important, to ensure heating is only on when needed, and that errors can be corrected quickly and easily to avoid unnecessary expenditure.
- Adding a glycol (or similar) based inhibitor to your heating system could help and can remove the need for a frost-stat.
- Where you have a frost-stat ensure it is set at 2-3 degrees so that the heating is not firing unnecessarily.
- When considering removing a current boiler, consider the embodied carbon of this item.
- Planning permission is likely required for the external installations listed above.

Permissions

The vast majority of modifications and minor additions to existing heating systems do not require a full faculty and can be dealt with as an application for List B Archdeacons' Authorisation, via the Online Faculty System. The addition of thermostatic radiator valves, replacing controls, adding an extra heater or moving the location of a radiator would all fall within this category, but if in any doubt, always contact us for further advice. Some major modifications, such as a replacement boiler or tank, or excavation of new fuel or cable routes through the churchyard may require a formal application for faculty so please speak with us at an early stage.

A word of warning: flue-less bottled gas heaters (whether fixed or moveable) are not an acceptable alternative, even on a temporary basis, because they vent a high volume of water vapour into the air, which then condenses on cold building fabric causing serious damp problems.

Advice

- Check whether your heating programmer has the correct current time, and that the on/off times are appropriate. If your heating controls are tricky to use, consider replacing them with something more straightforward, or at least label them clearly with step-by-step instructions which anyone could use.
- Check the flow temperature of your system. This should be around 75˚C but check with your heating engineer at the time of your annual boiler service.
- Check the thermostat temperature of your heating: 16-18˚C is usually enough for churches and ensure the frost stat is set between 2-3˚C.
- Consider having a glycol-based inhibitor added to your heating system.
- Check how old your boiler is, and if it is reaching the end of its life start to investigate options and plan for its replacement with a more efficient and low-carbon alternative.
- Make sure you liaise with your local authority as well, with external introductions such as heat pumps, solar panels, etc. their views will be required and likely planning permission.

DAC Viewpoint

- When an oil-fired or gas-powered heating system reaches the end of its life, the parish should explore replacing with a low carbon alternative.
- Ideally this will be planned and identified prior to boiler failure.

General Lighting and Electrics

LEDs

Most churches will benefit from upgrading their lighting to LEDs. In many cases this could be done by simply replacing the lamps/bulbs, but sometimes the fittings may need to be replaced as well. A large number of previously standard tungsten bulbs have already been swapped for energy saving alternatives, but even some of the older-style CFLs (compact fluorescent) would now benefit from replacement, and the recent energy audits have found a number of old style flood lights or spot lights remaining (perhaps because replacements for these are more difficult to source, or the fittings are more difficult to access).

The location of lighting is a key consideration. If located at high levels scaffolding/cherry pickers may be required to carry out maintenance. LED lamps have a much longer life than high energy equivalents so once installed difficult access should be required far less often. Simply upgrading your lighting could save the average church 940kWh or £115 per year. Larger savings are possible in churches where external sodium floodlights can be replaced. LED bulbs can be easily sourced, with many retailers stocking increasingly large ranges in-store. Alternatively, an even wider range of products can be found online. If buying online, try to purchase the established brands which have good reviews, to avoid some of the less well made (and therefore less durable) examples. Please also see Parish Buying.

Permissions

Replacing bulbs requires no permission at all, but if light fittings need to be replaced or further alterations are needed to the existing wiring or circuits, a List B approval or even faculty may be needed. Please contact us in the first instance to confirm prior to commencing any works.

Controls

In addition to swapping the bulbs, controlling how often your lights are switched on/off could also see a cost saving and reduction in carbon. Simple things such as labelling the light switches could mean that you and those using your building would only turn on lights in the areas that they are using. Timer switches or motion sensor lighting can also be useful in churches which are visited regularly, particularly if combined with a lock timer, as this can reduce the daily burden of opening and closing up the church. These devices, if fixed unobtrusively to existing systems should not require a faculty.

Floodlights

If your church's floodlights are on a timer-switch, consider switching them off a little earlier to save energy/carbon, or only using them on Sundays or festivals. It is also recommended that PCCs review any existing floodlighting to confirm if it is actually beneficial. Even reducing lighting time by half an hour would make a difference. Without exceptional circumstances existing floodlighting should operate between dusk and 12:00pm. If wishing

to introduce flood lighting, the church should consider if the benefits will outweigh the increased light pollution and harm to the local wildlife.

Advice

- Replace old-style bulbs and lamps with LEDs.
- Ensure light switches are clearly labelled.
- Consider incorporating timed or motion sensor lighting.
- Consider reducing the timing of external floodlighting to your operating hours unless exceptional circumstances.
- Submission of an ecological impact assessment.

DAC Viewpoint

- Proposals for comprehensive new lighting schemes must use the lowest energy LED type fittings in order for the DAC to be able to recommend them to the Chancellor.
- In addition, all church buildings and parish halls throughout the diocese are asked to replace any existing old light fittings for LEDs in order to reduce their energy consumption and bills.
- Any proposals for new or additional floodlighting, must demonstrate that the proposed installation will not increase the church's existing level of energy consumption. Any increase in energy consumption could potentially be offset by energy saving measures elsewhere in the church/site.
- Additionally, strong justification would be required for the increased light pollution it would bring and the impact upon the local ecology, especially bats.

Insulation and Draught Proofing

Since the vast majority of our church buildings are historic, very few have any insulation which would help to retain heat within them. Installing some of the most common forms of energy efficiency upgrades such as roof lagging or cavity wall insulation are impractical. In addition, many are also likely to suffer from significant draughts from gaps around doorways, windows and floor voids. There are nevertheless a number of things that can be done to make a significant difference to the comfort of those using the church building.

Draught-proofing comes in many forms, from heavy weighted curtains over doorways, to well designed glazed draught-lobbies/inner porches. Making simple repairs to broken window glass can make a surprisingly big difference (85% of the efficiency of a window is lost through draughts – thin glass radiating heat only loses 15%), as can having a specialist glazier look at adding weather seals to any opening portions of window to reduce air gaps. Simple brush strips can be added to the bottoms of some doors, whilst keyholes and letter boxes can have weighted fabric flaps or leather strips fixed over them. Quattro Seal has been used successfully to draughtproof a wide range of openings, particularly in heritage buildings such as those belonging to the National Trust and this is worth considering for tricky places where other traditional options might not work. We have also had several requests in the past for discreet parts of buildings, such as chancels, chapels or tower bases to be curtained or partitioned off to create smaller compartments which might be easier to heat for small group activities. This is a very practical solution, particularly in large buildings which may not be used to their full capacity very often.

Roof Insulation

There are instances where insulation can be added to historic church buildings, particularly when major re-roofing works are taking place or perhaps where areas of a church are being reordered. We would ask any PCC to seriously consider exploring the possibility of adding insulation when such works are being carried out. In these cases, talk to your advising architect or surveyor about the possible options for insulation to ensure that materials chosen are compatible with your building, suitably breathable, and are bat friendly. There are now a wide range of natural material-based insulation products from sustainable sources including those made from bamboo, hemp, lime, reeds, cork, straw and wool. These work best in different situations so take professional advice over your particular circumstances.

Pew Platforms

If your church suffers particularly badly from draughty and cold pew platforms, you might wish to consider insulating and draught-proofing the voids in these areas. Gaps between floorboards can be filled by wedging soaked traditional string or rope into the gaps, and suitably breathable insulation can be fitted within the voids by being fitted between floor joists or slung in netting beneath the areas of board. Where development work might expose pipes within floor voids, it is worthwhile taking the opportunity to lag any exposed sections of pipe to ensure heat is not lost before it reaches the target radiators. Care

should be taken to ensure that the underfloor space is still well ventilated to the external air.

Secondary Glazing

We have been asked occasionally as to whether a church could consider secondary glazing to help with reducing draughts and heat loss. Although secondary glazing would need a faculty there is no objection in principle to doing this. However, the practicalities are difficult to resolve successfully. Church windows are often very large and secondary glazing units would have to be similarly large to cover them, making units heavy with potentially large bulky fittings. Secondary glazing also has to be removable to enable it to be cleaned periodically (mould, flies, condensation) so these factors combine to make secondary glazing a difficult proposition. In listed church buildings we would also have to consider whether the secondary glazing would have an adverse impact upon the character of the building. There are instances, perhaps in more modern church buildings where the window configurations might make secondary glazing possible. Some church halls or parish offices may already have modern dimension windows which could easily accommodate secondary or indeed double-glazing. There is a magnetically fixed acrylic sheet secondary system (called Magneglaze) which is relatively cheap and easily removable, that may be used where appropriate.

Permissions

Basic draught proofing, pipe lagging and straightforward repairs to plain glazed windows, do not need faculty, but larger scale works and particularly repairs to stained glass may need permission so please check with the Church Buildings Team before commencing work.

Advice

- Have all sections of exposed pipework lagged.
- Consider a range of draught-proofing measures to improve the comfort of worshippers.
- If contemplating any major development projects, consult with your advising architect or surveyor about incorporating suitable insulation wherever possible.

DAC Viewpoint

- Whenever re-roofing or major repairs to roofs are proposed, insulation must be strongly considered and some form of insulation must be included within the specification of works in order for the DAC to be able to recommend the proposal, unless there is compelling justification provided as to why this is not possible.

Churchyards and Outside Areas

Churchyards and the external spaces surrounding church buildings provide significant opportunities to enhance the environment, biodiversity and the well-being of your worshippers and local community. Churchyards have long been havens for wildlife and, wherever possible, taking the opportunity to enhance the biodiversity of your churchyard is to be welcomed.

Wildflower Areas

As every PCC will know, churchyards can be costly and time consuming to maintain. Although wildflower areas or 'rewilded' sections can reduce this maintenance burden somewhat and encourage wildlife, those visiting a churchyard to tend a grave often expect a level of tidiness and order more akin to a public park. This can create conflict. Wherever possible, if you are considering creating a dedicated wildlife area, do this within the context of an overall plan for your grounds, the setting of your church buildings and the way you want visitors to use these spaces. Try to consult with your wider community so they understand why you are doing this and set expectations accordingly.

Tree Planting

There are a number of large-scale tree-planting schemes currently being publicised nationally as a means of carbon off-setting, along with helping mitigate impacts of climate change. If your PCC is considering such a scheme, please speak to the Church Buildings Team before committing, it is important that most plantings should be of a suitable native species. There are guidelines about tree works in churchyards issued by the Church Buildings Council (CBC), as well as advice available from 'Caring for Gods Acre' and 'The Churchyards Handbook' about the most appropriate native tree species for churchyards, but we will also talk to you about planning for long term maintenance, succession planning, biodiversity enhancement and ensuring that any new tree planting is at a sufficient distance from the building so as to safeguard the fabric of the church.

Tree Works

In addition, and with carbon off-setting in mind, where a PCC needs to undertake considerable tree works within a churchyard to maintain it properly, to include lopping and removal, we would expect the proposals to include provision for replacement trees or suitable mitigation although these need not necessarily be within the churchyard itself if this is not desirable, and if a suitable alternative location can be found.

Car Parking

A number of parishes will benefit from having established car-parking available in close proximity to their churches. Periodically we will receive applications for the creation of new or enlarged parking areas in order to safeguard the long-term future of the church as a community building. With the advent of electric vehicles, and in wanting to encourage low-

carbon transport, we recommend that electric car-charging points and/or bicycle racks should be incorporated within plans to improve or enlarge parking areas. In addition, with growing concern about increasingly heavy rainfall falling on large areas of impermeable surface, we want to ensure that church developments do not result in any more surface water run-off than they do now. Therefore, areas of new surfacing must use suitably porous materials accordingly.

Advice

- Consider preparing a long term plan for your churchyard/external spaces and include potential wildlife or re-wilding areas.
- Look to 'Caring for Gods Acre' for advice on maintaining your churchyard for wildlife.
- Consult the Church Buildings Council's policy on lopping, topping and felling of trees.
- Dead and dying trees can provide habitats and forage areas for protected and other species. Consider where it might be safe to leave standing trees, fallen limbs or timber in site where trees have been felled.

DAC Viewpoint

- Any proposal to create new or extend existing parking areas must be able to demonstrate that the surface material will not generate excess surface water run-off.
- An electric car charging point and/or bike rack should be considered within the proposals, but this should be proportionate to the value of investment being made in the overall proposals. Other factors to include in this for example are the size of congregation, visitor numbers, location.
- Any proposals to remove or significantly reduce the size of trees within the churchyard should be accompanied by proposals to generate an environmental net gain. This can be in the form of further planting of new trees elsewhere on church land or other alternative measures. These should be trees of an appropriate size and native species, or such other number as agreed by the Diocese, elsewhere on church land and in accordance with the PCC's adopted tree and grounds strategy/churchyard management plan.

Major Development Projects & Reordering

If your church is considering any major development work, this is the perfect opportunity to include sustainability measures which might otherwise be very costly to undertake on their own. This will also be an opportunity to 'future-proof' your church building as far as possible. Speaking to your advising architect or surveyor early on about improving sustainability through a major scheme would be a good first step, as this can then be incorporated throughout the design phase, rather than bolted on at the end.

In addition, reaching net carbon zero must be identified and demonstrated as remaining central to the design and helping to guide the right decisions. Where possible, development proposals should be designed to avoid the need for any single-use disposable items, and to make provision for reusable, refillable or recycled items/materials. If it is possible to source materials and skills locally, this is also desirable, and arguably in the same tradition which built the church in the first place.

Where modern technology or appliances are to be brought into the church, try to ensure as far as possible that these are as low energy as possible, and only switched on when the church building is in use.

Advice

- Ensure all electrical appliances are switched off when the church is not in use.
- When purchasing any new electrical appliances, try to ensure they are of the highest energy efficiency (A+) wherever possible.

DAC Viewpoint

- When proposals are submitted for comprehensive reordering, your Statement of Need must include details of how the proposed works will make a positive contribution to reducing the church's wider impact upon the environment.
- Positive contribution to reducing environmental impact might include low energy lighting or more efficient heating, as well as wider proposals for sustainable construction methods and use of sustainable materials, rainwater harvest, renewable energy, etc.
- Any specifications for work must ensure that any new materials being used are as sustainable as possible, with an emphasis on conservation accredited materials, for example any timber sourced for use in churches is FSC certified.

The Church Buildings Team

If you need any help or support in making your church 'greener' or you wish to have advice on any of the areas considered above, please contact the Church Buildings Team:

Mr Richard Streatfield, DAC Secretary
01962 737308 / richard.streatfield@winchester.anglican.org

Mrs Sarah Stockton, Assistant DAC Secretary
01962 737306 / sarah.stockton@winchester.anglican.org

Miss Libby Davis, Church Buildings Support Officer
01962 710969 / libby.davis@winchester.anglican.org

The Caring for God's Creation / NZC Team

If you need any help or support in reaching Eco Church targets, completing your Energy Footprint Tool, or wish to invite our DEO to preach, please contact the Environment Team:

Revd Sam Scott, Diocesan Environment Officer
01962 737358 / sam.scott@winchester.anglican.org

Ms Lucy Howlett, NZC Project Co-ordinator
01962 737346 / lucy.howlett@winchester.anglican.org

Additionally, there are grants available for environmental/sustainability based projects, please see the diocesan website for updates and more information: Creation Care - Diocese of Winchester

Further Information

Please see below for other sources of information which might prove useful or interesting:

A Rocha UK is a Christian charity working for the protection and restoration of the natural world. Their website includes lots of useful information and advice and this is also the key resource for those wishing to register to use the Eco Church tool to work towards Bronze, Silver and Gold awards. The Diocese is working towards becoming an Eco-diocese, so every church which registers to use the tool and gain awards helps us take a step closer to achieving this.

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

The Church of England – Church Buildings Council the Church of England's original 'Shrinking the Footprint' campaign has now been combined with a wider environment agenda for which further advice and resources can be found at: https://www.churchofengland.org/environment

A general main page on net zero carbon for your church including various pieces of information and other links can be found here: https://www.churchofengland.org/resources/churchcare/net-zerocarbon-church

The Church Buildings Council have provided the following document if you wish to read more regarding heating your church: Heating | The Church of England

Some general guidance and helpful information from the Church Buildings Council on how to heat your church in an appropriate and suitable way can be found here: https://www.churchofengland.org/resources/churchcare/advice-and-guidance-churchbuildings/heating#na

Some general guidance on renewable energy can be found here: Renewable energy | The Church of England

A document detailing the Church Buildings Council's practical path to net zero carbon can be found here: https://www.churchofengland.org/resources/churchcare/net-zero-carbon-church/practicalpath-net-zero-carbon-churches

The Church Buildings Council regularly hold webinars on various topics, a link to past and future topics can be found here: https://www.churchofengland.org/about/environment-and-climatechange/webinars-getting-net-zero-carbon#na

The Energy Saving Trust is a British organization devoted to promoting energy efficiency, energy conservation, and the sustainable use of energy, thereby reducing carbon dioxide emissions and helping to prevent man-made climate change. This tends to focus on advice relating to domestic properties, but some of the advice they have available may be applicable for churches as well as their wider communities.

http://www.energysavingtrust.org.uk

Diocese of Oxford has also done a great deal of work on environmental improvement of churches and they have a number of useful resources available on specific types of renewable energy: www.oxford.anglican.org/mission-ministry/environment/resources/

Historic England is the government's advisory body on the historic environment, overseeing the listing process as well as advice on a wide range of heritage related matters. Their website is home to several sections relating to climate change and sustainability, including: https://historicengland.org.uk/research/current/threats/heritage-climate-change-environment/ https://historicengland.org.uk/advice/technical-advice/energy-efficiency-and-historic-buildings/ https://historicengland.org.uk/images-books/publications/eehb-solar-electric/heag173eehb-solar-electric-photovoltaics/ - This provides links to several

guidance sheets specific to solar electric, Building Regulations (Part L), Energy Performance Certificates (EPCs), and insulation as well as general advice about historic building energy efficiency.
'Caring for Gods Acre' offers great general advice about maintaining churchyards but have particularly useful resources in relation to improving the biodiversity of churchyards and making them havens for wildlife.

www.caringforgodsacre.org.uk/

Winchester Action on the Climate Crisis:
Winchester Action on Climate Crisis – Cutting Winchester's carbon footprint (winacc.org.uk)

Ecclesiastical Insurance offers large amount of resources around some of these topics particularly around heating/solar etc.
Solar Panels | Ecclesiastical
Document Library | Ecclesiastical