

Diocesan Advisory Committee

SUSTAINABILITY AND CHURCHES GUIDANCE 2021: HOW TO MAKE EVERY CHURCH MORE SUSTAINABLE

Foreword from Bishop Debbie, acting Bishop of Winchester

Leviticus reminds us that God's redemption applies both to the land and the people (Leviticus 25.24-28). As humans, we have a God-given responsibility for the future of life, and as Christians, to strive to safeguard the integrity of creation and sustain and renew the life of the earth.

At the beginning of this year 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 our 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 the 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 am keen strongly to commend this DAC guidance to you and every parish in our diocese.

+Debbie

The Diocese of Winchester cares for circa 400 church buildings, with differing historical ages and significance. This number does however include 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 causes and impacts of climate change, we need to offer advice and must act accordingly in order to help church communities lessen their wider impact upon the environment. Not only is this a significant and necessary step in the right direction it will also allow the church to be a beacon for others to follow. This guidance document, in line with the Diocese of Winchester Net Zero Strategy document (this can be found here: https://cofewinchester.contentfiles.net/media/documents/document/2021/06/DS_21_01_Winchester_net_zero_2030_FINAL.pdf?utm_source=https%3a%2f%2fdioceaseofwinchester.cgml2.com%2fdioceaseofwinchesterlz%2f&utm_medium=email&utm_campaign=Net+Zero+Strategy+Launch&utm_term=Net+Zero+Strategy%0d&utm_content=2402&gator_td=sgCOzBBsbxDZ5TXRNB00Xz8h1YFB1m%2b6FTTIWa%2ffuYWAI%2fi2tjcfV8lxByU3ETdLhGMvGEHLID7989MqAguHo2yHfi%2f%2b%2b5ppP17pdw%2bkEGGyLo4%2fXBZLBpF6wvWpnpufMDwLwpWeikZ6AyG3IEiDPB4COfi0cqxBzavkAWSOc2bzdgvkNjL7GXRII3s8Fb), 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 wellbeing of people. We are all now well aware of the damage that human activity has done to the planet, most acutely in the C20th. David Attenborough has shown us the horrors of the oceans being clogged with plastic, but 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. 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 the notable Salisbury and Gloucester Cathedrals.

Context

At the beginning of 2020 the General Synod declared a target of becoming carbon neutral by 2030. The agreement brought forward the date by 15 years, meaning that a fast and extensive shift in our current practices will be needed. Our church buildings are our greatest cause 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 them 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. But we now know this is not the case, and that church buildings, grounds and the activities that take place in and around them have the great potential to become a

beacon within every parish of what is possible, even in the most challenging circumstances, and not least an example to others.

What this Advice is Based Upon

This guidance sheet is divided up into different sections with information provided partly by the Gloucester Diocese augmented by the experience of the 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 to see from the start what is likely to gain immediate support and make for a more swift and straightforward permission process.

Intention of the Policies

This is the first time Winchester DAC have ever had specific policies on this subject, and our reason for doing this now is to help influence gradual change in order to meet both our diocesan policy 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 DAC is and has always been an advisory body, and not the final decision maker (Chancellor and Deputy Chancellor), so 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 in the faculty submission to provide clear and convincing justification as to why the deviation is necessary so that the Chancellor can 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 will also continue to change over the next few years, it seems sensible that this document, its advice and policies contained within it, are reviewed within 3 years in order to ensure that we too keep pace in an attempt to reach the goals already set. Any comment you may wish to make would be appreciated so that they may be taken into account in subsequent advice.

Energy Tariffs

Over the whole diocese a huge amount is spent on energy, this is particularly telling when it has to be found from local giving. However, the energy bills some churches are paying, may be unnecessarily

high. There are comparison websites which can help you identify the cheapest supplier in your area and changing energy supplier is very easy – either by telephone or online. It is particularly important for churches to compare evening and weekend (off-peak) rates as this corresponds to weekends 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 now introduced ‘Green’ tariffs which incorporate varying quantities of renewable energy, or carbon off-setting initiatives to improve their credentials. The Church of England nationally has links with Parish Buying (<https://www.parishbuying.org.uk>).

Advice

- Wherever possible adopt a ‘green’ tariff, such as those offered Parish Buying.

DAC Viewpoint

- A parish wishing to seek permission for any 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.

Metering and Billing

It is worth examining energy bills to check for metering or billing issues. It is possible that those having difficulties may be 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 – Solar, Wind, Biomass, Ground-source, & Air-source Heat Pumps

Installing renewable energy generation equipment to churches is more possible 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 playing host to a very large self-weighted solar array. Nevertheless, they are 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. Installations are relatively expensive, and with Feed-in Tariffs now ended for new installations, and the Renewable Heat Incentive more restrictive, the financial incentives that were being offered to encourage take up are much reduced. This should not however detract from their positive goal of helping to reduce our reliance upon fossil fuels and help to limit the impact of predicted future price rises of traditional fuel.

Secondly, it is vital to take advice early. Installation of microgeneration would require both a faculty and planning permission, so it is important to engage at an early stage with both the DAC and the local planning authority to ensure a joined up approach, and consider the wide range of issues which both need to consider, such as archaeology, ecology (bats), structural impact, heritage impact, community benefit, etc. On the whole installations which have the least visual impact are most likely to be successful, and 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, there is an argument that an array could be located on a roof that is not the main façade of the church. However, as the urgency of measures to combat the effects of climate change become more consistently observed, visible roof panels will become acceptable even on historic buildings, so that raising the option is likely to become acceptable. This might especially be the case if the Church as a whole were to investigate the layout and type of panels are well-designed, in a less crude and haphazard manner than current domestic examples.

One survey discovered that modern roof structures often required significant structural upgrade in order to be able to accommodate solar arrays. Whereas a medieval roof can be so heavily over-engineered that no strengthening is needed, even with weighted systems applied. When a parish is considering such an installation it should be clearly demonstrated that all options have been considered when looking at such an introduction, as this makes it simpler for both officers and committees to give approval to the best choice. Some will have the benefit of a church hall that may offer a more suitable location, alternatively a ground-based installation might be achievable. However, this does not come without their own complications. Considering section 16 of the NPPF (National Planning Policy Framework) the parish would 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 this a better alternative to the church roof, it is still going to 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 inhibit the effectiveness of the panels, and additionally it could be expensive to get a cable running from the panels back to the church. Not only can this involve archaeological concerns but also brings the potential 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 all churches, certainly urban churches, do not have.

Giving careful consideration to on-going maintenance is also very important, as equipment will need to be accessed, serviced and cleaned regularly, so access routes 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. Please note that when introducing changes of this nature to your church buildings and grounds you

will potentially face opposition from different groups, in this instance early stage consultation is essential in managing expectations. For instance, if proposing to introduce solar panels to a Victorian church you will potentially face scrutiny from at least: The local populace, the DAC, the local planning authority, local conservation officer, the Victorian Society, the Church Buildings Council and Historic England in determining your application.

Advice

- Obtain an up to date energy audit 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.

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 current 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.

Heating

A good place for parishes to start should be looking at the Church Buildings Council's general guidance and helpful information on how to heat your church in an appropriate and suitable way, this can be found here: <https://www.churchofengland.org/resources/churchcare/advice-and-guidance-church-buildings/heating#na>. A substantial percentage of the average church's energy expenditure goes on heating, anything that can be done 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 improvement to heating alone will make a significant difference to the environmental sustainability of your church.

Many churches have varying heating supplies, some more efficient than others and some that will suit certain environments better than others, this may well have many factors to consider. Due to their high carbon emissions, new oil fired boilers are also likely to be phased out within the next decade, much like petrol/diesel cars, so where these exist, 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 you have a modern boiler, but in many of our smaller often rural villages 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. Electric pew heaters heat up quickly and provide heat where it is most needed, as well as being easy to maintain and more easily moveable than a pipe-based heating system. If considering electric heating, assess whether your existing electricity supply (single or three phase) is suitable or whether additional upgrade would be needed.

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. It is worthwhile asking your boiler engineer at the annual service how old your boiler may be, and how much longer it 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. Wherever possible check your boiler during the summer months, as breakdowns most frequently occur in winter, so having time to plan for any change is valuable.

The Church Buildings Team and members of the DAC can come and visit 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.

Beyond the heat source, there are a number of things to consider to ensure you are getting the most out of the heating system you have, 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 and ensure that any exposed pipework is lagged so heat isn't lost before it reaches the radiators. Radiators with fans inside need the fans vacuuming so that they run as efficiently and quietly as possible and remove dust as far as possible 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 it needs to be, 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.

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 you are in any doubt, please do 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 if needed.
- Check the flow temperature of your system. This should be around 75 degrees C but check with your heating engineer at the time of your annual boiler service.

- Check the thermostat temperature of your heating – 16-18 degrees C is usually enough for churches and ensure the Frost Stat is set between 2-3 degrees.
- 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.

DAC Viewpoint

- When an oil-fired heating system reaches the end of its life, the parish shall explore replacing with a non-oil/low carbon alternative.

Lighting and Electrics Generally

Most churches will benefit from an upgrade to their lighting to LEDs. In many cases this could be done by simply replacing the lamps/bulbs, but sometimes the fittings may need replacing as well. It is clear that 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 audits found a number of old style flood lights or spot lights remaining, perhaps because replacements for these were 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 it may require scaffolding/cherry pickers 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. Just upgrading lighting could save the average church 940kWh or £115 per year, although much 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.

Replacing bulbs needs 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 get this confirmed, prior to commencing any works.

In addition to swapping the lamps, helping to control how much your lights are switched on would also be of benefit. Simple things like labelling light switches, means you only turn things on in the areas you're using and also help when there is a change of churchwarden. 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. If your church's floodlights are on a timer-switch, consider switching them off a little earlier to save energy, or only using them on Sundays or festivals, it would also be 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.

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

Advice

- Replace any old-style bulbs and lamps with LEDs.
- Ensure light switches are clearly labelled.
- Consider incorporating timed or motion sensor lighting.
- Consider reducing the operational hours of any external floodlighting to operating hours unless exceptional circumstances.
- Submission of an ecological 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. 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, it will require strong justification for the increased light pollution it would bring and 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 and installing some of the most common forms of energy efficiency upgrade 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 curtain 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 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 off to create smaller compartments which might be easier to heat for smaller group activities. This is a very sensible option, particularly in large buildings which perhaps are not used to their full extent very often.

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. 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 and suitably breathable. 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. All work in different situations so take professional advice over what would work best for your particular instance.

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.

We have been asked occasionally about whether a church could consider secondary glazing to help both with reducing draughts and heat loss. Though it would need a faculty there is no objection in principle to doing this, but the practicalities of it 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 this combines to make for a very difficult proposition. In listed church buildings we would also have to consider whether the secondary glazing has 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, and in some church halls or parish offices you 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.

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 do 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 users of the church building.
- If contemplating any major development projects, consult with your advising architect or surveyor about incorporating suitable insulation wherever possible.

DAC Viewpoint

- Wherever re-roofing or major repairs to roofs are proposed, 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 people's wellbeing. Churchyards have long been havens for wildlife and wherever possible taking the opportunity to enhance the biodiversity of your churchyard is to be welcomed. As every PCC will know, churchyards can be costly and time consuming to maintain, and though wildflower areas or 'rewilded' sections can reduce this maintenance burden somewhat whilst also encouraging wildlife, those visiting a churchyard to tend a grave may expect a level of tidiness and order more akin to a public park. This can create a conflict, and so wherever possible if you are considering creating dedicated wildlife areas 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.

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 for example through providing shade and shelter and capturing particulate matter. If your PCC is considering being involved, please do speak to the Church Buildings Team before committing to anything. 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 as to safeguard the fabric of the church.

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 though these need not necessarily be within the churchyard itself if this is not desirable, and if a suitable alternative location can be found.

A number of churches benefit from having established car-parking available in close proximity to their churches, and we receive applications periodically for the creation of new such areas in order to safeguard the long-term future of the church as a community building. With the advent of electric vehicles, as well as wishing to encourage more low-carbon transport associated with churches, we recommend that electric car-charging points and or bicycle racks are incorporated within plans to improve or enlarge parking areas in order to support both the regular and occasional visitors to church. In addition, with ever increasing concerns about increasingly heavy rainfall, falling on increasingly large areas of impermeable surface, we want to ensure that church developments do not result in any further surface water run-off than they do now, so areas of new surfacing must use suitably porous materials accordingly.

Advice

- Consider preparing a long term plan for your churchyard/external spaces and including 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.
- It should be considered that an electric car charging point and/or bike rack has been included in 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 any trees within the churchyard should be accompanied by proposals to plant at least two new trees elsewhere on church land. These should be trees of an appropriate size and 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.

Major Development Projects and Reordering

If your church is considering any major development work, this is a great opportunity to include sustainability measures which might otherwise be very costly to undertake on their own, as well as taking the 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 carbon zero must be identified and demonstrated to remain central to the design and help to guide the right decisions. Where possible development proposals should be designed to avoid the need for any single-use disposable items, and 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 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, statements 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 timber sourced for use in churches is FSC certified.

Further Information

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

DAC Secretary – Mr Richard Streatfield on 01962 737308 or
richard.streatfield@winchester.anglican.org

Assistant DAC Secretary – Miss Sarah Feltham on 01962 737306 or
sarah.feltham@winchester.anglican.org

Please see below other sources and pieces of information that 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 Ecochurch tool to work towards Bronze, Silver and Gold awards. The Diocese is working towards becoming an Eco-diocese, so every church who register to use the tool and gain awards helps 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>

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/

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

<https://www.churchofengland.org/sites/default/files/2020-04/CBC%20Heating%20guidance%20principles%20FINAL%20issued.pdf>

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/heag173-eehb-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/

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-zero-carbon-church>

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-church-buildings/heating#na>

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/practical-path-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-climate-change/webinars-getting-net-zero-carbon#na>