

Diocese of London



Climate Action Plans Frequently Asked Questions

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St Jude-on-the-Hill, Hampstead Garden Suburb

Diocese of London



Climate Action Plans Frequently Asked Questions

Climate Action Plans

What is a 'Climate Action Plan'?

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What is a 'Climate Action Plan'?

Climate Action Plans are a scheme for churches in the Diocese of London, to cut their energy use, costs and carbon footprint, go net carbon neutral and still save money over a year.

We measure a church's energy use compared to its size and level of activity, calculate the church's carbon footprint, set a benchmarked comparative grade and individual target savings, and a menu of actions to achieve those savings.

Then we need to make sure we have the most beneficial tariff and price for the energy which churches still need for their light and heat. Charity Funding Solutions help parishes to achieve this.

At the same time, that energy will still be producing some carbon emissions, albeit less than before. We should make sure we're contributing our fair share of the hidden costs from our emissions (some tariffs include that share, others don't). We can pay the cost of our remaining carbon emissions, through Carbon Retirement.

Where do we come into all this?

Our scheme of Climate Action Plans provides tailor-made packages for individual churches – any church in the Diocese of London to begin with – to measure each church's energy use compared to its size and level of activity, calculate the church's carbon footprint, set a benchmarked comparative grade and individual target savings, and a menu of actions to achieve those savings.

We can also ensure that you have the most advantageous tariff for the energy which churches still need for their light and heat. This is undertaken with support from Charity Funding Solutions.

So less energy will be consumed in your Church, costing less money, and emitting less of the emissions which harm the climate.

To the extent that we are still producing carbon emissions, we can arrange for you to pay the hidden cost of carbon, through Carbon Retirement.

Will this make our church 'carbon neutral'?

'No' and 'Yes'! Almost no-one can become strictly carbon neutral – there are activities will go on producing some carbon, almost whatever we do.

However, we can become 'net' carbon neutral, by generating renewable energy, and by purchase of EU allowances (EUAs) through Carbon Retirement, neutralising whatever carbon emissions we're still responsible for. Participating churches will receive a certificate to this effect to display in church.

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What companies are involved?

We have entered into informal partnerships with several companies and charities: Rickaby Thompson Associates, Carbon Retirement and Charity Funding Solutions.

Rickaby Thompson, a firm of consultant architects and energy advisors, has designed our new Benchmarking scheme. Carbon Retirement will organise the purchase of carbon allowances (EUAs) on our behalf. And Charity Funding Solutions supports churches by negotiating much improved utilities tariffs and services.

Do these companies charge us any fee or commission?

Rickaby Thompson charges a fee for professional services, at a competitive and economical rate. It is paid in part from a grant to our Environmental Audits, with the remainder coming

out of the annual budget of the Head of Environmental Challenge. There is no charge to parishes in the Diocese of London.

For Carbon Retirement, until the end of 2011, the Diocese is keeping to the original rate of £19 per tonne of greenhouse gases (CO₂e), as offered to churches at the inception of the scheme. The full cost to be paid by the Diocese to Carbon Retirement fluctuates, and is currently about £20-22 per tonne. VAT is included; about 85% of the rest goes directly to retiring carbon credits, the remaining 15% to administration and market fees.

Charity Funding Solutions makes no charge to our churches for its services.

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What will this all cost our church?

No financial contribution to the Diocese will be requested for participation in Climate Action Plans from any church in the Diocese of London.

Any other financial implications of each segment of this scheme are indicated in the answers to other questions in this document.

In fact, we think all this can be done whilst making a net saving in parish expenditure, and staying in the black.

What do we get for our money?

The only new cost to parishes will be the cost of carbon, currently charged at £19 per tonne. But that cost was always there, just not acknowledged. Carbon emissions have real cost, which because they are invisible we have become accustomed to put off for the distant future. Now we will start to reduce it, whilst paying what remains.

Churches participating in Carbon Retirement will receive a certificate, showing the number of tonnes of CO₂e emissions 'retired' by purchasing allowances (EUAs).

At the same time, we will help parishes reduce their energy use, and the tariffs they pay. We think this should be more than enough to pay the cost of carbon, whilst leaving some money saving and staying in the black, at least till tariffs go up again or we start making capital investments.

Is there any practical benefit?

There will be a financial benefit, enabling relatively more resources to be applied to other aspects of a church's mission.

Otherwise, in reducing our carbon footprint and using less energy and paying the costs that remain, we may not necessarily see the benefits ourselves.

That will depend on how successful the worldwide effort becomes, and what is our local situation so how much we would have been affected anyway.

But we shouldn't be thinking just of ourselves. We're exporting our emissions to others, and competing for scarce resources, especially energy. We ought to share more equally with those less fortunate than us, and pick up the tab now not leave it to the never-never.

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Does our church have to sign up to Climate Action Plans?

No, this is – as it should be – entirely voluntary, it isn't compulsory. However it's something we're encouraging our churches to consider very seriously.

We're sure any church would want to save energy, and the cost of it – there are better ways to use the hard-earned money given by church members.

Increasingly, we are all becoming aware of the impact we make on this planet from our emissions – some still deny this but it's true all the same. Many churches even have an aspiration to become (net) carbon neutral. We think this offers a feasible way of doing so.

Who takes the decision in our church to sign up to Climate Action Plans?

It should be the PCC (or GCC or DCC as appropriate). Church councils should consider the pros and cons carefully and responsibly – and we hope will come to the conclusion that our Climate Action Plans are the right and proper thing to do, to help become sustainable and play our part in the fight against climate change.

To help church councils make this decision, we have provided a summary of what is on offered and needs to be decided.

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Measuring your church

What does it mean to 'measure a church'?

How is energy measured?

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What does it mean to 'measure a church'?

A church has physical measurements – its length, breadth and height. These affect how much energy it uses. Length and width can be taken off floor plans relatively easily – maybe included in a church's Quinquennial Inspection Report – or as a last resort, measured with a tape measure.

We use the floor areas of each church as one of the key factors in our Energy-saving Benchmarking scheme. A larger church uses more energy, which needs to be taken into consideration.

It has been suggested that a church's height should be considered too. However we think the benefit would not justify the greater complication. Also we don't want to discourage a church from making better use of its height and volume, by reordering or conversion schemes involving extra floors.

The different uses of different areas in the church also need to be estimated, the numbers of people coming and going, and how long they stay. An approximate estimation is appropriate.

Energy consumption is the most important factor to measure. This is done from utilities bills, and from reading meters. Bills may be issued quarterly, or monthly. Churches signing up to the Utility Warehouse, with the help of Charity Funding Solutions, will be provided with monthly bills.

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How is energy measured?

There are three main complications in measuring energy use – fuels, units, bills and meters.

Do you have oil? The diocese likes to measure that in litres. You can do so by checking the level in the tank, or more simply by adding deliveries during the year. Be clear, are you working from the delivery or from the billing date?

Otherwise we use kilowatt-hours (kWh) for everything. That's fairly simple for electricity. It's on most meters and it's on the bill. The kWh is the standard unit.

It's far from easy with gas. The different units are confusing, and they're not labelled on the meter. The word 'unit' is ambiguous; it used to mean heat units (BTUs), now it means volume. But it can be imperial (100s of cu feet) or metric (1000s of litres). Then that has to be converted to kWh. You should be given a conversion factor on your bill.

Finding the meter is often tricky, and working out what it covers – the whole site or part? Are any areas sub-metered? Or separately metered, with an independent intake? That's an important difference, which needs to be got clear. It's very useful to have separate metering, or sub-metering – for example if you have tenanted areas.

The Diocese's [Head of Environmental Challenge](#) can help and advise any parish in sorting out the kinds of issues outlined above.

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Who will undertake this work? How will it be recorded and reported?

Much of this work has been done already, and more can be done by the same means.

Since 2005, the Diocese of London has included figures for energy use in the system of parish annual returns. The Diocese's online reporting system is now open for figures from 2009 and 2010. The link is at <http://communications.london.anglican.org/ministrymatters/?p=1772>. On-screen help is provided.

The figures we need are for 2010 (and 2009 if a church hasn't supplied those before). Figures for 2005-2009 have already been received, analysed and reported.

In 2009, the Diocese's programme of [Environmental Audits](#) commenced in the Two Cities Area. Each environmental audits includes figures for energy use, taken from bills provided by the parishes taking part. We are carrying out further audits wherever possible.

The Diocese's [Generic Building Solutions](#) programme also commenced in 2009. Many churches supplied energy figures and bills while returning questionnaires.

For all other churches, information is entered in a dedicated Survey Form, devised in connection with Climate Action Plans and [Energy-saving Benchmarking](#).

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Carbon footprint calculators

What are 'carbon emissions'? What is a 'carbon footprint'? What are 'CO₂' or 'CO₂e'?

Where do we come into all this? How is our carbon footprint calculated?

Once we know what our carbon emissions are, how do we deal with them?

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What are 'carbon emissions'? What is a 'carbon footprint'? What are 'CO₂' or 'CO₂e'?
Indeed, most people had not heard these terms just five years ago!

'Carbon emissions' are gases (called 'greenhouse gases'), which we humans put into the air. Most kinds of greenhouse gases have carbon in them.

Each of us is responsible for a share of these gases, each church too:

- Our personal carbon footprint is the weight in tonnes of greenhouse gases our lifestyles generate each year.
- A church's carbon footprint is based on its use of gas and electricity.

Working out a church's carbon footprint is a reasonably straightforward calculation. We will help churches do this.

Carbon emissions add to the greenhouse effect which causes global warming.

The greenhouse effect is like a blanket of gases in the atmosphere, which let sunlight in but then trap some of the heat, causing the earth to warm up. The main greenhouse gases are water vapour and carbon dioxide (CO₂). These are natural and wholesome in themselves: animals (including humans) breathe CO₂ out, plants breathe it in. That still leaves some in the air. When the atmosphere contains the right concentration of CO₂, it stays more or less within temperatures suitable for life as we know it to go on.

There is also a range of other greenhouse gases (eg CFCs add to global warming, as well as causing the hole in the ozone layer). These other gases (which are not natural but of human origin) are included in the total by a composite measure called CO₂ equivalent or CO₂e – so our carbon footprint is in tonnes of CO₂e.

During the last century and more, the concentration in the air of all greenhouse gases has been going up, due to human activity, mainly:

- Industries and power stations, buildings, cars and aeroplanes, burning coal, oil and gas
- Cement and aluminium production
- Some foods and agricultural practices
- Cutting down and burning trees and forests.

All these things release vast amounts of CO₂, more than plants (or the sea) can take in – disturbing the natural balance and causing warming. As a whole, the planet's surface temperature is rising – currently at an average of about 0.13-0.17°C per decade (of course there are irregular ups and downs, in different years and places).

And once forests are gone, there are less left to breathe in CO₂. While the warming itself releases more gases and water vapour from the oceans.

This is harmful to God's creation – which we're supposed to be looking after – and could become very dangerous. That's why we are treating it seriously and with urgency, working to reduce our contribution to global warming. [\[Carbon Footprint Calculators\]](#)
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Where do we come into all this? How is our carbon footprint calculated?

A church, like any other organisation in respect to its premises and buildings, needs to know its carbon footprint.

Estimating a church's carbon footprint is reasonably straightforward, at least for regular use of gas and electricity – which accounts for most of its emissions most of the time (unless there's a building project in progress, for example – that would add more).

An approximate rule of thumb is to add up electricity consumption for a whole year in kWh and divide by 2000; add up gas consumption for the year (also kWh) and divide by 5000. Then add the two figures together for gas and electricity, and you have your carbon footprint for energy in tonnes. The average for churches in London in 2008 was 42 tonnes.

But that is just an approximate indication. The numerical 'emissions factors' used to divide your figures for gas or electricity are not exactly 2000 or 5000; new figures are published every year, and even then they may change. Oil (if you have it) is different again. Renewable energy may need to be allowed for.

Rather a palaver, but don't worry! We will help you by calculating your footprint more accurately – based on the figures collected by 'Measuring your Church', and the correct carbon factors.

Once we know what our carbon emissions are, how do we deal with them?

There are lots of savings in energy and carbon we can make with no cost at all, just by avoiding waste! Climate Action Plans will provide a plan listing potential savings for each participating church.

What's left over needs to be paid for – there is a hidden cost to carbon. Once reductions are being made in our energy use and carbon footprint, churches can 'retire' a church's remaining carbon emissions by buying credits from Carbon Retirement. The amount for any church to 'retire' is its estimated carbon footprint in tonnes of CO₂e, after reducing this as much as possible by saving energy.

By 2012 if we've met our target of 20.12% savings, we should only need to pay for the remaining 79.88% of carbon. And that should keep coming down as we head towards our targets of 42% savings by 2020, and 80% savings by 2050.

Is there any practical benefit?

In dealing with our carbon footprint, and paying the cost of our carbon, we may not necessarily see the benefits ourselves. That will depend on how successful the worldwide effort becomes, and what is our local situation so how much we would have been affected anyway.

But we shouldn't be thinking just of ourselves. We're exporting our emissions to others, less able to cope than we are in a rich country and a comparatively favourable situation. We should pay the bill not them. And we should pay it now, not leave it to people in the future after we're gone.

Will this make our church 'carbon neutral'?

'No' and 'Yes!' Almost no-one can become strictly carbon neutral – there are activities that go on producing some carbon, almost whatever we do.

However, we can become 'net' carbon neutral, by generating renewable energy, and by purchase of EU allowances (EUAs) through Carbon Retirement, neutralising whatever carbon emissions we're still responsible for. Participating churches will receive a certificate to this effect to display in church.

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Does our church have to have its carbon footprint estimated?

This is voluntary, not compulsory. However it's something we're encouraging our churches to consider very seriously.

The Diocese already calculates the carbon footprint for all our churches, as part of the national Shrinking the Footprint campaign, and with a view to achieving our target of 20.12% savings

by 2012, 42% by 2020, and at least 80% by 2050. We would like to make this calculation more accurate – making detailed calculations for more individual churches helps us do that.

We also think many churches have an aspiration to become (net) carbon neutral – we think this is a feasible way of doing so, which we urge you to think about.

Also, it's part of the package in our 'Climate Action Plans'. These include negotiating cheaper and better energy tariffs. But the cheapest tariffs aren't the greenest. We don't think it would be right to relax the effort to save on emissions, even for the sake of spending less on energy.

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Energy-saving Benchmarking

So what is Benchmarking?

Yes, but where do we come into all this?

What adjustments will be made when benchmarking our churches?

How are the size and uses of our churches measured or quantified?

Have you considered taking the height or volume of a church into consideration, as well as the plan area?

How is energy measured and recorded?

Why do we need to distinguish electricity and gas, or energy and carbon emissions? Aren't they all just in proportion to each other?

How do you calculate carbon footprints?

Will Benchmarking make our church 'carbon neutral' then?

What's the point of all this? It seems rather a costly palaver!

Shouldn't every church just have to save energy as much as possible? Why the need to benchmark each church individually? What difference does it make?

What information or conclusions will come out of this benchmarking exercise?

Can you explain a bit more about these A to G bands you speak of?

What do you mean by 'deemed economy'? Explain again please!

So how will all these conclusions be used and applied?

Where is the practical benefit to us?

What companies are involved in Energy-saving Benchmarking?

Can you tell us more about Rickaby Thompson Associates?

Does our church have to agree to being benchmarked?

Who takes the decision in our church to sign up to Energy-saving Benchmarking?

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So what is Benchmarking?

Benchmarking can mean different things; what they have in common is some way of comparing the performance of any organisation, premises or services against a common reference or standard.

The original 'benchmark' was the familiar mark on a wall in the street, showing the altitude above Newlyn datum used by the Ordnance Survey. It shows a horizontal line on a tripod, a bit like a table or work bench. That represents height above a standard datum.

We want to find out how efficient our churches are in terms of their energy use and carbon emissions, compared to each other and some common standard. Hence the need for a benchmarking system, comparing energy use and carbon emissions with typical standards.

Yes, but where do we come into all this?

Churches in London are very diverse – large or small, lightly or heavily used, only for church services or for other events and facilities too. All these things affect energy use and carbon emissions. We have figures for the average church – how much electricity and gas it consumes, how large are its emissions – but we don't know how different churches compare with that average. Even when we measure the consumption of any church, just knowing that it's 10% above or below average could be misleading – it could be 20% larger in area, or have thousands more passing through its doors each year. We must have some way of comparing like with like, then we'll be able to judge what efficiencies any church can achieve.

So we've developed a brand new scheme of [Energy-saving Benchmarking](#), specially for churches in London, helped by Rickaby Thompson Associates. Other kinds of buildings have benchmarking systems. Even churches have published benchmarks from CIBSE (the Chartered Institute of Building Services Engineers). CIBSE's benchmarks do include churches – but only for their use for church services. They take no account of using churches for extended uses under the same roof. We want to build that into our new system too.

Any church in the Diocese of London can take part in our Energy-saving Benchmarking scheme. Churches signed up to our scheme of [Environmental Audits](#) (part of the Diocese's Climate Action Plan) have taken part in benchmarking too. Figures collected for churches involved in our [Generic Building Solutions](#) programme are also involved.

Now we include benchmarking as part of our 'Climate Action Plans' for churches in London.

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What adjustments will be made when benchmarking our churches?

The adjustments to be made are size (total net floor area in sq metres – not including outside walls), percentages areas used for worship, community purposes, catering (eg a café) or offices (the church office or sacristy), numbers of people for each use (persons per year) – and changes in the weather from year to year.

Each church's benchmark grades will show its 'performance' in terms of energy use per square metre (electricity and 'fossil fuel' – ie gas or oil), carbon emissions associated with each of these and overall, these emissions per person hour, and a composite A to G band.

How are the size and uses of our churches measured or quantified?

Size means floor space in square metres enclosed by the outside walls (all floors together, and the proportions for each activity use).

All uses will be classified as worship, community, catering or office. Thus a pre-school group would count as 'community', a sacristy would be included with a parish office. Sometimes these may share space (especially worship with community). Therefore office use and catering will each be assigned a percentage of the whole building area. The floor areas used for

worship and community will be combined. The number of people coming or going in a year for each use is also estimated (giving worship and community separate figures this time).

These measurements can be taken from an Environmental Audit of your church, or in part from Generic Building Solutions data (added to if necessary after discussion with the [Head of Environmental Challenge](#)). Or they are entered on a specially designed Survey Form for Energy-saving Benchmarking.

We are arranging a programme of further visits to churches who have requested this, to complete the information on these forms from scratch if need be.

Have you considered taking the height or volume of a church into consideration, as well as the plan area?

Yes, we did think about this. However we decided not to, for two reasons.

First, we do not think the heights of different parish churches vary as much as their plans sizes. A church with six times the floor area might be twice as tall, but hardly six times as tall. Churches are quite complex in shape too – the effort of working this out would not be justified by the differences in the answers we get at the end; these aren't likely to be so very great.

Secondly, we don't want to discourage a church from using the building volume as efficiently as possible – for example by internal reordering and alterations, including new intermediate floors.

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How is energy measured and recorded?

In kilowatt hours (kWh). This can be read off utilities bills (added up for the whole of one year), and in the case of electricity, directly from the meter. Gas meters don't show kWh, but units by volume (100s of cubic feet, or 10s of cubic meters). There should be a factor to convert to kWh, shown on the bill.

If in doubt, speak to the [Head of Environmental Challenge](#) about this.

These measurements can be taken from an Environmental Audit of your church, or in part from Generic Building Solutions data (if necessary supplemented after discussion with the Head of Environmental Challenge). Or they are entered on our specially designed Survey Form for Energy-saving Benchmarking.

Please make sure you have your energy bills ready in one place (electricity and gas – or oil if you use oil) – for the whole of the last year (2010) or last-but-one.

Why do we need to distinguish electricity and gas, or energy and carbon emissions? Aren't they all just in proportion to each other?

They aren't actually all in proportion to each other, unfortunately. Electricity and gas consumption in kWh has to be multiplied by a conversion factor to work out how much carbon emissions are associated with it – but the factor is different for each different fuel (some fuels are cleaner or more dirty than others).

To make life a bit more complicated, the conversion factors change every year (and even retrospectively for past years). Don't worry though – we will do all this work for each church, aided by our computer spreadsheet.

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How do you calculate carbon footprints?

Like any other organisation, a church needs to know the carbon footprint of its premises and buildings. Estimating a church's carbon footprint is reasonably straightforward, at least for

regular use of gas and electricity – which accounts for most of its emissions most of the time (unless there's a building project in progress, for example – that would add more).

An approximate rule of thumb is to add up electricity consumption for a whole year in kWh and divide by 2000; add up gas consumption for the year (also kWh) and divide by 5000. Then add the two figures together for gas and electricity, and you have your carbon footprint for energy in tonnes. The average for churches in London in 2008 was 42 tonnes.

But that's just an approximate indication. The numerical 'emissions factors' used to divide your figures for gas or electricity are not precisely 2000 or 5000; new figures are published every year, and even then they may change. Oil (if you have it) is different again. Renewable energy may need to be allowed for.

Rather a palaver, but don't worry! We will help you by calculating your footprint more accurately.

Will Benchmarking make our church 'carbon neutral' then?

In itself, benchmarking doesn't make us carbon neutral, nor deal with our energy use or carbon emissions in any way. But it does start to give us an indication how hard we will need to work to get our energy and carbon under control!

Therefore for our churches that take part in Energy-saving Benchmarking, we will then go on to draw up a simple plan of action to reduce consumption and emissions. And after savings are being made, we propose to help churches pay the cost of carbon that still remains through a scheme called 'Carbon Retirement' which buys EU carbon allowances (EUAs).

So will that all make us carbon neutral?

'No' and 'Yes'! Almost no-one can become strictly carbon neutral – there are activities will go on producing some carbon, almost whatever we do.

However, we can become 'net' carbon neutral, by generating renewable energy, and by purchase of EUAs, neutralising whatever carbon emissions we're still responsible for. Participating churches will receive a certificate to this effect to display in church.

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What's the point of all this? It seems rather a costly palaver!

Let's answer the word 'costly' and then the word 'palaver'! And then what is the point of it.

Our new Energy-saving Benchmarking scheme is being developed with the help of professional consultants, Rickaby Thompson Associates. They do charge a fee – a modest one. Part is paid by the Diocese, from the annual budget of the Head of Environmental Challenge. The rest comes from grants to Environmental Audits (because the audits are supported by benchmarking). There is no charge to parishes. We think it's very good value, and we have absorbed the cost.

Is it a 'palaver'? True, it's quite complicated – perhaps more than we realised when we started. But that's what computers are for, so long as it's simple enough to use the system, once it's been worked out. We will do that for you, parishes will not have to do any calculations for themselves – though we will need your help getting information about your church, to input to begin with. We think this will be justified by the benefits in the long run, gaining a really good idea how we're getting on energy-wise, church by church.

But what's the point of it all? Well – to get an accurate idea how we're getting on. Till now we've had to work on information about the average church.

The average 'house' in the UK is worth anything from about £160,000 - £240,000, depending on what source you use. That says nothing about how much your own house is worth. It

might not even be a house, it might be a flat. And it depends where it is, how big and in what condition.

Likewise, knowing how much energy is used by the average church is no use to any particular church. Standards of comparison are needed. Then we can tell whether a church is really using 20% too much energy, 20% less than average, or bang on average. If someone else is using 20% less, and we're using 20% more, then maybe we can save 40%, not just 20%, by doing what they do!

Shouldn't every church just have to save energy as much as possible? Why the need to benchmark each church individually? What difference does it make?

We can gain some idea of how much a church can save, by a careful examination of that church, its circumstances and the characteristics of its buildings. We're doing that now; but it still only gets us so far – without a clear idea whether the energy being used is above or below average, taking all things into consideration.

It really wouldn't be much good pushing us all to make the same savings. Benchmarking helps us apply the right effort in the right places!

One of the tools we're using, to allocate the effort between churches, is what we call 'deemed economy'. This indicates how far we think that each church has progressed on the journey towards our targets of 20.12% savings by 2012, 42% by 2020 and at least 80% by 2050.

Then we can work out how far each church still has to go. For example, the maths works out that a church assigned a 'deemed economy' of 8% (4% below the average of 12% already achieved across the Diocese of London by 2008) will need to save another 13.2% to get to our 2012 target.

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What information or conclusions will come out of this benchmarking exercise?

Each church receives a unique 'benchmark' of 'performance', and key performance indicators or bands, compared to that benchmark. These are communicated in a certificate, set out in plain English on one side of A4, a bit like your house's Energy-Performance Certificate.

Bands are in A to G letters (A is most efficient and G is least efficient).

First there is the energy use per square metre for each fuel (electricity and 'fossil fuel' – ie gas or oil); then the carbon emissions associated with each of these. Then electricity and fossil fuel together are given a combined band. This is adjusted according to the use of the building in person-hours per year, and an overall banding is given, representing the church's efficiency, taking everything into consideration.

Next, the total for emissions relative to occupancy is compared with the average for the Diocese. Each band is assigned a percentage for 'deemed economy' – indicating how far we think that church has progressed on the journey towards our targets of 20.12% savings by 2012, 42% by 2020 and at least 80% by 2050.

These conclusions will in several ways inform the work we are doing in the Diocese's [Climate Action Programme](#) and Climate Action Plans.

First, the bands for electricity and fossil fuel, and for carbon emissions from both together, are included in final reports from [Environmental Audits](#). A church's benchmark certificate can be read alongside this report.

Second, churches who have taken part in the Diocese's [Generic Building Solutions](#) programme (and others of similar generic characteristics) will be able to compare their benchmark certificate with the conclusions of Arup's report on their churches, and on the study as a whole.

In due course, it is planned to use the Diocese's benchmarking scheme to develop an assessment, for each generic 'type' of churches across the whole Diocese, of 'potentiality' to accept major upgrading with a view to achieving our target of at least 80% savings in energy and carbon by 2050. [\[Energy-saving Benchmarking\]](#)
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Can you explain a bit more about these A to G bands you speak of?

Four key bands will be assigned to each church – for the carbon emissions associated with:

- Electricity
- Fossil fuel (gas or oil), and –
- Electricity and fossil fuel, both together; then –
- An overall band, relative to the size of church and how much it is used for different purposes.

'Band A' means 'best' and 'G' 'worst' performance in terms of carbon emissions and energy use. These bands are intended as roughly equivalent to the system we're starting to get to know – through 'Energy Performance Certificates' (EPCs) – when your home is bought or sold or rented – and 'Display Energy Certificates' (DECs) – posted in the lobbies of many public buildings. Our system for churches will be more equivalent to a DEC than an EPC. That's because an EPC measures the typical performance of the building per se, whereas a DEC shows how well it is actually being run by the current management and occupiers. That's what we're aiming to show.

It's like the fuel efficiency of a car. It might in theory run on 60 miles per gallon (advertised in the showroom), but what you actually get depends how you drive it.

A to G bands are also quite normal now for boilers, fridges, freezers etc (equivalent to an EPC not a DEC, ie showing how good the unit was when it left the factory). They've been so successful in improving kitchen white goods that performance has gone off the top of the scale – so new top grades have been introduced and consumers are likely to find themselves preferring a new dishwasher because it is A++ not a mere A+! (When you do replace an old kitchen appliance, you might be astonished by the drop in your electricity bills!)

EPCs and DECs for buildings have yet to achieve the same spectacular results – hopefully that may come. Certificates are presented in a standard glossy format which is UK government approved. We have aimed to design something similar for churches (still distinctive to us, so it isn't confused with a government DEC; and so it gives due prominence the Church is doing, which we hope others will want to imitate). [\[Energy-saving Benchmarking\]](#)
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What do you mean by 'deemed economy'? Explain again please!

Whatever a church building's 'performance' in terms of energy use and carbon emissions, we mustn't go away with the idea that some just aren't able to be improved at all. Yet we should make some allowance for how well it's being managed already. One church may still need to make savings equal to the Diocese's targets – 20.12% by 2012. An average church will have made 12% savings, others even more. These may be real reductions on past energy use, or they may represent good practice that has been in place all along. These things should be recognised.

That's where 'deemed economy' comes in. It's an assessment based on the conclusions of a church's benchmarking, based on the overall A to G bands assigned to each church. The bands translate to steps of 4% 'deemed economy': a church in Band A has a 'deemed economy' of 20%, Band B will be 16%, Band C 12%, Band D 8%, Band E 4%, Band F 0%, Band G – 4%.

All this is for purposes of progress towards our 2012 target, so a Band A church is already almost there, and will soon be working towards our 2020 target of 42% savings (much more challenging). Others have still to catch up, to varying extents. We think this will provide a suitable balance of recognising achievement with incentive to advance even further.

When we get to 2012, we should review all this again, and consider how to incentivise progress towards our 2020 target.

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So how will all these conclusions be used and applied?

There are a variety of ways the conclusions of our Energy-saving Benchmarking system can be used and applied.

First, these conclusions will directly show each church how it is getting on towards our target of 20.12% reductions in energy and carbon emissions by 2012.

A simple calculation will show how much more needs to be saved in percentage terms than has been already. For example, suppose a church is assigned a 'deemed economy' of 8%. That means it is already deemed to be consuming 92% of a typical church of the same characteristics at our baseline (average consumption in 2005). But it needs to achieve 20.12% savings by 2012, to make a fair contribution to the diocese-wide effort. That means getting down to 79.88% of baseline consumption. 79.88% is 86.8% of 92% – so that means a saving of 13.2% is needed from the year used for benchmarking. Such a church is aiming for 13.2% savings by 2012.

That can be easily tracked when 2012 figures are measured. Figures for 2011 will show whether the church is almost there (or has already achieved the target – that's ideal because we don't know a church's results till the year after when the numbers are added up, so then we'll know in 2012 that we've done it).

Next, the work we are doing in the Diocese's [Climate Action Programme](#) and Climate Action Plans will be informed by our benchmarking results in several ways.

Knowing a church needs to save 13.2% of energy and carbon emissions is where we start from in drawing up a list of easy no-cost savings as part of a church's Climate Action Plan.

The bands for electricity and fossil fuel, and for carbon emissions from both together, will be included in final reports from [Environmental Audits](#). A church's benchmark report with clear figures and diagrams can be read alongside this report.

Churches who have taken part in the Diocese's [Generic Building Solutions](#) programme (and others of similar generic characteristics) can compare their benchmark page with the conclusions of Arup's report on their churches, and on the study as a whole.

In due course, it is planned to use the Diocese's benchmarking scheme to develop an assessment, for each generic 'type' of churches across the whole Diocese, of 'potentiality' to accept major upgrading with a view to achieving our target of at least 80% savings in energy and carbon by 2050.

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Where is the practical benefit to us?

The benefits to any church are both short-term and long-term, local and we hope worldwide.

The short term benefit is to be able to keep a church warm with the lights on, and save some money. That should leave a bit in hand for future inflation. In the last year or so, tariffs have gone down. They might do so again, later in 2010. Sooner or later they will start rising again and we should be ready.

The long term benefit is partly in terms of energy security, partly climate change. Energy is going to get increasingly stressed. We've seen recently, in the Gulf of Mexico oil spill, how Americans have been driven to take risks in searching for oil in darker and darker crevices of the earth's crust. The UK has pretty well run out of North Sea gas. We are importing more and more, from Norway and elsewhere. The search will spread wider and wider – leading to such exotic (and dangerous) sources as shale gas.

Renewable energies will increasingly take the place of fossil fuels, first for electricity, later for heat. Not all renewables are equally reliable – wind power is notoriously fickle.

These are local benefits, and challenges to withstand. The greatest worldwide long-term challenge is climate change. Everything everyone does, wherever they are, will affect everyone worldwide in the future. Of course we don't know whether, eventually, everyone in every country will address this challenge and take the necessary action. We recognise that unless they do, our efforts may be unavailing. But as Christians and people of conscience, we should still do what we know ought to be done.

In dealing with our carbon emissions, we may not necessarily see the benefits ourselves. That will depend on how successful the worldwide effort becomes, how rapidly climate change takes hold (will we still be around to see it?) and what is our local situation so how much we would have felt the impacts anyway.

For example, a riverside church is more prone to flooding.

But we shouldn't be thinking just of ourselves. We're exporting our emissions to others, less able to cope than we are in a rich country and a comparatively favourable situation. We should pay the bill not them. And we should pay it now, not leave it to people in the future after we're gone.

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What companies are involved in Energy-saving Benchmarking?

Rickaby Thompson Associates, a firm of consultant architects and energy advisors, has designed our new Benchmarking scheme.

Data is being supplied to it from our Environmental Audits project, by Aardvark EM who are the appointed consultants for that project.

Can you tell us a bit more about Rickaby Thompson Associates?

Rickaby Thompson Associates is a specialist energy and environmental consultancy with long technical experience in the UK and EU building and housing industries.

The firm is working exclusively with the Diocese of London on our Energy-saving Benchmarking project, unless and until it is extended to other dioceses or organisations by mutual agreement (in which case the spreadsheet model would be made available, but not any of the data).

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Does our church have to agree to being benchmarked?

It's entirely voluntary, it isn't compulsory. However it's something we're encouraging all our churches to consider very seriously, as a way of tracking how economical we are with energy and carbon, then acting to make ourselves more efficient.

This is part of the package in our 'Climate Action Plans'. These include negotiating cheaper and better energy tariffs. But the cheapest tariffs aren't the greenest. We don't think it would be right to relax the effort to save on emissions, even for the sake of spending less on energy.

The Head of Environmental Challenge coordinates the benchmarking process, and liaises with each church on a hit list of no-cost savings to energy and carbon. These are valuable things to do in themselves – but we're offering benchmarking as a necessary part of the deal. We want every participating church to sign up to the whole deal.

In fact it's hard to see how without benchmarking, anything else could be done. Without benchmarking, we would be groping in the dark.

Who takes the decision in our church to sign up to Energy-saving Benchmarking?

It should be the PCC (or GCC or DCC as appropriate). The Church Council should consider the pros and cons carefully and responsibly – and we hope will come to the conclusion that this is a right and proper thing to do, to help play our part in the fight against climate change.

So we are providing church councils with a summary of the whole Climate Action Plans package, to assist in making decisions.

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Diocese of London



Climate Action Plans Frequently Asked Questions

Charity Funding Solutions

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What is Charity Funding Solutions?

Charity Funding Solutions (CFS) is a small company working with the Church nationally to provide parishes with a bespoke utility price comparison service. The CFS service complements the other energy initiatives underway in the Diocese of London. We have adopted it as a key part of our scheme of Climate Action Plans.

Most churches are paying too much for their energy. Price rises during 2008 increased rates for churches and halls by around 40%. Prices fell marginally during 2009 and again early in 2010 – but not enough to reflect the substantially lower wholesale rates. Prices are again shooting up in 2011. Moreover, we think many churches are paying over the odds per unit. The 'big six' energy companies are not offering their best deals to churches.

So we need help to determine the most advantageous tariffs. For the past several years, CFS has been providing a service to parish treasurers and clergy in a number of Church of England dioceses. The service is now available to parishes in London, in association with our programme of Climate Action Plans, enabling parishes to:

- Obtain an up-to-date assessment and comparison of utility costs
- Change electricity-billing profiles to achieve enhanced savings
- Compare new offers for contracted energy rates
- Switch providers to obtain best un-contracted energy rates
- Or switch to Good Energy as the Diocese's recommended 'green' energy provider
- Identify and recover erroneously charged VAT or other taxes
- Cut the costs of telephony and broadband (parish offices and clergy houses).

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How does the system work?

Churches who wish to avail themselves of this service will be supplied with a simple **Parish Utility Costs Survey Form**, requesting information such as the last quarter's utility charges. This can be returned by post or email (or information communicated by telephone to Charity Funding Solutions).

CFS will then identify potential savings for the church concerned, and agree with the treasurer/clergy what action to take; for example whether or not to 'challenge' contract rates or to switch provider, if that is more beneficial.

In many cases, churches who are free to switch to a different supplier will be provided with the appropriate forms and VAT Declaration to switch to the best contracted or uncontracted tariff offered to business customers and to churches – depending on the circumstances of each individual supply. Factors to be considered include:

- Whether the tariff is contracted or uncontracted
- Whether a tariff allows churches on multiple rate 03 supplies (those with night and evening/weekend readings), to obtain the more beneficial tariff rates applicable to 04 supplies
- Frequency of billing (eg monthly or quarterly)
- Preferred method of payment
- Quality of customer service, including -
- On-line or telephone access for customers including for meter readings.

Charity Funding Solutions can help any church switch to Good Energy, and get the right rates. Good Energy is the only supplier of 100% renewable electricity in the UK at present – hence this remains the Diocese's recommended 'green' supplier as it offers the closest possible to a fully 'green' tariff.

CFS will agree a format for obtaining PCC agreement, and draft the necessary application and VAT declaration, which they then send to the treasurer for signatures.

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Where do we come into all this?

The Diocese remains concerned by continuing high energy costs to parishes, and has been seeking ways to mitigate the expense, alongside our Climate Action Plans. We should be able to do both at once.

Quality of service is another consideration. We want to make sure churches get the best of all worlds: cost and service.

Therefore the service is being offered to all London churches, in the London Diocese as part of our scheme of Climate Action Plans.

We think parish treasurers will welcome the service being offered by Charity Funding Solutions, with whom more than one in three other dioceses are currently working in partnership.

Bear in mind that as 'business' energy customers, well over half of all churches are subject to 'lock-in' contracts from one of the 'big six' energy providers. This often gives rise to unfair charging, erroneous billing and protracted disputes. The prevalence of these 'lock-in' contracts means that even when savings are clearly identified, parishes have to await the end of contract before being able to realise them. All treasurers therefore need to be aware of the contract status of their Church.

In addition to tackling inappropriately high tariffs per se, Charity Funding Solutions also identifies erroneously charged government levies, and can offer advice on parish telephony and broadband expenditure.

Can you tell us more about Charity Funding Solutions itself?

Charity Funding Solutions (CFS) is the trading name of CF Solutions Ltd, a small consultancy established to assist charities save costs. Noël Muddiman CBE founded it in 2004, when he retired as Director of the national charity Motability. The time that Noël gives to the Church is voluntary, and no charges are made for this, any associated travel, postage and telephony costs. Similarly his colleagues providing the CFS service in other dioceses give their time voluntarily.

Originally, CFS was introduced to London and other dioceses by the Church of England's central Procurement Group. Churches in many other dioceses can testify to the value of this service.

Does Charity Funding Solutions take any commission?

There is no charge or commission to the Diocese or parishes for this service.

It is provided by Charity Funding Solutions entirely free of charge to the Diocese and all churches. In some cases, CFS may be offered a small commission by a company receiving a customer transfer, purely for that Company's costs for administration that are offered as part of CFS's service – still without charge to the Diocese or any parish.

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Is there any practical benefit?

There are many very tangible benefits, the scale of which will vary from parish to parish, depending on current circumstances, tariffs and contracts.

Over 90% of parishes using the service in this and other dioceses so far have achieved savings ranging from £150 to over £3000 annually (compare estimated average energy costs of £6,600 for London churches).

Ancillary services may also be made available. One company which is now offering the most favourable rate for electricity, is now also offering to install Smart Meters (AMS), at no cost to PCCs, in every church with a supply consuming over 12,000 kWh annually. This will give church managers and PCCs exact electricity usage figures in real time, to help them identify

peaks and take remedial action. Church treasurers benefit, because it ensures totally accurate billing going forward, and obviates the requirement to take meter readings to maintain the account in good order.

Charity Funding Solutions also helps by identifying erroneous charging of Climate Change Levies and higher rate VAT, as well as unfair contractual terms. It then advises treasurers on the appropriate course of action to make recoveries or 'challenge existing contracts.

CFS can also offer advice on Church telephony and broadband expenditure.

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Will this make our church 'carbon neutral'?

Not in itself, no. Reducing energy costs does not by itself alter a church's energy consumption, nor carbon footprint.

Utilities companies are regulated by 'climate change agreements' with the government, requiring them to include a degree of greenness in their supplies and services. They can discharge this obligation in a variety of ways, which may be 'dark' green, or a pretty 'pale' shade of green!

However it must be realised that all the electricity produced by any company for grid customers comes through the same wires, is mixed together and therefore has the same carbon content per unit.

Specifically 'green' tariffs seek to overcome this drawback in different ways. Good Energy has been identified as the UK's only company supplying the electricity grid 100% from renewable technology services, either of from its own sites or third-party sites which are also 100% renewable. Good Energy now also supplies gas but only to small customers, mainly domestic. Profits from gas are ploughed back into solar hot water systems.

Therefore the Diocese still offers a recommended deal with Good Energy. This offer remains as an alternative to the Utility Warehouse or other supplier who may be identified by Charity Funding Solutions.

However it is still essential to reduce consumption of gas and electricity, from wherever it has come. The Diocese's scheme of Climate Action Plans also includes drawing up simple savings plans for churches.

Even after reducing consumption, electricity (and gas) from non-renewable sources will still retain their carbon content unabated. To deal with the residual emissions resulting, Climate Action Plans includes a scheme of 'Carbon Retirement', to pay the hidden cost of carbon via allowances from the EU Emissions Trading Scheme (EUAs).

Every church taking part in Climate Action Plans is encouraged to adopt Carbon Retirement as part of the package. The benefit of doing this in conjunction with Charity Funding Solutions, and making no-cost savings, is that these savings should more than pay the cost of EUAs, leaving each church net carbon neutral and with a financial surplus at the end of the year.

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What about the Diocese's deal with Good Energy? Is this affected by Climate Action Plans, or the deal with Charity Funding Solutions?

The Diocese does indeed have an existing deal for parishes to sign up with Good Energy – still the greenest energy supplier in the market: inasmuch as, all the electricity they sell is from renewable sources (solar, wind and hydro). That is to say, the electricity consumed by their customers is made up by supplying the same amount to the grid, from renewable generation sites owned by Good Energy or their own third-party suppliers.

Our deals with Charity Funding Solutions and Carbon Retirement will complement not replace our deal with Good Energy. Signing up to Good Energy remains a valid way to achieve a green electricity supply.

See these links:- <http://www.london.anglican.org/Shrinking-the-Footprint-Action> (under 'More downloads') www.good-energy.co.uk, and/or call 0845 456 1640. Make sure to quote promotional code GE141.

Good Energy now also sells gas. Gas from the grid in the UK is not (yet) green or renewable. However, Good Energy is re-investing its profits from gas in domestic renewable installations (solar hot water systems, to begin with). Gas supplies from Good Energy are currently only available for low consumption levels; this will effectively limit the scheme to domestic accommodation for now – but well worth considering for the Vicarage.

Good Energy's tariffs are not the cheapest – because, as explained, they include the prime cost of carbon-free electricity. However, under government rules, emissions from any green tariff, including from Good Energy, have to be calculated on the same basis as any other electricity bought from the grid, meaning we still can't claim that our electricity is carbon neutral.

The Diocese's [Climate Action Plans](#) puts Good Energy, for the first time, on a 'level playing field' with the best non-green tariff. [\[Frequently asked questions\]](#)
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Does our church have to agree to working with Charity Funding Solutions?

The service being offered by Charity Funding Solutions is voluntary, it isn't compulsory.

However, it comes close 'no-brainer' status, in US English! We think most church councils will want to take it up – it would be odd not to give it a try.

Charity Funding Solutions are offering their support at no cost, and doing almost all the administrative work entailed in say switching provider on behalf of the participating church.

In addition, we strongly encourage churches who take part to do so alongside the complete Climate Action Plans package.

Who takes the decision in our church to sign up to Charity Funding Solutions?

It should be the PCC (or GCC or DCC as appropriate), or the Parish Treasurer if choice of utility provider is delegated to her or him.

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Climate Action Plans Frequently Asked Questions

No-cost savings plans

What are the No-cost Savings and Plans proposed?

Will every action in a 'No-cost Savings Plan' really be free?

You mention Benchmarking again. Where does this come into it?

Why is the Diocese aiming for no-cost savings?

Is there any practical benefit?

Does our church have to agree to undertake a savings plan?

Who takes the decision in our church to sign up to a no-cost savings plan?

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What are the No-cost Savings and Plans proposed?

These plans to save a church's energy use and carbon emissions are drawn up in discussion with the Head of Environmental Challenge, using figures and bandings derived from the Diocese's new Energy-saving Benchmarking scheme.

Specifically it is no-cost savings that are aimed for at this stage – probably at least till 2012, by which time the Diocese of London aims to cut its energy use and carbon footprint by 20.12%.

No-cost savings include switching off the lights when leaving a room, switching off at the mains (when a system permits this), closing doors and windows, adjusting radiators individually, turning down the thermostat by one degree. And there will be more, tailored to each Church's circumstances.

Will every action in a 'No-cost Savings Plan' really be free?

Most will be.

Some actions to take might cost money, strictly speaking. That applies to changing the lightbulbs to energy-saving types, for example. We encourage every church to do this.

Energy-saving lamps are generally more expensive than traditional types. But they also last longer. So the cost should even out over time.

All the more so, since in a church, money can often be saved by changing bulbs less often – due to the cost of working at height.

Also, advice will be given on sourcing the right lightbulbs for any given fittings. More and more choice is becoming available. Some suppliers even provide an all-in service, including specification, delivery and/or disposal.

You mention Benchmarking again. Where does this come into it?

Under the Diocese's scheme of Climate Action Plans, no-cost savings plans are most effective when the church has first been 'benchmarked'. This [Energy-saving Benchmarking](#) scheme is another initiative special to London.

Churches in London are very diverse – large or small, lightly or heavily used, only for church services or for other events and facilities too. All these things affect energy use and carbon emissions. We have figures for the average church – how much electricity and gas it consumes, how large are its emissions – but we didn't know before, how different churches compare with that average. We must have some way of comparing like with like, then we'll be able to judge what efficiencies any church can achieve. That's what benchmarking does.

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Why is the Diocese aiming for no-cost savings?

We're targeting no-cost savings first for several reasons.

Firstly, it's common sense that measures not costing anything should be undertaken before going on to works requiring expenditure. When dealing with the energy use of a building, capital works can be expensive. Yet they are sometimes the first idea which comes to mind. For example, many people think in order to save energy they need to install solar panels.

Solar panels are indeed an excellent thing to do (and there are other systems such as biomass boilers that burn wood pellets or chips, and are more climate-friendly).

In the end, most or all buildings may require such capital works.

But maybe not all at once. These are major projects, requiring time and funding.

In some cases, sizing a renewable energy installation may be based on too high a figure for how much energy the building needs to use. That could make it cost more, quite unnecessarily.

Secondly, there are quite a lot of no-cost savings available to most buildings and premises. Mostly, they are commonsense measures, a matter of management and user behaviour. Just switching off the lights when leaving the room, switching off at the mains (when a system won't be damaged by this), closing doors and windows, adjusting radiators individually, turning down the thermostat by one degree, can make a surprisingly large difference.

The Diocese of London has set itself a target of saving 20.12% of its energy and carbon by 2012 (compared to 2005). A good many churches in London could achieve this for their own church just by doing all those things mentioned above, and there will be others to suggest. Some have begun to do so already.

Thirdly, the energy and carbon savings we want to make in this way are part of the Diocese's new Climate Action Plans. This includes dealing with the hidden cost of carbon (even after starting to make savings) by purchase of EU allowances (EUAs). This is called 'Carbon Retirement'.

Therefore we want our churches to reach our 2012 target without any other cost than this. We think this can be done by saving energy and costs, and still leave money to spare after paying for the carbon.

Finally (as if more reasons were needed), times are hard since the credit crunch, and look set to get harder as deep cuts in UK public expenditure are applied by the government. Churches are still being asked for Common Fund contributions to the Diocese. We want to lessen the burden not add to it.

So now may well not be the time for most churches to embark on major capital works. Not for the next couple of years anyway. There is plenty to do without spending more money, for the time being.

Is there any practical benefit?

There is of course much practical benefit in saving energy. The costs go down and the service is better assured, even when fossil fuels start to run out (as they look like doing alarmingly soon).

In paying the cost of our carbon we may not necessarily see the benefits ourselves. That will be a long-term benefit for the world as a whole, whose success depends on the worldwide effort.

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Does our church have to agree to undertake a savings plan?

It's entirely voluntary, it isn't compulsory. It makes sense, and it's something we're encouraging our churches to consider very seriously.

Just writing a plan isn't the end of the story of course. Making it happen will call on everyone's resources of determination and perseverance (and tact – if we can, avoiding bossiness and 'greener than thou' attitudes!)

Who takes the decision in our church to sign up to a no-cost savings plan?

That may not really require anyone's authority in itself. However it's best with the Church Council behind it (the PCC, GCC or DCC as appropriate).

Also this forms part of the Diocese's package of Climate Action Plans. We would like churches to sign up to the whole package. That should come from the Church Council.

In particular, Low-cost Savings Plans will work best when a church has done Energy-saving Benchmarking first. The Church Council should consider the pros and cons carefully and responsibly – and we hope will come to the conclusion that this is a right and proper thing to do, to save energy and help play our part in the fight against climate change.

We are providing church councils with a summary of the whole Climate Action Plans package, to assist in making decisions.

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Climate Action Plans Frequently Asked Questions

Carbon Retirement

What is 'Carbon Retirement'?

I don't quite understand how the system of EU trading works?

Yes, but where do we come into all this?

What are 'carbon emissions'? What is a 'carbon footprint'? What are 'CO₂' or 'CO₂e'?

What's the point of paying someone else to make cuts in their emissions, not in ours?

How can our church afford to pay for carbon allowances (EUAs)?

What do we get for our money?

Is there any practical benefit?

Who does our money go to?

Can you tell us a bit more about Carbon Retirement the company and what they do?

What other companies are involved?

What about companies who aren't part of the ETS? Won't they just go on making emissions, defeating the object?

What is the price of EU allowances (EUAs) through Carbon Retirement?

How is the price set per tonne of carbon?

How much of this goes to administrative costs?

Does Carbon Retirement take any commission?

Do we pay the price of all our carbon emissions?

Is there any evidence that the EU trading scheme, or retiring credits, actually work?

Didn't I read somewhere that the EU scheme has failed to save any emissions?

How can we be sure that carbon is saved by scrapping EUAs?

Won't the EU just issue more credits to make up the shortage?

Does our church have to agree to do 'carbon retirement'?

Who takes the decision in our church to sign up to 'Carbon Retirement'?

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What is 'Carbon Retirement'?

'Carbon Retirement' is the name of a company which buys allowances (EUAs) from an exchange run by the European Emissions Trading Scheme (ETS). Then it 'retires' them – that is, it puts them beyond use.

Not that these EUAs are harmful in themselves, they are a useful tool to share out the task of saving carbon emissions.

Only a fixed set of the most polluting companies takes part in the ETS – and must have EUAs equal to its reported emissions – but anyone can buy EUAs voluntarily. So Carbon Retirement gives them more bite, by taking some out and reducing the number left. There are fewer left in the system, so fewer tonnes of carbon are allowed to be emitted – that way, companies in the ETS are forced to make emissions cuts.

That speeds up the effort to cut carbon emissions from major industry.

I don't quite understand how the system of EU trading works?

You're not alone! Emissions trading is a fairly new concept, not familiar to many people yet. The EU Emissions Trading Scheme (ETS for short) is a 'cap and trade' scheme. It sets a total limit on carbon emissions from a defined set of 10,000 major polluting companies, then allows these companies to share the limit among themselves.

Companies pay each other to transfer allowances (called 'EUAs') *from* those who would prefer to sell their allowances, and make carbon cuts instead, *to* those who prefer to buy more EUAs – because it would cost more to make the cuts they would otherwise have to. A fixed number of EUAs is issued free to participating companies to begin with, then companies who wish to sell place their surplus EUAs in a pool from which other companies can buy.

At the end of each accounting year, companies have to report their emissions in tonnes, and surrender the correct number of EUAs needed to support those emissions. When the current period of trading ends (in 2012), a new round will begin – but the number of allowances issued will be reduced, tightening the squeeze on carbon.

Yes, but where do we come into all this?

We can 'retire' our carbon emissions by buying credits from Carbon Retirement – in conjunction with our 'Climate Action Plans' for churches in London.

The amount for any church to 'retire' is its estimated carbon footprint in tonnes of CO₂e, after reducing this as much as possible by saving energy. This gives us an incentive to save as much as possible. The Climate Action Plan for each church includes a list of zero-cost savings that can be made.

The amount each church needs to save (ie its proper share towards the diocese's targets) will be assessed by benchmarking in comparison with other churches in the Diocese. At the same time, support will be provided by Charity Funding Solutions to negotiate the best possible utilities deal for your electricity and gas.

We estimate this should leave enough money to pay for 'retiring' the rest of the church's emissions, and still make a net money saving too – keeping your church in the black.

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What are 'carbon emissions'? What is a 'carbon footprint'? What are 'CO₂' or 'CO₂e'?
Indeed, most people had not heard these terms just five years ago!

'Carbon emissions' are gases (called 'greenhouse gases'), which we humans put into the air. Most kinds of greenhouse gases have carbon in them.

Each of us is responsible for a share of these gases, each church too:

- Our personal carbon footprint is the weight in tonnes of greenhouse gases our lifestyles generate each year.
- A church's carbon footprint is based on its use of gas and electricity.

Working out a church's carbon footprint is a reasonably straightforward calculation. We help churches to do this.

Carbon emissions add to the greenhouse effect which causes global warming.

The greenhouse effect is like a blanket of gases in the atmosphere, which let sunlight in but then trap some of the heat, causing the earth to warm up. The main greenhouse gases are water vapour and carbon dioxide (CO₂). These are natural and wholesome in themselves: animals (including humans) breathe CO₂ out, plants breathe it in. That still leaves some in the air. When the atmosphere contains the right concentration of CO₂, it stays more or less within temperatures suitable for life as we know it to go on.

There is also a range of other greenhouse gases (eg CFCs add to global warming, as well as causing the hole in the ozone layer). These other gases (which are not natural but of human origin) are included in the total by a composite measure called CO₂ equivalent or CO₂e – so our carbon footprint is in tonnes of CO₂e.

During the last century and more, the concentration in the air of all greenhouse gases has been going up, due to human activity, mainly:

- Industries and power stations, buildings, cars and aeroplanes, burning coal, oil and gas
- Cement and aluminium production
- Some foods and agricultural practices
- Cutting down and burning trees and forests.

All these things release vast amounts of CO₂, more than plants (or the sea) can take in – disturbing the natural balance and causing warming. As a whole, the planet's surface temperature is rising – currently at an average of about 0.17°C per decade (of course there are irregular ups and downs, in different years and places).

And once forests are gone, there are less left to breathe in CO₂. While the warming itself releases more gases and water vapour from the oceans.

This is harmful to God's creation – which we're supposed to be looking after – and could become very dangerous. That's why we are treating it seriously and with urgency, working to reduce our contribution to global warming. [\[Carbon Retirement\]](#)
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What's the point of paying someone else to make cuts in their emissions, not in ours?

You've hit the nail on the head. This is one of the key benefits of a cap and trade scheme, which is intended to make cuts in carbon emissions as efficient as possible.

It was realised that cutting a tonne of carbon emissions has just the same benefit wherever it happens; since greenhouse gases are all mixed up in the atmosphere, they add to the blanket around the earth which is making it warmer, so cutting some in one place makes that blanket a little bit thinner everywhere.

So what's needed is to make the cuts as cheap as possible to the economy – Europe's economy in this case, which the UK forms part of. And as cheap as possible to us – it would cost us much more to cut our church's carbon footprint to zero than to pay some very large company to make the same cuts to their much larger carbon footprint. It seems much less to them, but it's a lot to us. In fact, a well-run trading system should direct the cuts to the very place

where they can be done most cheaply – so consumers, including us, end up with less added to the costs of goods and services.

How can our church afford to pay for carbon allowances (EUAs)?

Our scheme of Climate Action Plans includes energy savings by means of a tailored action plan for each church, and savings in the tariffs paid, negotiated through Charity Funding Solutions.

We estimate that these two savings combined should leave more than enough to pay for 'carbon retirement' by means of EUAs, and still leave a net money saving out of each church's previous budget.

What do we get for our money?

Churches participating in the Diocese's scheme of Climate Action Plans and Carbon Retirement will receive a certificate to post on the church noticeboard, showing the number of tonnes of CO₂e emissions 'retired' by purchasing allowances (EUAs). That will be a tangible representation of the church's commitment to become net carbon neutral.

Of course, it isn't just what we 'get' that matters. It isn't even what we 'give', but what we pay for the cost of the carbon emissions we produce. Carbon emissions have real cost, which because they are invisible we have become accustomed to put off to the never-never.

Unfortunately our brothers and sisters in the developing world are starting to pick up the cost big-time and in real time. Droughts and flooding which are becoming increasingly endemic in Africa especially, are almost certainly down to climate change. In April 2009, residents of the Carteret Islands became the first documented case of a community forced to abandon their homeland by sea-level rises caused by climate change. Even in the UK, the repeated floods of recent years are likely to be caused partly by climate change – we can't (yet) prove such a link, but it will get more and more obvious.

Is there any practical benefit?

In paying the cost of our carbon we may not necessarily see the benefits ourselves. That will depend on how successful the worldwide effort becomes, and what is our local situation so how much we would have been affected anyway.

For example, a riverside church is more prone to flooding.

But we shouldn't be thinking just of ourselves. We're exporting our emissions to others, less able to cope than we are in a rich country and a comparatively favourable situation. We should pay the bill not them. And we should pay it now, not leave it to people in the future after we're gone.

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Who does our money go to?

Payments will be payable in the first instance churches to the London Diocesan Fund, which will pass them via Carbon Retirement to the EU market which sells the pool of EU Allowances (EUAs), and through that market to the company which surrendered those EUAs which we have bought.

That company will then invest the money in reducing its emissions to the reduced level supported by its remaining allowance after giving up some of its EUAs.

Carbon Retirement will issue the LDF with a template for certificates to be issued to each parish showing the number of tonnes of carbon 'retired'.

Can you tell us a bit more about Carbon Retirement the company and what they do?

Absolutely, the Company has won several prestigious awards for what it does.

Carbon Retirement will receive payment from us of your money, and transfer it to the EU's Emissions Trading Scheme (ETS).

It's also local – in Vauxhall, across the river from London Diocesan House.

The proprietor Jane Burston has also worked closely with the British Council.

There are other ways we're planning to work with this company, to support our campaign to 'Shrink the Footprint' in London churches and communities. Watch this space ...

What other companies are involved?

The ETS comprises a select group of 10,000 large companies – electricity generators for example – which are major polluters and major emitters contributing the highest proportion of the EU's carbon emissions.

What about companies who aren't part of the ETS? Won't they just go on making emissions, defeating the object?

Other schemes are being set up to engage an increasing range of smaller and smaller companies.

In particular, in the UK, the new Carbon Reduction Commitment places onerous requirements on a range of large and medium sized enterprises (but not, for example, parish churches – at least not for the time being).

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What is the price of EU allowances (EUAs) through Carbon Retirement?

Until the end of 2011, the Diocese is keeping to the original rate of £19 per tonne of greenhouse gases (CO₂e), as offered to churches at the inception of the scheme. The full cost to be paid by the Diocese to Carbon Retirement fluctuates, and is currently about £20-22 per tonne. VAT is included; about 85% of the rest goes directly to retiring carbon credits, the remaining 15% to administration and market fees.

How is the price set per tonne of carbon?

The basic market price fluctuates according to market conditions.

Carbon Retirement has to pay costs on top of the market price of carbon. These include fees for using the exchange (the place where they buy the allowances), fees for transferring the cash and exchanging it into Euros, and then overheads. These typically amount to 15% of the market price.

VAT also has to be included, an additional 20% on top. The cost the Diocese passes on to churches in the Diocese of London allows for these extras, within a total set at £19 per tonne till the end of 2011.

How much of this goes to administrative costs?

As well as administration and overheads there are fees for using the exchange, for transferring the cash and exchanging it into Euros. Carbon Retirement adds its own small commission. In total all this amounts typically to 15% of the market price.

Thus, 85p in every £1 is spent on reducing emissions (compare 28p in every £1 by typical 'offsetting' schemes). VAT is extra to that, included at its current rate within Carbon Retirement's price to us.

Does Carbon Retirement take any commission?

Yes, Carbon Retirement adds a small commission to the administrative costs it has incurred. This is included in the total of 15% extras on top of the 85p in every £pound which actually goes to pay for EUAs.

Do we pay the price of all our carbon emissions?

We could do, but it's much better to save as much as we can to begin with, then only pay the price for what's left.

In particular, there are lots of savings in energy and carbon we can make with no cost at all, just by avoiding waste! We think at least 15-20% can be saved by making sure we all switch off the lights when we leave the room, using energy-saving lamp types, not leaving appliances on stand-by unnecessarily, turning down the thermostat by one degree (we've all become used to higher temperatures than before), and other commonsense housekeeping measures.

Each church's Climate Action Plan will include a list of simple actions like these, appropriate to that church's circumstances.

By 2012 if we've met our target of 20.12% savings, we should only need to pay for the remaining 79.88% of carbon. And that should keep coming down as we head towards our targets of 42% savings by 2020, and 80% savings by 2050. [\[Carbon Retirement\]](#)
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Is there any evidence that the EU trading scheme, or retiring credits, actually work?

There have been a number of studies on the effectiveness of the EU Emissions Trading Scheme. Of course their analyses vary, and they don't all come to identical conclusions. One such study was a report by the UK Parliament's Environmental Audit Committee, earlier in 2010. Parliamentarians are generally quite sceptical hard-nosed people. However their assessment of the scheme is broadly favourable.

Most commentators acknowledge the over-supply in allowances in Phase 1 which caused prices to collapse then. Phase 2, running from 2008 to 2012, has learned from that. Even Phase 1 does appear to have yielded some reduction in emissions, though less than hoped; and it is a reduction in a likely increase which would have occurred otherwise during that period, rather than an absolute reduction. In 2008, the first year of Phase 2, there is thought to have been a reduction of about 3% in emissions.

Since the credit crunch, it has been hard to distinguish the different causes of carbons savings, whether due to economic shrinkage or due to the success of the market, but it is widely thought the latter made a real contribution.

It also appears firms may be hoarding credits to use in Phase 3, beginning 2013, to avoid the much tougher restraints on emissions intended then. However there might even be some short-term benefit in that. Had there been any over-supply in Phase 2, that would have tended to be taken out by holding of credits. Further credits 'retired' by third parties to the market (including us) therefore have an improved chance of applying real downward pressure to emissions. The current pressure on prices is upwards, so it doesn't appear there is a net over-supply.

There is also a debate about whether the ETS should be participating in the much-criticised Clean Development Mechanism (CDM), or allowing participants in the ETS to use CDM schemes in part satisfaction of their obligations. However the evidence of Prof Michael Grubb of the Carbon Trust to the Parliamentary Audit Committee was that this linkage does in fact add to the effectiveness of the ETS.

Didn't I read somewhere that the EU scheme has failed to save any emissions?

In the early years of the EU ETS, when it was running on a pilot basis, too many allowances were issued for the quantity of emissions, and as a result they lost value. The supply was

reduced for the period 2007 to 2012 to below actual emissions by the companies concerned for the previous period, and will continue to be further reduced in future periods.

The EU ETS is now highly regarded worldwide as a viable working cap and trade scheme (for example, President Obama has planned to copy it for the USA's planned cap and trade scheme, but due to climate scepticism Congress is reluctant to pass such measures).

How can we be sure that carbon is saved by scrapping EUAs?

This depends on the regulatory framework and supervision which is brought to bear within the European Union's Emissions Trading Scheme. This is at a high level, and is within a comparatively small cohort of major industries and companies whose management and accounting can be supervised to a sufficient level.

Although absolute certainty cannot be guaranteed, without linking individual payments to individual emissions reduction measures, the constraint on the market from a reduction in the supply of EUAs also offers sufficient assurance that the required measures will be taken. It may be that ongoing improvements in carbon accounting should further tighten the system and its accountability.

Won't the EU just issue more credits to make up the shortage?

This is not permitted by the EU scheme. A fixed number of allowances (EUAs) are required to be issued in each period of the scheme. [\[Carbon Retirement\]](#)
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Does our church have to agree to do 'carbon retirement'?

It's entirely voluntary, it isn't compulsory. However it's something we're encouraging our churches to consider very seriously.

We think many churches aspire keenly to become carbon neutral. This is a feasible way of doing so, which we urge churches to think about.

Also, it's part of the package in our 'Climate Action Plans'. These include negotiating cheaper and better energy tariffs. But the cheapest tariffs aren't the greenest. We don't think it would be right to relax the effort to save on emissions, even for the sake of spending less on energy.

Charity Funding Solutions are offering their support at no cost. The Head of Environmental Challenge coordinates the benchmarking process, and liaises with each church on a hit list of no-cost savings to energy and carbon. These are valuable things to do in themselves, but we're offering carbon retirement as part of the deal. We want every participating church to sign up to the whole deal.

Who takes the decision in our church to sign up to 'Carbon Retirement'?

It should be the PCC (or GCC or DCC as appropriate). The PCC/GCC/DCC should consider the pros and cons carefully and responsibly – and we hope will come to the conclusion that this is a right and proper thing to do, to help play our part in the fight against climate change.

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