

A simple formula for car use is :

where  $C$  is the carbon emitted (in tonnes),  $m$  is the miles travelled and  $p$  is the petrol consumption in miles per gallon.

$$C = 0.00284 \times \frac{m}{p}$$

Estimating the carbon emissions from other forms of travel, such as train or ship, is more difficult. The carbon emissions from manufacturing consumer goods is generally very hard to estimate, but is usually more than you might think ! Some sites will tell you how many kilograms of carbon are emitted, and some how many kilograms of carbon dioxide. One kilogram of carbon dioxide contains 0.273 kilograms of carbon. We recommend you always express your emissions in kilograms (or tonnes) of carbon emitted.

### Some web resources



Churches and congregations will want to start with the Eco-congregation's website. Jo Rathbone, its Co-ordinator, summarised the whole programme on the centre spread in the February issue of the Diocesan newspaper *The DOOR*. (Eco-Congregation, The Arthur Rank Centre, National Agricultural Centre, Stoneleigh Park, Warwickshire CV8 2LZ) [www.ecocongregation.org](http://www.ecocongregation.org).

A very useful site is hosted by the National Energy Foundation; it gives you converters to estimate carbon dioxide emissions from energy consumption, car use and transport.

[www.natenergy.org.uk/convert.htm](http://www.natenergy.org.uk/convert.htm)

More accurate estimates of emissions from aeroplane flights are made by:

[www.chooseclimate.org/flying/mapcalc.html](http://www.chooseclimate.org/flying/mapcalc.html)

while the site

[www.futureforests.com/calculators/flightcalculatorshop.asp](http://www.futureforests.com/calculators/flightcalculatorshop.asp)

gives a perhaps less accurate estimate for carbon emissions by aircraft but does give the number of trees you need to plant to compensate for your flight !

This is only a very brief starting point. Use a good search engine and find many more useful sites.

### *Where do we go from here?*

From today's workshops and displays we will have collected much information and ideas of what action, individually and in our congregations, we can take - *"to make care for creation, and repentance for its exploitation, fundamental to our faith, practice and mission"* (Church of England General Synod resolution 17 February 2005).

For a summary, a good place to start would be Claire Foster's report for General Synod, *Sharing God's Planet*, which includes the table of ideas reproduced overleaf. This is followed by the contact details for environmental organisations that provide support and resources for such action. The book is reviewed on the website of the London Institute of Contemporary Christianity: [www.licc.org.uk/culture/planet](http://www.licc.org.uk/culture/planet), followed by a list of relevant websites.

Many websites are interlinked, and starting with one quickly leads you to others.

For example, you will find a list of relevant sites on the stewardship pages of the Diocese of Chichester: <http://stewardship.diochi.org.uk>.



The Christian Ecology Link site is full of ideas and examples, including 'Ark in a Box', a complete set of resources on climate change as part of Operation Noah: [www.christian-ecology.org.uk/noah](http://www.christian-ecology.org.uk/noah). There is also a new 'Cool Church Tool kit' offering guidance on switching to green electricity and using energy more efficiently.

An account of the environmental policies and actions of different denominations is given in the UK section of the website of the European Christian Environmental Network: [www.ecen.org](http://www.ecen.org), also within their ECEN Resources pages.

In the Oxford region, SAGE is an active group of Christians with a particular concern for our Lord's Creation. It produces a regular newsletter (Sage Words) on topics such as climate change, Christian environmental books and simple living. SAGE organises walks, has written a set of Bible study notes, is involved in conservation tasks, and members are ready to give presentations and to lead services (e.g. for Environment Sunday or Creation Time). SAGE meets regularly to pray. For more information, contact via email at [info@sageoxford.org.uk](mailto:info@sageoxford.org.uk)



or mail to: Dr. Martin J. Hodson, School of Biological and Molecular Sciences, Oxford Brookes University, Headington, Oxford, OX3 0BP, Answerphone: 01865 483954. Web: [www.sageoxford.org.uk](http://www.sageoxford.org.uk)

For an example of Local Authority support for energy saving initiatives and renewable sources, go to [www.oxford.gov.uk/services/energy-page.cfm](http://www.oxford.gov.uk/services/energy-page.cfm)

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## Some practical Christian responses

| Church buildings and grounds  | Community-orientated  | Spiritual   |
|---|---|---|
| Undertake an environmental/energy audit   | Environmental project with school   | Use of creation-focused prayers and hymns in worship  |
| Install heat conservation measures and change lighting to low-energy sources  | Initiate a litter pick in a local 'grot spot'   | Special creation care service – sometimes with members of local environmental organizations                         |
| Promote sustainable transport, e.g. through provision of secure cycle-storage facilities and car sharing                          | Plant trees in an appropriate locality  | Integration of environmental issues into special services, e.g. Harvest Festival                                    |
| Make/purchase and install bird and bat boxes and bird feeding stations in church grounds  | Promote fair trade through a church purchasing policy and by offering fairly traded products for sale                           | Holding a creation care series of Bible studies   |
| Establish a recycling programme for church consumables such as paper  | Establish a recycling point to collect items such as stamps, mobile phones, used printer cartridges, aluminium foil/cans, shoes | Exploring creation care issues in children's Sunday activities  |
| Initiate a policy at church of using washable crockery and cutlery and environmentally friendly cleaning products                 | Work with building users on environmental issues  | Holding a holiday or summer club with a creation care theme   |
| Switch to green electricity   | Undertake practical conservation work   | Publishing creation care prayers  |
| Establish a wildlife garden – e.g. through provision of habitats such as hedges and log piles, wildlife feeding and nesting sites | Encourage individuals to adopt a greener lifestyle through articles in church or parish magazines                               | Using natural materials in worship, e.g. organic bread and wine   |
| Establish and maintain an Environmental Notice Board  | Promote activities and achievements through the local media   | A prayer walk/pilgrimage/ramble including faith reflections   |
| Install a compost pit for waste flowers and other organic material and a water butt   | Promote and distribute household environmental/energy audits and water hippos   | Choose to dedicate in worship items such as trees prior to planting, recycling containers or low-energy light bulbs |
| Advertise or provide clear signage of church policy and why it has been initiated   | Support/adopt an environmental charity  | Include publications or other resources with a creation care focus in any library that the church has               |
| Undertake a wildlife survey in the churchyard   | Organize an environmental event/seminar/meeting/speaker and advertise it in the community (could be during One World Week)      | Research, plan and plant a garden using biblical plants/images  |

*Sharing God's Planet (CHP £5.99) - p.37*

## Climate Change - how Christians respond

### What next ?

We hope that you have learned from this conference and that you will wish to explore ways of putting into practice some of the things we have talked about. This sheet contains a few suggestions to get you started. Please contact me if we can be of further help. *Jan James*  
Oxford Diocesan Environment Advisor <[Dr.I.N.James@Btinternet.com](mailto:Dr.I.N.James@Btinternet.com)> 01344 451155.

### For Congregations and Parishes

- Link into a network of local Churches to exchange ideas on reducing emissions and developing sustainable practices.
- Become an "Eco-congregation". There is material to help you perform an environmental audit and to become more environmentally friendly - *see over*.
- Contact me to arrange a speaker to address your congregation, PCC, Deanery or Churches Together group and to work with you to reduce your emissions.
- Carry out a carbon audit to see how much carbon you are responsible for, taking into particular account heating, electricity consumption and car use.
- Repeat the carbon audit after about a year.
- Estimate the car mileage generated by your church meetings and events. Seek ways of reducing this, and of promoting car sharing.

### For Households

- Carry out a carbon audit of your heating and electricity use.
- Repeat it after twelve months.
- Review your house insulation.
- When you replace household appliances such as washing machines, ensure you buy low-energy consumption models.
- Consider switching to a "green electricity" supplier who will guarantee to supply electricity from renewable sources.
- Log your car fuel consumption regularly.
- Keep a log of your car journeys over (say) a month. Determine what fraction of your mileage should be regarded as essential, convenient or luxury.
- Seek opportunities to car share if you regularly have spare seats.
- Carry out a carbon audit of your holidays. Consider switching to surface transport, or reducing the distance you fly.

### Carrying out a carbon audit

There are a number of websites that will help you to carry out a carbon audit - *see over*. Most are aimed at households, but they are easily adapted to estimate the carbon emissions of a small organisation such as a church. Basically, you enter your consumption of electricity, gas, heating oil and the site will tell you the amount of carbon emitted as a result. Similarly, various sites will calculate the carbon emissions from car or aeroplane journeys.