

Water

Although water shortages hit the headlines from time to time, Britain does not currently have serious problems with water supply. However, we use electricity to pump the water and chemicals to make it clean enough to drink – although we only drink about 2% of the water we use.

Sewage processing and disposal does contribute to greenhouse gas emissions and to pollution of waterways and of the sea. Unless you

Closing the cycle

The ecological ideal for reducing water use and closing the nutrient cycle between people and environment is to install a composting toilet – which converts human waste to useful compost. The only meeting that has one of these, as far as we are aware in the Living Witness Project, is Hope Valley RM, at the Bamford Quaker Community.

use a hose in the garden, the main use of water in your meeting is likely to be for toilet flushing.

Older toilets use 10 litres (2 gallons) of water per flush. You may be able to save up to 3 litres per flush (30%) with a “hippo” in the cistern – some water companies offer them free. New toilets use 6 litres per flush as standard and the most efficient use 4.5 litres or less. If you are refurbishing, consider a waterless urinal for the men’s loo (info from CAT – page 11) and make sure you

install dual or low-flush toilets elsewhere. Although these measures save water they obviously do not reduce the quantity of faecal matter, urine and paper entering the sewage system.

Materials and waste

Start by finding out how much waste your meeting generates. Weigh your rubbish over several weeks and work out the average. Make a rough estimate of the percentages of food, paper, glass, plastic and metal waste.

A growing number of local authorities are now carrying out a doorstep collection of materials for recycling, but the items collected differ considerably from place to place. Most will take glass, steel and aluminium cans and newspapers. Some collect plastic bottles and a range of grades of paper and cardboard waste. But in most areas, some types of waste can only be recycled if they are taken to a municipal waste and recycling centre.

Many meetings have established collection facilities in their meeting house for hard-to-recycle waste such as plastic and batteries. This can be a first step in generating discussion in the meeting about environmental issues.

There are now four facilities in Britain that recycle food and drink cartons, including tetrapacks – long-life cartons made of layers of plastic, aluminium and paper glued together. If you call the Alliance for Beverage Cartons and the Environment on 020 8977 6116, they will send you mailing labels so that you can box up your rinsed, flattened cartons and mail them off to their recycling plant in Fife. You could set up a collection point in the meeting house and send off the cartons in larger quantities.

If your meeting uses disposable cups and plates, consider going back to china. Washing up has environmental impacts too – mostly from energy use to heat the water. But you can minimise this if you wash up carefully, and you can get the energy from a renewable source.

Paper towels can be a significant waste stream. Consider going back to cloth towels. Used paper towels can be a useful addition to a compost heap, especially to get the nitrogen/carbon balance right if you have a lot of grass clippings.

Other main waste streams are likely to be packaging for food and beverages, and paper waste. Any paper and cardboard that is not accepted by your local recycling service can be composted.

Cleaning and decorating

Check through the bottles and cans in your meeting's cleaning cupboard. What chemicals and solvents are being used? Environmentally friendly alternatives are generally available and many Friends will probably be using them in their own homes. Avoid chlorine and phosphate-based products in particular as these can damage freshwater ecosystems. Use water-based paints to reduce solvent emissions, which can damage the health of the user as well as contributing to air pollution and climate change. Look for cleaning and decorating materials based on plants, rather than petrochemicals.

Ethical purchasing

The obvious items for ethical purchasing in meetings are Fairtrade tea, coffee and sugar. But you might consider the social and environmental impacts of the full range of products and services consumed by your meeting. What are the working conditions in the companies that made your furniture? Was it made from sustainable sources of materials? Have you looked at the corporate connections of your insurance provider? Where does your meeting invest its funds?

Ethical consumption is often a popular topic for study groups. Inform yourselves by subscribing to *Ethical Consumer* (page 11) or obtaining a copy of their book, the *Good Shopping Guide*. Contact Quaker Green Action if you would like someone to come and speak to your meeting.

If you have children in the meeting, lawns are good for them to play on, but more biodiverse patches can be a source of fascination and require less chemicals for maintenance. A compost heap can also be a source of learning, as well as providing an environmentally friendly disposal route for food waste, teabags etc. from the meeting.

Perhaps your meeting house garden could be a source of food. At the very least, consider planting some fruit trees. In Oxford, the meeting house garden is a source of both stewed apple and crab-apple jelly for our breakfast meetings.

Bunhill Fields Quaker Burial Ground

Bunhill Fields Friends are planning a redesign of the public garden on the burial ground where George Fox is interred in the City of London. They have obtained substantial funding for the project which seeks to combine biodiversity, a place of tranquillity and beauty in the heart of the city, and space for local children to play, including a ball court.

Practical steps:

- 1. Carry out an audit. What plants and wildlife are present in the garden? What chemicals are used? How much water is used in the garden? Are peat products used? Do you make compost?**
- 2. Research the alternatives. Look at the HDRA and CAT Web sites (pages 11 & 12). Invite a green gardening expert to visit through Quaker Green Action.**
- 3. Organise a meeting to discuss the findings. What are Friends' priorities for the garden? What do they currently value about it? How could it be improved? Can you make any specific proposals?**
- 4. Evaluate how the proposals measure up to your various priorities before taking them to Preparative Meeting.**

possible for Friends to use public transport to attend meeting? Would it be easier if the timing of meeting were changed? Are there facilities for cycle parking at the meeting house? And do you organise lift sharing for meeting for worship and other gatherings?

Freight transport accounts for nearly half of transport sector energy use and is growing faster than personal travel. It is harder to quantify a meeting's contribution to freight transport, but you can raise awareness of the issues, for example by organising a shared lunch based on locally produced food.

Practical steps:

- 1. Carry out a survey of Friends' travel to meeting (distance, transport mode, size of car, number of people sharing lifts).**
- 2. Analyse the results using the footprint guide at the end of this booklet.**
- 3. Research the options for more use of public transport, car sharing and cycling. Contact Sustrans for resources and advice (page 12) or ask for a speaker from Quaker Green Action.**
- 4. Organise a meeting for Friends to talk about the findings. Ask what constrains them from making different choices. Have a creative discussion about ways of reducing car use. See if you can come up with concrete proposals.**
- 5. Take proposals to Preparative Meeting.**

Gardens and grounds

Meeting house gardens and burial grounds offer an opportunity to contribute to biodiversity, maintaining habitats for birds, small mammals and insects. Consider having an unmanaged area in the garden.

Contact details for useful organisations

Addresses are only given if there is no contact telephone number.

Actionaid Recycling: 0845 3 100 200; recycles printer cartridges and mobile phones for charity; www.actionaidrecycling.org.uk

Alternative Technology Association - membership organisation associated with CAT - members receive the very informative magazine *Clean Slate*.

Association for Environment Conscious Building (AECB): information, useful contacts etc: PO box 32, Llandysul, SA44 5ZA; www.aecb.net

Auro Organic Paint Supplies: 01799 543 77; www.auroorganic.co.uk

Building Research Establishment (BRE): 01923 664000; www.bre.co.uk

The Carbon Trust: www.thecarbontrust.co.uk; 0800 585794. Government agency. Free energy advice over the phone.

CAT (Centre for Alternative Technology): 0845 330 4593; resources on water, energy, waste, composting etc. www.cat.org.uk

Computers for Charity: 01323 840641; recovers used computers for charity www.computersforcharity.co.uk

Eco-congregations: detailed advice on carrying out an environmental audit: 01942 612633; www.encams.org/ecocongregation

Ecology Building Society: savings with a green conscience; 0845 674 5566; www.ecology.co.uk

Ecotricity: 08000 326 100; www.ecotricity.co.uk

Energy Saving Trust: Government agency offering advice. 08457 277200 (energy efficiency hotline); www.est.co.uk

Ethical Consumer: magazine reviewing ethical performance of products; 0161 226 2929; www.ethicalconsumer.org

Fairtrade Foundation: campaigns, resources and Fairtrade accreditation; 020 7405 5942; www.fairtrade.org.uk

Friends of the Earth (FoE): 020 7490 1555; www.foe.co.uk

Good Energy: 0845 456 1640; www.good-energy.co.uk
 Green Building Store: 01484 854898; www.greenbuildingstore.co.uk
 Green Energy 100: 01920 486156; www.greenenergy.uk.com
 Greenpeace: 0800 269 065; www.greenpeace.org.uk
 HDRA (Henry Doubleday Research Association): advice and resources for organic gardening; 0845 064 1164; www.hdra.org.uk
 Livos Natural Paints: 01952 883288; www.livos.com
 Mailing preference service: to prevent direct advertising mail; 020 7291 3310; www.mpsonline.org.uk
 Natural Death Centre: advice on environmentally-friendly funerals 020 7359 8391
 Phone Co-op: telephone and Internet service provider; 0845 458 9000; www.thephone.coop
 Quaker Green Action (QGA): Laurie Michaelis on 01865 308306 or Lizz Roe on 01865 767060; www.quakergreenaction.org.uk
 RSPB: 01767 680551; www.rspb.org.uk
 Sustrans: projects to encourage walking and cycling; 0117 929 0888; www.sustrans.org.uk
 Traidcraft: Fairtrade mail order; 0191 491 0591 for details of your nearest rep; www.traidcraft.co.uk
 Triodos Bank: ethical banking with accounts including Quaker Housing Trust; 0500 008720; www.triodos.co.uk
 Unit[e] - renamed Good Energy (see above)
 Waste Watch: advice on waste minimisation and recycling; 0870 243 0136; www.wastewatch.org.uk
 Woodland Trust: 01476 581111; www.woodland-trust.org.uk
 WWF: 01483 426444; www.wwf.org.uk

Travel

The transport sector now accounts for about 30% of UK CO₂ emissions and this share is growing. It is the main source of urban air pollution. Road-building destroys ecosystems and the car industry is one of the major consumers of both bulk materials such as steel and aluminium, and high-value commodities such as platinum. Cars increasingly dominate our use of space. Travel by car and plane is one of the most worrying and intractable challenges for sustainable development.

Being part of the Quaker community may include a great deal of travel for some Friends. In addition to attending meeting on Sunday, they may go to Monthly Meeting, General Meeting and Yearly Meeting, as well as being involved in central committees. Some may travel internationally – e.g. on QPSW projects or to international Quaker gatherings.

Transport choices may seem to be up to individual Friends, but there are ways in which meetings can have an influence. Even if travel for Quaker purposes is a small part of our overall transport use, making it a focus for discussion can help Friends to become more aware of the issues and begin to change their habits.

Consider carrying out a survey of Friends, to find out how far they travel to meeting and for other Quaker purposes and by what transport mode. Then explore ways of reducing car use. Is it

Hardshaw East MM Transport Policy

Hardshaw East MM has set up a Social and Environmental Advisory Group (SEAG), which assists the Meeting in its corporate social and environmental witness. One of its main initiatives has been to develop a policy statement on transport, which was adopted by MM. Hardshaw East Friends seek to minimise car use for MM by organising meetings to fit public transport timetables, which are distributed to Friends in advance, and by encouraging car sharing.

2. Improve the energy efficiency of your building and appliances. Draught-proof doors and windows; insulate lofts, walls and floors where possible; install double glazing when replacing existing windows. Make sure your heating system is efficient and up-to-date, and includes effective thermostats and time switches. If your meeting house has a fridge or fridge-freezer, this may be one of the largest users of electricity; when buying new appliances, make sure they are the maximum rating for energy efficiency (A or A+). Install energy efficient “compact fluorescent” light bulbs wherever possible, bearing in mind the need to consult others in the meeting.

3. Conserve energy. Switch off lights, water heaters and other appliances when not in use; don’t overheat (this obviously requires sensitive consultation). Involving Friends in an environmental audit or a regular environmental study group could be one of the best ways to raise awareness and develop a conservation culture in the meeting.

Practical steps:

1. Calculate your meeting’s annual energy use (in kWh) from past fuel and electricity bills, preferably covering two or more years. Use the guide at the end of this booklet to calculate the energy contribution to your meeting’s environmental footprint.

2. Identify opportunities to save energy: you may have Friends with the necessary skills in your meeting. Otherwise, Quaker Green Action may be able to identify a nearby Friend; or you can contact the Energy Saving Trust for advice (see page 11).

3. Arrange a meeting for Friends to discuss priorities: e.g. comfort, cost saving, reducing environmental impacts, preserving the character of the building....

4. Evaluate the options and decide which to implement. This might be the task of a specially convened group, the premises and finance committee, or Preparative Meeting.

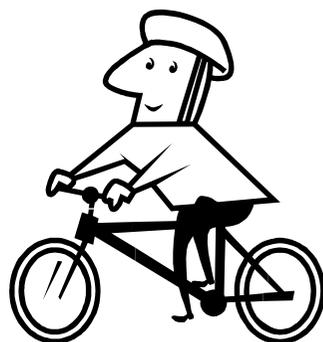
Self-assessment: your meeting’s eco-footprint

The following pages will help you to work out the “environmental footprint” of your meeting – the total area of land needed to sustain your activities. The footprint score gives the “ares” of land required to support your meeting, based on global average productivity levels. One are is equal to 100m². One hundred ares make a hectare.

Even if you do not have your own meeting house, your use of a building for meeting for worship will involve some environmental impacts. You might need to talk to whoever manages the building to find out about energy use, and consider how much should be allocated to your meeting.

Members and attenders at your meeting may be interested in working out their own ecological footprints. A calculation guide is available – contact Laurie Michaelis at laurie@livingwitness.org.uk; 01865 308306.





Travel to meeting:

This section accounts for energy use, land use and materials for roads, materials and energy for vehicle manufacture etc.

Find out how far each Friend travels to meeting, and what transport mode they use. Add up the distance travelled by each mode, and use the following table to work out the total transport footprint. Remember to count both directions of travel!

Transport mode	Miles per week (count return trips!)	Multiply by	To get your score
4x4, "people carrier" or sports utility vehicle		$\frac{12.4}{1000}$	
Standard family car		$\frac{6.2}{1000}$	
DI diesel engine		$\frac{4.5}{1000}$	
Ultra small/efficient car		$\frac{2.6}{1000}$	
Train, bus or underground		$\frac{1.6}{1000}$	
Motorbike		$\frac{3.2}{1000}$	
Bicycle or walk		0	
Total Meeting Transport Score			

Energy

In most meetings, energy use for heating is the most environmentally significant activity under corporate management. If you use gas, the main environmental issue is climate change due to CO₂ emissions and leaked gas. For electric heating, the impacts are more complex. Most electricity in Britain is generated from coal, gas, nuclear power, hydro and wind. Minor sources include

landfill gas, sewage sludge, chicken manure and municipal waste. For details on the impacts of these, contact Quaker Green Action.

There are three ways of reducing the environmental impact:

1. Switch to less polluting and renewable energy sources. The most important step you can take is probably to switch your electricity supply to a renewable source such as Eco Energy, Ecotricity 121, Good Energy or RSPB Energy. Contact Friends of the Earth or visit www.foe.co.uk for details. Contact Quaker Green Action if you want to discuss the pros and cons of different options, or would like somebody to come and speak to your meeting about them. There is no renewable source of gas in Britain at present.

Solar water heating can make sense if there is a steady demand for hot water from day to day, either because you have a warden in residence, or because the meeting house is in constant use. However, if there are large day-to-day variations in water use it may be more economical and environmentally-friendly to use electric water heating with electricity from a renewable supply.

Dorking Meeting

A small group of Dorking Friends carried out an environmental audit over a two-year period. Among the outcomes are improvements to draught-proofing, switching to green electricity and planning a redesign of the heating system to reduce energy consumption.

As a result of these and other measures, Dorking Friends won the Eco-Congregation Award from Churches Together in Britain and Ireland.

Introduction

Many meetings have carried out audits to evaluate the environmental impacts of their meeting houses and activities, and to identify opportunities for action. There are several possible approaches to carrying out an audit. Often it can seem easiest for one person to take responsibility, research all of the issues and prepare a report for preparative meeting. In some meetings, it is the premises and finance committee that carries out the audit, talking through the various issues, scrutinising electricity, gas and water bills, and reporting back to PM. But an eco-audit can also be an opportunity for community building and self-education.

This booklet offers some simple suggestions for carrying out an audit. It has been prepared by the Living Witness Project – a network of Quaker meetings exploring our corporate witness to sustainable living. More detailed guidance is available from Quaker Green Action, Ecocongregations and a variety of specialist organisations (contact details on pages 11 and 12).

The audit might best be carried out by an existing study group in the meeting exploring green issues, or an audit group set up by your PM. One option is for members of your group to take turns to research an issue and then report back at group meetings. The group can then discuss options for improving the environmental profile of your meeting and also look at how the issues relate to your own lives.

It can often seem difficult to prioritise different areas for action. At the end of this booklet there is a guide to calculating your meeting's environmental footprint separating out the contributions of energy, transport, buildings and grounds, and materials.

For more suggestions, to hear others' experience of conducting an environmental audit, or to find an experienced Quaker speaker to visit your meeting, contact Quaker Green Action through Laurie Michaelis at laurie@livingwitness.org.uk or 01865 308306.

Energy

This section accounts for land use in energy supply, and greenhouse gas emissions from fossil fuel use.



If you know how much fuel and electricity you use in kWh per year, you can calculate your meeting's energy footprint. Unless you are very good at mental

*Conversion tips:
1000kWh is a quantity of energy equal to 3.6 gigajoules, and equivalent to:
32 units of gas (one unit = 100 cu.ft)
94 litres of heating oil
144 kg of coal*

arithmetic you will need a calculator! If the meeting house is used by other groups, you will need to decide how much of the energy consumption to allocated to Friends and how much to other users.

Energy source	kWh per year	Multiply by	To get your score
Standard, non-renewable electricity		$\frac{13}{1000}$	
Gas		$\frac{5}{1000}$	
Fuel oil		$\frac{7}{1000}$	
Coal		$\frac{9}{1000}$	
Renewable electricity		$\frac{1}{1000}$	
Total Meeting Energy Score			

Building and grounds

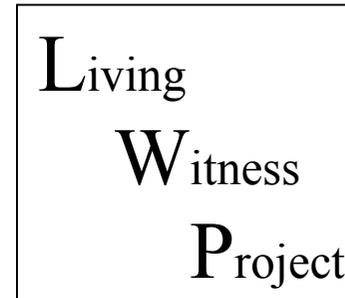
This table accounts for the land physically occupied by your meeting house and grounds. It also includes an allowance for material extraction and energy use for construction and infrastructure.

	Area in sq. metres	Multiply by	Your score
Land occupied by building		$\frac{1}{1000}$	
Paved, concrete, tarmac, gravel, and lawns or other areas treated with chemical pesticides		$\frac{1}{1000}$	
Land untreated by chemicals and managed for wildlife		0	
Total meeting score for buildings and land use			

Consumable materials and waste

This final table accounts for the land use for extracting resources for materials consumed in the meeting house, the land used for waste disposal, and the energy and greenhouse gas emissions associated with material use and waste.

	kg/week generated	Multiply by	Your score
Waste left out for the normal collection		22	
Glass, metal, paper and plastic sent for recycling		5	
Composted food and garden waste and cardboard		0	
Building waste	per skip	150	
Total meeting score for waste			



Carrying out an environmental audit in your meeting

Draft

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