

# **A guide to cutting your organisation's carbon emissions**

Guidance compiled for LINK

by Jolin Warren

May 2008

## A guide to cutting your organisation’s carbon emissions

<b>1. Introduction</b>	<b>2</b>
<b>2. Quick Start</b>	<b>2</b>
2.1. Easy Initial Savings .....	2
2.2. Help and Advice .....	3
<b>3. Energy</b>	<b>4</b>
3.1. Energy Overview .....	4
3.2. Reducing the Need for Energy .....	4
3.3. Maximising Energy Efficiency .....	5
3.4. Using Renewable Energy .....	5
<b>4. Transport</b>	<b>6</b>
4.1. Transport Overview .....	6
4.2. Reducing the Demand for Transport .....	7
4.3. Increasing the Use of Lower-Energy Transport Modes .....	7
4.4. Maximising the Energy Efficiency of Your Transport .....	8
<b>5. Other Areas</b>	<b>8</b>
5.1. Procurement .....	8
5.2. Land Management .....	9
5.3. Resources .....	9

*Scottish Environment LINK is grateful to the Cragnish Trust for funding compilation of this guidance.*

## 1. Introduction

This document provides general guidance on how you can cut your organisation's carbon emissions. It does not seek to be comprehensive, but provides a general approach for each topic and provides tips on how to start reducing your carbon emissions. There is a general 'sustainability hierarchy' that informs this document's approach, which is:

- (1) Use less
- (2) Be as efficient as possible in your use (e.g. reduce wastage)
- (3) Use sustainable options

If you want a quick start, have a look at the next section. It gives ideas of easy ways to start making savings, and information on where you can get free help and advice identifying possible savings specific to your organisation. The following sections look at the main areas that can generate emissions in more detail.

Before going any further, it is worth briefly mentioning 'carbon offsetting'. There are a variety of these schemes available, all of which claim to account for your carbon emissions by reducing carbon emissions somewhere else in the world. Some of the schemes do nothing to reduce carbon emissions (and potentially increase them), while others result in genuine reduction. Assessing the worth of a scheme is difficult due to a lack of regulation or agreed standards and accreditation in the carbon offset industry (including projects in the UK). Offsets to the Gold Standard, set up by a number of organisations including WWF, are not yet widely available. This document will not consider the relative benefits of the various schemes, because *regardless of how effective any particular carbon offset scheme is, it is far more effective to reduce your own carbon emissions*. This is not to say that you should not consider offsetting the emissions you cannot avoid, but that topic is outside the scope of this document.

Finally, you might want to consider setting up a document that sets out targets and associated actions to reduce your organisation's carbon emissions. Detailed suggestions can be found in the *Reporting* section of the accompanying LINK document, *Carbon Accounting*. A document with targets and actions helps to provide a coordinated approach to the various measures that an organisation can put in place.

## 2. Quick Start

### 2.1. Easy Initial Savings

While the following sections look in detail at how your organisation can reduce carbon emissions, it can help to start with a few easy changes that have a significant impact. This can help to motivate people and make the task of changing behaviour to reduce emissions seem less daunting. The following list should give you some ideas of where to start. You can then use the rest of this document to systematically look at different areas of your organisation's operation.

- **Switch off equipment that's not in use.**  
Computer monitors and printers often get left on overnight and at weekends. Aside from the carbon emissions generated to supply electricity to this unused



equipment, this is a waste of money (costing the 'average' UK office £6,000 per year<sup>1</sup>).

- **Switch off lights when you are not using a room.**  
If a room or area is not being used, there is no reason to light it. This can save up to 15 per cent on your lighting costs.
- **Make use of natural light and do not turn on more lights than needed.**  
Staff need enough light to work comfortably, but there's no need to have lights on in a room lit by sufficient natural light or in parts of a room not being used.
- **Do not overheat (or over-cool) your office.**  
Ideally, the temperature in your office should not be more than 18°–19° C. For every degree you increase the heat in your office, your heating costs will rise by 8 per cent.
- **Do not heat unused space.**  
Cupboards and storerooms do not need to be heated to the same temperature as rooms that people are sitting and working in.
- **Leave space around radiators and keep hot equipment (e.g. photocopiers) away from cooling vents.**  
This will ensure that your radiators and cooling vents do not have to work extra hard.
- **Talk to staff and volunteers about how to save energy.**  
People working in your offices or properties have probably noticed opportunities to save energy. Talking to them will provide you with information about what changes could make saving energy easier and encourage them to think about how they can reduce energy usage.
- **Draught-proof windows and doors.**  
This is quick and inexpensive but can reduce the need for heating.
- **Install roof and/or cavity wall insulation.**  
An uninsulated building loses a lot of heat through its roof and walls: approximately 20 per cent through the roof and 33 per cent through the walls. Loft and cavity wall insulation can be easily added to many buildings and will quickly repay their costs in reduced heating bills.
- **Post details of local bus and train timetables in visible locations.**  
Providing information on what buses and trains are nearby, and when they run, can make using them much more convenient for staff and visitors. Information for visitors (on websites or leaflets) should also include information about how to reach a property by walking, cycling, and public transport.
- **Plan meetings and events so they are easy to attend using public transport.**  
Appropriate location and timing of meetings and events can make it significantly easier for attendees to travel via public transport. You should also publicise and encourage people to use the public transport links.

## 2.2. Help and Advice

The Energy Savings Trust (EST) can provide free advice, information about available grants, energy audits, and travel plan development. They are keen to help LINK, so it is worth contacting them to get an idea of how they can assist your organisation to reduce

---

1 <[http://www.carbontrust.co.uk/energy/startsaving/top\\_tips.htm](http://www.carbontrust.co.uk/energy/startsaving/top_tips.htm)>

carbon emissions. In particular, the energy audit and travel plan will provide specific recommendations on how you can reduce your emissions due to energy use and travel. You can contact the EST at the email address <[business.advice@est.org.uk](mailto:business.advice@est.org.uk)> or by phoning Andrew Arnott, one of the EST's business advisers, on (0131) 468 8668. He can provide advice for your specific situation or refer you to a business adviser in your area.

Another organisation that offers free advice is the Business Environment Partnership (BEP). They can offer advice on topics such as renewable energy and microgeneration, travel planning, and sustainable procurement. You can contact the BEP on (0131) 561 6262 or through their website at <<http://www.thebep.org.uk/>>.

It is also possible that part of the LINK website could be used to flag up best practice, exchange advice between member organisations, and provide details of relevant local events. Consider if your organisation would find something like this useful and contact the LINK office if you are interested. If enough organisations feel such information would be useful the office can determine how best to take it forward.

### 3. Energy

#### 3.1. Energy Overview

When considering energy use issues, you should prioritise action based on the 'energy hierarchy':

- (1) Reduce the need for energy (i.e. through planning, design, and behaviour)
- (2) Maximise energy efficiency (of buildings, appliances, etc.)
- (3) Use renewable energy

The priorities in the energy hierarchy should be considered in all appropriate cases, from day-to-day operating procedures through to specifying a site's development. However, it is important to also implement these priorities in a way that does not cause other problems or carbon emissions. For instance, if solar panels would require the clearing of a woodland to reduce shade, it might be better to locate the panels elsewhere or consider a different form of renewable energy.

The rest of this section provides further information regarding the priorities listed in the energy hierarchy.

#### 3.2. Reducing the Need for Energy

The first priority in the energy hierarchy considers how people's behaviour and approaches to a situation can reduce the need for energy. You should identify where your main energy use is and then consider how doing things differently might reduce the need for energy. Sometimes, to change behaviour, you will need to rethink what facilities are provided to staff and how they are physically laid out. Specific examples of how to reduce the need for energy are:

- Putting notices by light switches to remind people to turn them off when leaving a room.
- Turning off equipment when it is not in use (for instance, turning off the photocopier or printer overnight).



- Wherever possible, use less electric gizmos and do things manually.
- Turning off equipment at the socket so it is not drawing a 'standby' current. This might require thinking about the layout of your office, so that sockets are accessible.
- Encouraging people to dress for the season so the office can be heated less in the winter and air conditioning is not required in the summer.
- Do not use energy-intensive equipment unless it is needed. For instance, if you are holding a meeting for two to three people, can you manage (effectively) without a data projector?
- When boiling a kettle, only fill it with the amount of water actually needed.
- Do not locate your thermostat near draughts or hot/cold spots.
- Do not heat unused space.
- When planning events, consider how factors such as the time of day and acoustics of the venue can reduce the need for energy use.
- When designing new buildings or refurbishing old ones, use an architect with an understanding of how the building's orientation, materials, and general design can minimise the need for energy.

The above list is just a selection of actions to give you an idea of the kinds of things to consider. But in general, staff should be encouraged to always consider the energy implications of their activities. A general 'energy awareness' will lead to people responding to situations as they arise and reducing their demand for energy.

### 3.3. Maximising Energy Efficiency

For energy use that is required, you should make sure it is used as efficiently as possible. The following list provides an idea of the type of issues to consider:

- Ensure that windows and doors have been draught-proofed.
- Install, or ask your landlord to install, cavity wall insulation (if your building has cavity walls) and loft insulation.
- When locating new offices, regard the energy-efficiency of the building as a major consideration.
- Make sure equipment you buy has the highest possible efficiency rating and is not more powerful than you need. If the equipment is not covered by a labelling or rating scheme, check and compare the power requirement of different units.
- When replacing light bulbs, install energy saving bulbs.
- Maintain your heating equipment properly so it is operating at maximum efficiency.
- Install double-glazed windows in new buildings and when refurbishing; consider if fitting double-glazing in existing buildings is feasible.

### 3.4. Using Renewable Energy

If you get your electricity from the national grid, you should use a supplier that can provide energy from 100 per cent renewable sources. If you do not have control over

your building's electricity supply, then talk to your landlord about using a renewable supplier.

It is also worth considering whether you can install some form of renewable energy generation at your property or properties. There are options both for electricity generation (wind turbines, solar panels, micro-hydro) and for heat generation (woodchip boilers, solar water heating, ground source heat pumps). Local renewable heat generation can be particularly useful as it can be difficult to secure a sustainable heat supply. Woodchip boilers can use a local, sustainable fuel.

Friends of the Earth Scotland has information on their website providing an overview of renewable micropower technologies which is a useful starting point. The Energy Savings Trust (EST) and Scottish Communities and Householders Renewables Initiative (SCHRI) can then provide guidance both on what technologies might be suitable for your site and what grants are available. You can contact the SCHRI on 0800 138 8858. To contact the EST, the phone number for your local EST regional business adviser on their website, email <[business.advice@est.org.uk](mailto:business.advice@est.org.uk)>, or phone Andrew Arnott, the EST's south east adviser, on (0131) 468 8668 and he can assist you or point you in the right direction.

<<http://www.foe-scotland.org.uk/campaigns/micropower/guide/>>  
<<http://www.est.org.uk/scotland/>>  
<<http://www.est.org.uk/schri/>>

Even when using renewable energy sources, it is important to seek to reduce demand for energy (the first step in the hierarchy). Though these sources generate little-to-no carbon emissions, we cannot continually expand our energy needs. We need to reduce our already voracious thirst for energy and meet that reduced demand from renewable sources.

## 4. Transport

### 4.1. Transport Overview

#### 4.1.1. The transport hierarchy

When trying to reduce your emissions due to transport, a hierarchy of priorities can also be applied:

- (1) Avoid the need for motorised travel (don't travel, or do so by walking or cycling)
- (2) Reduce transport distances
- (3) Use the lowest-energy motorised transport modes (buses, trains)
- (4) Maximise energy efficiency of remaining transport (choose efficient vehicles)

It should be mentioned that one transport option sometimes included in a hierarchy like this is the use of biofuels (oil derived from vegetable matter) to power cars (and even trains and aeroplanes). However, the sustainability of biofuels depends entirely on what they are made from, and where the source material is grown. Due to methods of production and transport, many biofuels generate significant carbon emissions themselves, and can cause large scale destruction of important habitats like the Amazon rainforest. Unless you have verifiable evidence as to the source of a biofuel and it can be independently certified as a sustainable source, it is best to avoid the use of biofuels. It is quite possible that at some point in the future a standard certification system will be put

in place for biofuels which would help. However, it is extremely unlikely that, even with improved technology, we will ever be able to grow enough biofuels to power our current level of transport use. This underlines the importance of the transport hierarchy, which seeks to minimise the demand for energy.

#### 4.1.2. Travel Plans

One effective method of implementing the transport hierarchy is to develop a travel plan for your organisation. A travel plan takes a holistic view of your operations, identifies the travel needs of an organisation, and provides a strategy for moving up the transport hierarchy. The Energy Saving Trust (EST) can provide advice on travel plans and this is probably the best place to start. You can download an application form for travel plan advice from their website. If you do not have access to their website, contact the LINK office who can provide you with a copy of the form.

<http://www.est.org.uk/fleet/organisations/traveladvice/planyourtravel/>  
<http://www.est.org.uk/uploads/documents/fleet/Travel%20Plan%20Application%20Form%20Scotland%20Issue%201%206..6.07.pdf>

#### 4.2. Reducing the Demand for Transport

While there is no doubt that certain tasks and meetings benefit from travelling to a specific location, most organisations could nevertheless reduce the amount of business travel they undertake. There might also be potential to reduce staff commuting.

- Avoid taking unnecessary journeys for meetings. Instead, use collaborative working techniques such as video and audio conferencing. You can even note the number of miles and hours saved through this and then use the data to encourage staff.
- Allowing staff to work from home, where appropriate.
- If choosing an office site, prefer a central location close to your staff base.

#### 4.3. Increasing the Use of Lower-Energy Transport Modes

Where travel is needed, it is best to use low-energy transport modes. Walking and cycling are ideal as they generate no carbon emissions and also provide significant health benefits. For longer distances, bus and rail generate much lower carbon emissions than driving or flying.

#### Commuting and Visitors

- Circulate and post information for staff about the health benefits of walking and cycling.
- Locate cycle racks near the entrance of your buildings to provide a visible statement of your support for cyclists.
- If possible, provide showers and lockers for use by staff who cycle.
- Post up-to-date local bus and train timetables on notice boards.
- When providing visitor information for your properties (e.g. on your website or in brochures), include details of cycle routes, bus numbers, and train stations.
- Get involved in local and national initiatives such as Edinburgh Bike Week and Bike2Work.

- If choosing an office site, give high priority to railway station and major bus interchange proximity as well as cycle storage facilities.

### Business Travel

- Provide office bikes for staff to travel between sites and on work duties.
- Reimburse staff for cycle miles at the maximum tax-free rate allowed.
- When arranging meetings and other events, choose locations near train stations and on bus routes. Try to be flexible about start and end times if this enables the use of public transport.
- Adopt a travel policy that gives preference to walking, cycling, bus, and rail travel. Car travel should be discouraged unless necessary to move heavy equipment or if the destination does not have rail or bus access.
- If travelling by car, mandate car sharing wherever possible.
- Set driving mileage reimbursement at the same rate regardless of car size to encourage use of more efficient cars.
- Do not fly when travelling to locations in mainland Britain except in exceptional circumstances<sup>2</sup>.

## 4.4. Maximising the Energy Efficiency of Your Transport

For the driving that is necessary, it is possible to reduce the amount of carbon emissions it generates.

- Provide training to staff on driving practices that save fuel.
- Improve the fuel efficiency of your fleet or pool cars and cars you hire (e.g. buy or hire cars with smaller engines)

## 5. Other Areas

### 5.1. Procurement

Each item your organisation purchases requires energy for its production, packing, distribution, and eventual disposal. This is called the product's 'embedded energy' and the resulting emissions or 'carbon footprint' are considered indirect emissions of your organisation. While calculating the actual carbon footprint for a product is very complicated<sup>3</sup>, you can use some general principles to try and purchase products with a lower carbon footprint.

- Purchase products produced locally and source materials from as nearby as possible.

---

2 The Greater London Authority recently implemented a similar policy, but also include European destinations. <[http://www.london.gov.uk/view\\_press\\_release.jsp?releaseid=16215](http://www.london.gov.uk/view_press_release.jsp?releaseid=16215)>

3 The calculation is complicated because it must include numerous factors. Due to this, only one or two products have had their carbon lifecycle calculated. Walker's Cheese & Onion crisps are one such product and their website gives an idea of what is involved. <[http://www.walkerscarbonfootprint.co.uk/walkers\\_carbon\\_footprint.html](http://www.walkerscarbonfootprint.co.uk/walkers_carbon_footprint.html)>

- Recycled products generally require less energy to produce than their non-recycled counterparts.
- When buying food, prefer organic production as this method of farming generally requires a much lower energy input as it does not rely on large amounts of chemicals.
- When buying fabrics, avoid non-organic cotton which relies on large amounts of pesticides and prefer natural materials such as wool, hemp, and jute.
- Prefer products that are simpler, have less components, or are manually operated. Turning raw materials into components such as microprocessors and circuit boards requires significant energy.
- Avoid products supplied in unnecessary packaging. Where packaging is necessary, prefer products using natural and recycled materials.

## 5.2. Land Management

Land management is a complex issue and each organisation will have a different set of goals that must be balanced when making decisions. It is therefore outside of this document's scope to provide advice on land management practices. However, it is important to note that land management can have a significant impact on carbon emissions. For instance, draining peat bogs (even with the aim of reforesting them) will release large quantities of carbon that are normally locked up in the peat. Conversely, restoring peat bogs (even where this involves removing conifers) can halt further significant carbon emissions from the land. There are also opportunities for making savings through expanding native woodlands on appropriate land, as long as long-term sustainable management plans are in place. Finally, the science behind emissions from land management is complex and still in its infancy, but it is worth considering the carbon emission implications of your land management practices. These potential impacts should be one of the factors used when making decisions about future action.

## 5.3. Resources

### 5.3.1. Water

Water itself does not emit carbon, but a huge amount of energy is required to treat it both before it reaches your tap and after it goes down the drain. So aside from saving what is a precious resource, using less water reduces the indirect emissions your organisation is responsible for. Details of how to reduce your water usage are outside the scope of this document, but there is a lot of information already out there. A good starting point is Waterwise's website.

<http://www.waterwise.org.uk/>

### 5.3.2. Waste

Whenever something is discarded, energy is needed to process it, even if the item is recycled. In the case of items that end up in a landfill, many also produce methane which is a gas with a much higher carbon equivalent (or climate change impact) than CO<sub>2</sub>. It is therefore better to reuse items wherever possible, which also prevents the need to purchase something else (which requires its own energy for production). You can either reuse an item yourself, maybe for some other purpose, or pass it on to others. An extremely effective way of passing items on to others is the Freecycle Network which has large mailing lists for areas all over Scotland that people use to easily find new owners for items they no longer needs. You can also contact your local authority to find out if

they have re-use centres. And a number of charities accept donated items either to redistribute to those who cannot afford them, or to sell to support their work. And note that if you cannot reuse an item or pass it on to someone else, it is much better to recycle it than simply bin it. It takes less energy to recycle materials than to extract and refine new raw materials.

<http://www.freecycle.org/group/UK/Scotland>

<http://www.wasteawarescotland.org.uk/>