The Carbon Conversations Workbook

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Carbon Conversations

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Introduction

This Workbook is for use with Carbon Conversations groups. It contains:

- activities that may be used in group meetings;
- detailed guidance on monitoring your footprint;
- guidance on drawing up plans for reducing your footprint.

Some of the activities focus strongly on your personal experience. They ask you to reflect on your life, your relationships, your values and your feelings and should help you:

- explore your personal approach to climate change and carbon reduction;
- take part in discussions with others;
- understand the many factors – social, practical, political and emotional – that make it complicated to act on climate change.

During your Carbon Conversations group you will also be invited to record, measure, investigate and make calculations about your carbon footprint. The guidance in this Workbook should help you:

- see exactly where your lifestyle is causing emissions;
- understand what to do in order to reduce these emissions;
- make practical, realistic plans for the reductions.

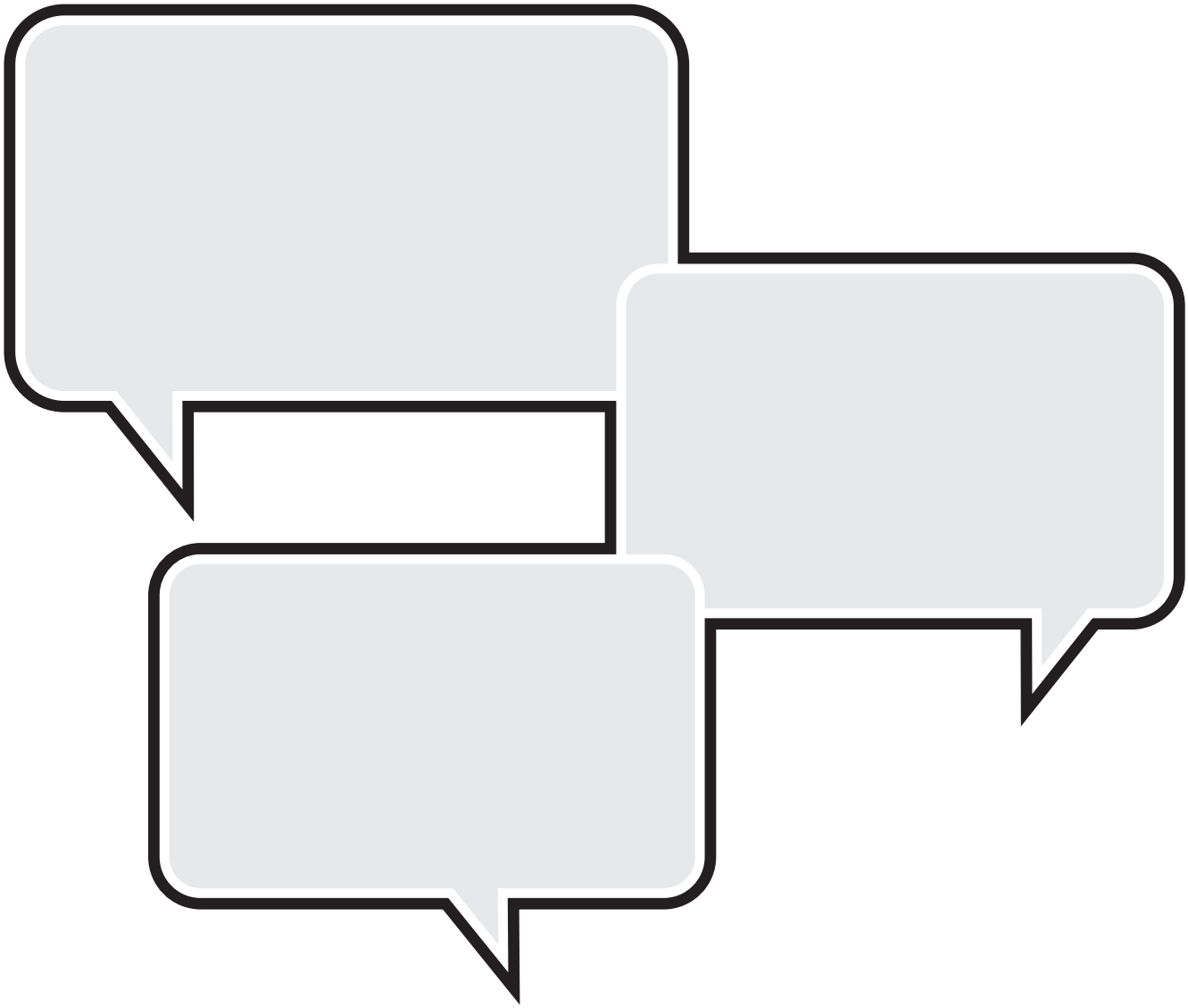
We've found that participants in Carbon Conversations groups often divide between those who find discussing the personal factors a relief and an enjoyable thing to do, and those who don't. Similarly, we've found that participants often divide between those who enjoy numbers and take to the monitoring with pleasure, and those who lack confidence with numbers and find measuring their footprint difficult.

We'd like to say to both groups: try to approach all the activities in a relaxed mood and with an open mind. Expect to meet people whose experiences are different from your own. Ask for help with anything that you find difficult. Your group facilitators or another group member will usually be able to help you.

Use this Workbook in conjunction with *In Time for Tomorrow? the Carbon Conversations Handbook* and the online workbook *Monitoring Your Footprint* which you will find at www.carbonconversations.org. The spreadsheets in the online workbook will make the calculations for you. They are straightforward to use and have full instructions. If you do not have internet access, your facilitator should be able to print the sheets off so that you can fill them in using a hand-held calculator.

Whose responsibility?

GROUP ACTIVITY



Who should be responsible for acting on climate change? Think about the possibilities listed on this page. Add your own ideas in the empty bubbles. Then discuss with someone else for a few minutes what you each think.

- All countries
- Industrialised countries
- Developing countries
- European Union
- UK government
- Industry and business
- Environmental organisations
- Local government
- Local communities
- Families
- Individuals

Why do we bother?

GROUP ACTIVITY

People have many different motives and values which might lead them to act on climate change, from a love of nature to the hope of business opportunities. A number of possible motives and values are listed below.

- Read through the list.
- Are any of the statements similar to your own views? Tick them if they are. Change the wording if you wish to bring a statement closer to your exact view.
- Then write a short statement of your own about the motives or values that lead you to be concerned about climate change.
- Talk to someone else for a few minutes about the statement you have written and how you feel about the other items on the list.

1. All living things are equal and have a right to life – we have to stop our destruction of other creatures' lives and habitats ☐
2. Nature is a living force that we should respect – if we don't we'll suffer the consequences ☐
3. Nature is amazing. It fills me with awe and wonder. I want to respect and protect that ☐
4. According to my faith, we have a responsibility to care for the natural world ☐
5. I want to leave the world in a good state for future generations ☐
6. Everyone on the planet should have a fair share of natural resources like water, oil, land and minerals ☐
7. I want to see justice for communities that are suffering the effects of climate change, through no fault of their own ☐
8. We've exploited the rest of the world for 200 years – it's payback time ☐
9. It's in our own interests to look after the natural world ☐
10. We need to protect our community, our country and ourselves ☐
11. I can see green business opportunities ☐
12. I love a challenge ☐
13. I feel guilty about my own good fortune ☐
14. I couldn't sleep at night if I didn't act ☐
15. I'm worried about the future for my children and grandchildren ☐
16. Your own view .....

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Fears for the future

GROUP ACTIVITY

Climate change makes the future hard to predict. A lot of people have fears about it. Some fears concern the direct effects of a changing climate. Others are about the consequences for society, or the solutions that may be adopted. Some fears are realistic. Some are not.

- Which of the following possibilities make you anxious?
- Which do you think are likely to happen?
- Add any fears of your own that are not listed.
- Discuss in the group which fears are realistic and how you cope with them.

1. Loss of biodiversity ☐
2. Extinction of plants and animals ☐
3. Major floods and droughts ☐
4. Increased surveillance of society ☐
5. Increased regulation and state control ☐
6. Scapegoating of immigrants or other minorities ☐
7. Resource wars ☐
8. Cyber-terrorism ☐
9. Increasing inequality ☐
10. Food shortages ☐
11. Geo-engineering ☐
12. Energy shortages and power cuts ☐
13. Loss of essential services, such as health and education ☐
14. Your own fears: .....

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Making changes

GROUP ACTIVITY

Think about other times in your life when you have made (or tried to make) changes. For example:

- transition points – changing school, starting a new job, getting married, a new baby, children leaving home, retirement;
- crisis points – financial difficulties, illness, divorce, redundancy, family conflict;
- good resolutions – working harder at school, doing a fair share of the housework, weight loss and exercise programmes, reducing alcohol or drug use.

Choose a change that you are happy to talk about and reflect with a partner on the following questions.

1 Choice or coercion?

- Did you choose the change?
- Did you agree to the change?
- Was the change forced on you?

2 Feelings about change

Think about how you felt about the change. You are likely to have felt many different emotions. Do you recall feeling:

- Excited and pleased?
- Angry?
- Fed-up or resigned?
- Keen and enthusiastic?
- Shocked and disbelieving?
- Fizzing with anticipation?
- Apprehensive and unsure?
- Discouraged and fearful?
- Positive and determined?
- Easily discouraged?
- Proud and happy?
- What else?

3 What helped?

Think about what helped you make the change. Was it:

- Planning for the change?
- The support of others?
- The co-operation of others?
- Talking about how you felt?
- Talking through the difficulties?
- Just getting on with it?
- What else?

4 Successful and unsuccessful changes – what's the difference?

Think about the differences between the times when you succeeded in making a change and the times when you failed or were only partially successful.

How to monitor your home energy

HOME ACTIVITY

In preparation for the meeting on home energy, start monitoring your own home-energy use. Monitoring will help you:

- see exactly how much energy you use;
- set some realistic targets for reduction;
- see the difference you can make.

Many things affect the amount of fuel you use, such as:

- the time of year, which affects the outside temperature and the number of daylight hours;
- the construction of your house and its insulation;
- the efficiency of your electrical appliances and how much you use them;
- the number of people in your household and how much time they spend at home;
- the way you use your home.

In order to get a clear idea of how successful you are at reducing your energy use, you need to monitor over a substantial period of time. Start by reading your gas and electricity meters weekly for the next four weeks. Then take readings once every four weeks, ideally for a full year. Fuels like wood, coal, oil and liquefied gas are harder to measure and we discuss these shortly.

The easiest way to monitor

The easiest way to monitor is to sign up to iMeasure (www.imeasure.org.uk) or Carbon Account (www.thecarbonaccount.com). Simply read your meters, type in the figures and the website will keep a record of your energy use and CO_2 emissions.

Alternatively, in the online workbook, Monitoring Your Footprint, on the Carbon Conversations website, you will find four spreadsheets called Electricity, Gas, Other Fuel and Other Fuel 2 where you can calculate the emissions caused by your use of home energy.

These spreadsheets calculate the household's emissions. If you want to know your individual carbon footprint you will need to divide your final answers by the number of people over the age of five, who live in the house. If you do not have internet access, one of your facilitators should be able to print the spreadsheets off for you, and you can fill them in and do the calculations with a calculator.

Finding your meters

Common places for meters are under the stairs, just inside or outside the front door, or in your side passageway. Modern houses often have a locked meter cupboard outside that needs a triangular key (available from most hardware shops). If you live in rented accommodation or managed flats, there may be a shared meter cupboard; to obtain access to this, you may need to ask your landlord.

Isn't all this information on my bills?

It may be, but many bills are based on estimated readings, with meters being properly read only once per year. Check carefully.

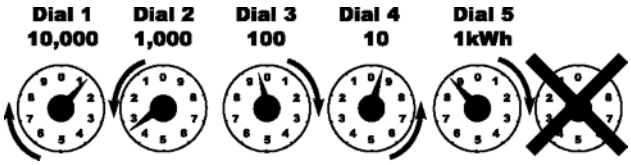
Smart meters

Government policy is that every home should have a 'smart meter' by 2020. The meter will send its readings directly to the energy supply company and give you more accurate bills. Smart meters should also come with energy monitors or web sites to help you keep track of your energy use.

How to read your electricity meter

Electricity meters measure your use in kilowatt hours (kWh). If you don't yet have a smart meter, yours will probably be one of the three types described below.

Dial

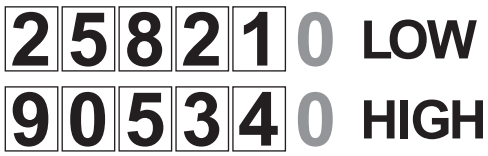


Read the dials from left to right. Adjacent dials revolve in opposite directions. Ignore the dial farthest to the right, which is only for testing purposes.

Single rate digital

A single row of figures records the total number of kilowatt hours that have been used. Write down the first five numbers, ignoring the last numbers(s) which may be in red. (The red numbers show fractions of a kilowatt hour.)

Variable rate meters (Economy 7, Economy 10, White Meter or 'time of use' tariffs)



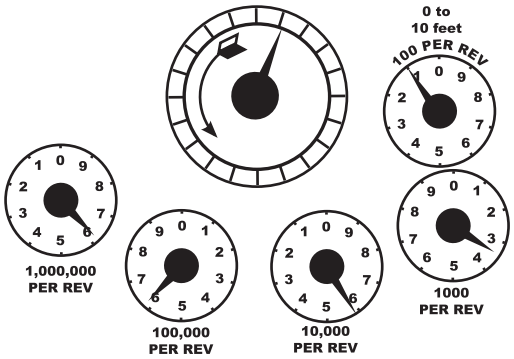
The most common variable rate meters are Economy 7 meters which have two rows of figures: one, for the lower-priced night-rate electricity (marked low or economy); one for day-rate (marked standard, or normal or high). Economy 10, White meters and other variable use meters offer different combinations of night-time and day-time electricity at off-peak and standard rates. All have two rows of figures to read as in the diagram below. Once again, write down the first five numbers, ignoring the last number(s) which may be in red.

You will find additional help on reading your electricity meter on the *Which* website: http://bit.ly/elec_meter.

How to read your gas meter

There are two main types of gas meter, dial and digital. Some measure in cubic feet, and some in cubic metres. It will say on your meter which units it reads in. Meters that read in cubic feet usually record six digits.

Dial – cubic feet



Read only the bottom four dials – ignore any others. Write down the number closest to each pointer. If the pointer is between two numbers, record the lower number. If the pointer is between 9 and 0, write down 9. This meter reads 6653 (hundreds of cubic feet).

Digital – cubic feet

Record only the white figures. Ignore any other numbers. The meter reading in this example is also 6653 cubic feet.

Digital – cubic metres

Ignore any numbers after the decimal point.

The *iMeasure* and *Carbon Account* sites will translate your meter reading from cubic feet or cubic metres into kilowatt hours and then into kilograms of carbon dioxide, as do the spreadsheets on the Carbon Conversations website. The table 'Carbon factors of heating fuels' shows you the factors to use if you want to make these calculations yourself.

Other fuels

With coal, oil, Liquified Petroleum Gas (LPG) and wood, there is no meter to read and it can be harder to see week by week how much fuel you are using. You will need to do the calculations yourself, in the online workbook *Monitoring Your Footprint*, using the spreadsheets Other Fuel and Other Fuel 2 (if you have use more than one). The program also helps you account for the fuel that is still in the tank at the end of the heating season, or when you are expecting a delivery. If you have old bills or receipts you should be able to calculate last year's energy use. Start keeping a record of each purchase so that you can see the reductions you are making.

If you want to know your individual carbon footprint (rather than the footprint of the household) you will need to divide your final answers by the number of people over the age of five, who live in the house.

If you aren't familiar with this type of spreadsheet, or don't have internet access, ask one of your facilitators to print the sheets off for you so you can do the sums with a calculator.

Note that you have to be careful about the quantities that fuel is sold in.

- Oil is delivered to your tank through a meter in quantities measured in litres.
- LPG (either Butane, Propane or a mix of the two) can be delivered to your tank in quantities measured in litres.
- Butane and Propane also come in various sized cylinders, usually measured in kilograms.
- Coal and wood pellets normally come in bags, often weighing 25 kg.
- Wood logs are delivered by the 'load' and you have to estimate the weight yourself. The weight is affected by the moisture content of the wood. The figure in the table below is for air-dried logs with approximately 20% moisture content. Drier wood will burn more efficiently but have slightly higher emissions per tonne. Moisture meters are cheap and will tell you whether your wood is dry enough to burn as well as helping you with your calculations.

Some figures for the carbon factors of all heating fuels are given in the table overleaf. Wood fuels (both logs and pellets) are often assumed to be carbon neutral because the trees absorb CO_2 as they grow and then release it as they burn. However, if the tree were left standing it would continue to sequester CO_2 and when it died naturally and rotted, its CO_2 would be released slowly, rather than all at once. If it was felled and used for building or making furniture, any CO_2 emissions would also be a long way in the future and released slowly. This means that burning wood creates a serious CO_2 burden on the atmosphere today, so we suggest you use the higher figures for logs and pellets in the table below. The lower figure assumes that wood is a carbon neutral fuel and that the only carbon emissions involved are those in its production and transport. Whichever figures you use make sure that your wood has come from a sustainable source, where replacement trees are being planted.

Carbon factors of heating fuels

Heating Fuel	*Unit*	*Carbon factor kg*[1]
Oil	litre	2.53
LPG	kg	3.16
	litre	1.50
Propane	kg	2.94
Coal	kg	2.85
Wood pellets	kg	1.65
Logs	tonne	1,440
Logs or wood pellets from a carbon neutral source	tonne	48
Electricity	kWh	0.49
Natural Gas	cubic metre (m3)	2.00
	100 cubic feet	5.77

Source: Greenhouse Gas Conversion Factor Repository 2014, *Ricardo-AEA for Carbon Smart, DEFRA*

1. *These are the 'Scope 1' direct emissions and do not include the Well To Tank (WTT) factors, which are the embodied emissions in extracting, refining and transporting the fuel. In general these add 15 – 20%. See Greenhouse Gas Conversion Factor Repository 2014, Ricardo-AEA for Carbon Smart, DEFRA, http://www.ukconversionfactorscarbonsmart.co.uk/.*

Home comforts

GROUP ACTIVITY

What makes a home comfortable? Take a look at the suggestions below. Tick the ones which matter to you. Add some ideas of your own. Then talk with someone else in your group. Think about:

- Which issues are the most important to you?
- How comfortable is your current home?
- Is there anything you would like to change in your home?

1. It's in good repair with no damp or condensation ☐
2. It's light ☐
3. It's quiet ☐
4. There's fresh air ☐
5. It's warm in winter and cool in summer ☐
6. There's plenty of hot water ☐
7. There's enough space ☐
8. There's enough storage ☐
9. It's easy to use ☐
10. It's got style ☐
11. There are all the appliances I need ☐
12. It's decorated to my taste ☐
13. The furniture is comfy ☐
14. Family/housemates get on well ☐
15. The neighbours are nice ☐
16. It's got a garden ☐
17. The location is nice ☐
18. Your own view .....

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Changing your home

GROUP ACTIVITY

In the first list below are some of the motives people give for adopting energy-saving behaviours or making eco-renovations. In the second list are some of the reasons and objections that come up when people talk about the difficulties.

Motives

Tick any of the reasons below which apply to you. Add any more of your own.

1. I care about our future ☐
2. Lots of the changes are easy ☐
3. It reminds me that I'm making a difference ☐
4. I can make it into a family project ☐
5. It's a practical way of teaching the children to value the environment ☐
6. It will bring us closer together as a couple ☐
7. It's a good way of raising the climate change issue with friends/housemates ☐
8. Some of the changes save money ☐
9. We have a budget for house maintenance, so we'll use that ☐
10. It's a climate-friendly reason for spending money ☐
11. It's a way of not spending money on tat ☐
12. It's part of making a home ☐
13. I enjoy DIY ☐
14. I enjoy seeing how much energy we're saving ☐
15. I enjoy problem-solving ☐
16. I enjoy taking on a challenge ☐
17. I'll enjoy showing off the results to friends ☐
18. Your own reasons .....

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Objections

Look at the list below and tick the reasons you sometimes give to yourself or others to explain why you can't adopt energy-saving behaviours, or don't get round to eco-renovation. Some of these, like lack of money, are real obstacles but others are ways of postponing action. Sometimes this is because the changes are difficult or inconvenient. Sometimes they don't fit with our self-image or may lead to conflict with others.

1. Thinking about the subject makes me feel guilty/anxious ☐
2. I don't have time to remember all those fiddly actions like turning stuff off ☐
3. It's boring ☐
4. I'm just a tenant ☐
5. It leads to rows with the children/my husband/wife/partner ☐
6. My housemates won't co-operate ☐
7. I can't afford it ☐
8. It's too expensive ☐
9. I'd rather spend money on a new kitchen/conservatory/decoration/new sofa ☐
10. Building work is a hassle ☐
11. It would spoil the original features of my home ☐
12. My house is listed/in a conservation area ☐
13. I'd have to clear everything out of the loft ☐
14. With eco-renovation there's nothing to show off with at the end ☐
15. I'm afraid the house would feel stuffy ☐
16. There are a lot of snake-oil salesmen out there ☐
17. I don't think I can do any more than I have ☐
18. It's not the right time ☐
19. My builder says it's not worth it ☐
20. Your own reasons .....

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Discuss in the group:

- How do your positive motivations help you?
- What lies behind some of the objections?
- How can you overcome genuine obstacles?

Survey your home

HOME ACTIVITY

This survey will help you become familiar with your home. It should help you identify problem areas and tasks you could consider. It is useful preparation for discussions with your landlord, or with a professional builder or architect. You may find it helpful to do the survey with someone else – two heads are often better than one. Your partner or a housemate may be a good choice, or you could ask another member of your group. You may also find it useful to consult *Eco-House Manual* by Nigel Griffiths (Haynes Publishing, 2012) for more information.

What to look at	Your notes	Hints and tips
1) Gather information Gather together any drawings or plans of your home and any leaflets about the appliances and gadgets in your home. Find the Energy Performance Certificate if there is one, and the Green Deal Survey if you have had one done.		Drawings or plans may tell you about improvements that have been made in the past. They are useful for spotting things which are now covered up, such as underfloor insulation. Leaflets about appliances may give their efficiency ratings or help you see how old they are. An EPC rating of A or B for the house tells you that it is a good one! Anything less suggests that there is work that could be done. If you've had a Green Deal Survey done it may give you all the information you need and you won't need to bother with doing a survey yourself.
2) Age and structure a) When was your home built? Before 1935/between 1935 and 1995/after 1995. b) Is your home: listed/in a conservation area/in an AONB or National Park? c) How many of the walls are shared with another property? None/one /two/three. c) Are the walls: cavity walls/solid brick/solid stone/other? d) Is the ground floor: concrete/suspended wooden boards/ stone flags?		Older homes often need the most work. The structure of anything built after 1995 may be good enough for now. There may be restrictions on the work that can be done on homes that are listed or in special areas. Before 1935 most homes were built with solid brick or stone walls. Between 1935 and 1983 most were built with unfilled cavity walls. From 1985 onwards most were built with insulated cavities but with a house of this date it is still worth checking that the cavity is filled. The more walls, floors and ceilings you share with another property the less heat you lose to the outside.

What to look at	Your notes	Hints and tips
3) Insulation a) How are the walls insulated? Is the cavity filled? Are solid walls: dry-lined on the inside/externally insulated on the outside/not insulated at all. b) How thick is the wall insulation? 50mm/75mm/100mm/more than 100mm. c) Is there insulation under the floor? Yes/No. d) How much insulation is laid between the joists in the loft? None/100mm/275mm/more than 275mm/no loft. e) Is there any insulation between the rafters? Roofing felt only/multi-foil sheet, such as Tri-Iso, stapled to the rafters/insulation between the rafters. f) Is the loft hatch insulated? Yes/No. g) Is the loft hatch draught-sealed? Yes/No. h) If there is a room in your loft how much insulation is behind the walls, eaves and ceiling? Don't know/50mm/75mm/ 100mm/more.		Insulation is the first priority for any home. Ideally the external walls, the loft or roof and beneath the ground floor should all be insulated with 100mm of insulation. The loft should have 300mm. Most cavity walls can only take 50mm of insulation. If there is boarding over the rafters in the loft there may be insulation behind it, or there may be nothing in place. You may be able to see rigid insulation such as expanded polystyrene or polyurethane fixed between the rafters. Fibre-glass, rock wool or even sheep's wool are likely to be behind boarding. You may be able to tell if anything is in place by easing off a corner of the boarding to look. If a loft room gets hot in summer and cold in winter there is not enough insulation.
4) Windows, doors and draughts a) How many of your windows are: i. single glazed; ii. single-glazed with temporary double-glazing; iii. double-glazed; iv. triple-glazed. b) How many of your windows have built-in draught-seals? All/some/none. c) How many of your windows have separate draught-seals? All/some/none. d) Do your windows have: thin curtains/thick, lined curtains/blinds/wooden shutters/no curtains? e) Are your front and back doors draught-sealed? Yes/No. f) If you have a suspended wooden floor are the skirtings and gaps between the boards caulked? Yes/No. g) If you have an open fire do you use a chimney balloon when it's not in use? Yes/No.		Draught-stripping is the second priority. Some houses lose 25% of their heat through gaps round the doors, windows, floorboards and chimneys. Modern double and triple glazed windows come with built-in seals. Old windows can be sealed with a variety of DIY products. Old draught-stripping often gets painted over when redecorating takes place. This prevents it from working and means it needs to be replaced. Thick curtains are useful. Georgian and Victorian houses often had internal wooden blinds which are very effective at keeping out the cold. Suspended wooden floors are often a source of draughts, particularly where there are no carpets. Caulking the gaps will help. A chimney balloon will stop heat escaping up an open chimney.

What to look at	Your notes	Hints and tips
5) Heating a) What fuel is used to heat your home? Gas/oil/electricity/coal/wood/LPG? b) If you have a gas or oil boiler is it a condensing one? Yes/No. b) How is the heat delivered? Radiators/warm air/underfloor heating/night storage heaters/other. c) How is the heating controlled? Time clocks/room thermostat/individual radiator thermostats/other? d) Are any of the radiators obscured by curtains or furniture? Yes/No. e) Do the radiators on external walls have reflective foil behind them? Yes/No. e) Are heating pipes that run under the floor insulated? Yes/No. f) If you have a warm air system are the ducts under the floor and in the roof insulated? Yes/No.		Condensing boilers are much more efficient than the old, non-condensing models which were phased out in 2005. They come in both 'combi' versions and for use with a hot water cylinder. Replace a non-condensing boiler as soon as you can. Controls are very important but aren't always well designed. Many people don't understand them and fail to change them from their factory settings. If you don't understand your controls find someone to help you. Make sure the heating is set to the minimum for your needs. Controls can be changed and added to most systems. Time clocks and individual radiator thermostats are two of the easiest and most effective controls to use. In small houses it's sometimes hard to keep furniture away from radiators. Placing a block of wood on the floor between the sofa and the radiator will ensure there is always a gap that allows the warm air to escape into the room. Lifting floor boards to check that pipes are insulated is hard work. If the boards are up for another reason, take the opportunity to check the pipework.
6) Hot water and pipe work a) If you have a hot water cylinder, how is it insulated? Factory applied foam/separate jacket/old duvets/nothing. b) How much of your hot water pipework is insulated? All/some/none. c) Does the cylinder have a thermostat? Yes/No. d) Do you have solar water heating? Yes/No.		Make sure the hot water cylinder is insulated. The pipes bringing hot water from your cylinder to the taps should all be insulated too. If there is a thermostat on your cylinder it should be set no higher than 60 °C. Solar water heating can provide about half of your annual hot water.

What to look at	Your notes	Hints and tips
7) Electricity and appliances a) Do you have an electricity monitor or smart meter? b) Do you have low energy bulbs (CFLs or LEDs) in all your: i. pendant fittings, Yes/No. ii. Side lights and lamps, Yes/No. iii. Down-lighters and recessed fittings, Yes/No. c) Note down the energy ratings of your: i. fridge; ii. freezer; iii. washing machine; iv. oven.		A monitor or smart meter will help you keep track of your electricity use. Try to find low energy bulbs for all your light fittings. Don't wait for the old incandescent ones to blow before replacing them. You will save the energy that was used in manufacturing the bulbs very quickly. In energy terms it's usually worth ditching any appliance over about 12 years old with the smallest, most efficient replacement you can find. As with the light bulbs, you will save the embodied energy used in manufacturing the new item very quickly.

Your house plan

HOME ACTIVITY

Draw up a plan for how you could make your home more energy efficient, using the information from your survey and the ideas you selected from the charts in 'Elements of a low-carbon house' in *In Time for Tomorrow?* Many of these ideas can also be found in the list, 'Carbon-reducing actions', at the end of this Workbook.

Existing position

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My goals

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Plan for the next 12 months

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Plans for the longer term

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How to monitor your travel

HOME ACTIVITY

If you want to reduce your travel emissions, it is important to know your starting point. In the online workbook, *Monitoring Your Footprint* on the Carbon Conversations website, you will find two spreadsheets: *Travel Diary* and *Last Year's Travel*. These will help you to:

- keep a travel diary;
- calculate your last year's travel footprint;
- keep an ongoing record of your travel emissions.

In preparation for the meeting on travel and transport, try to keep a travel diary for at least a couple of weeks and try to calculate your last year's travel footprint.

People often underestimate their routine travel, so the diary may be illuminating. When you are trying to remember the non-routine trips you made last year, such as holidays, days out and visits to friends and family, it may be helpful to look back through your last year's diary or calendar. Chatting with a family member or friend may also help.

After the meeting, try to keep your travel diary up to date. This will help you see the reductions you are making and compare this year with last year. If you are signed up to the *Carbon Account* website, http://thecarbonaccount.com, this does the same thing.

If you don't have internet access, one of your facilitators should be able to print off the forms for you. You can then fill them in with the help of a calculator, using the conversion factors in the table called 'Typical CO_2 emissions today' in Chapter Three of *In Time for Tomorrow?*

Travel and transport: what's important for you?

GROUP ACTIVITY

What's important for you about travel and transport? Does convenience matter the most? Is it about being able to live and work where you choose? Is it the time the journey takes? Where does adventure come into the picture? What about your values?

Rate each of the following on the scale from Very Important to Not Important at All by ticking one of the spaces in each line. Add some more factors of your own. Then discuss your answers with another group member.

Comfort	Very important	/ .... / .... / .... / .... / .... /	Not important at all
Convenience	Very important	/ .... / .... / .... / .... / .... /	Not important at all
Safety	Very important	/ .... / .... / .... / .... / .... /	Not important at all
Time	Very important	/ .... / .... / .... / .... / .... /	Not important at all
Price	Very important	/ .... / .... / .... / .... / .... /	Not important at all
Adventure	Very important	/ .... / .... / .... / .... / .... /	Not important at all
New experiences	Very important	/ .... / .... / .... / .... / .... /	Not important at all
Staying in touch with family	Very important	/ .... / .... / .... / .... / .... /	Not important at all
Living where I choose	Very important	/ .... / .... / .... / .... / .... /	Not important at all
Working where I choose	Very important	/ .... / .... / .... / .... / .... /	Not important at all
Using a low-carbon mode of transport	Very important	/ .... / .... / .... / .... / .... /	Not important at all
Having a small impact	Very important	/ .... / .... / .... / .... / .... /	Not important at all

Your own factors

1.....	Very important	/ .... / .... / .... / .... / .... /	Not important at all
2.....	Very important	/ .... / .... / .... / .... / .... /	Not important at all
3.....	Very important	/ .... / .... / .... / .... / .... /	Not important at all

Force field analysis

GROUP ACTIVITY

Read the description of force field analysis in Chapter Three of *In Time for Tomorrow?* and look at the example of Manju given there.

1. Pick a change that you would find challenging to make. (Don't pick one that would be impossible or one that would be easy!) Look at the lists of changes in Chapter Three of *In Time for Tomorrow?* and in the list, 'Carbon-reducing actions', at the end of this Workbook for help in picking a change to think about.
2. Write the change in the centre column of the diagram below. With the help of another group member, brainstorm all the forces that are pushing for this to happen (the driving forces) and all the forces that are preventing it from happening (the restraining forces).
3. Write these in the appropriate columns and rate each one for its strength. Use a scale of one to five, where one indicates that a force is weak and five that it is strong.
4. With the help of another group member, brainstorm all the possible ways of removing or reducing the effect of the restraining forces.
5. Remember that it is always more effective to try to reduce the strength or number of restraining forces, rather than increasing the strength or number of driving forces.

Your change

Driving forces

Restraining forces

I want to...

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Score .....

Score .....

Your travel plan

HOME ACTIVITY

Draw up a plan for reducing the impact of your travel.

In the space called 'Existing position' describe your current travel patterns and write in your annual travel footprint, based on the information you've gained from keeping your travel diary.

Under 'My goal' write your target in tonnes of carbon dioxide and any other details you wish. Then list actions you hope to take in the next 12 months and those that you might be able to take in the longer term. Your longer term plans are likely to involve actions we call 'Life-style' changes in Chapter Three of *In Time for Tomorrow?* Check that list or the list, 'Carbon-reducing actions', at the end of this Workbook for ideas of what you might do.

Existing position

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My goals

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Plan for the next 12 months

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Plans for the longer term

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Food diary

HOME ACTIVITY

In preparation for the meeting about food and water, read Chapter Four of *In Time for Tomorrow?* and keep a food diary for a week, using the first column of the form below. Include your regular shopping, meals out, take-away cups of coffee and snacks, meals at friends' houses or in the canteen at work. Do not worry at this stage about rating each item in the columns headed Production, Processing, Packaging and Transport. This is better done once you have taken part in the meeting.

When people keep the diary they often find that their diet is not quite as they had imagined. You may discover that you eat out more than you thought, buy more processed food than you intended, or eat more flown-in fruit than you imagined.

After the meeting

Look back at Chapter Four of *In Time for Tomorrow?* for help in understanding the four categories of Production, Processing, Packaging and Transport. Score each item in your diary for its impact in each category, choosing a rating from A for 'Climate-friendly' to E for 'Climate-hostile'. The rating doesn't take account of the different weights/amounts of each food; nor does it reflect the different impacts of the four categories. However it should help you think about what you are buying and what you could think of changing.

The first three lines are examples, showing how to fill in the table.

Production – (farming)

- **A** seasonal fruit and vegetables, nuts and pulses
- **B** grains, pasta, bread and vegetable oils
- **C** out of season fruit and vegetables
- **D** pork, chicken, eggs, fish, milk
- **E** beef, lamb, cheese, butter

Processing

- **A** items that have not been processed at all
- **B** food that has been processed very simply (pulses, grains, fresh meat, tinned fruit and vegetables)
- **C** items with 1–5 ingredients
- **D** items with more than 5 ingredients
- **E** anything frozen

Packaging

- **A** food sold loose or with no packaging at all
- **B** lightweight paper, card or plastic
- **C** heavier paper, card or plastic
- **D** steel cans and glass
- **E** aluminium packaging of any kind

Transport

- **A** anything home-grown or produced within 30 miles which you had delivered or walked or cycled to collect
- **B** anything else produced within 30 miles
- **C** items produced in the UK
- **D** food from overseas delivered by truck or boat
- **E** items that came by air

Food diary

Food item	Production	Processing	Packaging	Transport
South African grapes	A	A	B	E
Frozen peas	C	E	B	C
Cornish pasty	E	E	B	C

How did you score?

If your scores are mainly A-C you are doing well. Try to reduce the number of Es and Ds in your diet.

Production

Meat and dairy products are responsible for large amounts of CO_2 equivalents and are all Ds or Es. Reducing the amount of meat and dairy produce you eat will make a big difference. Beef and lamb have bigger footprints per kilo than pork and chicken.

Processing

Frozen food has a high impact because of the energy needed to keep it so cold, often for long periods. Highly processed foods with lots of ingredients are also likely to embody a lot of transport, as the ingredients are assembled, often from around the world.

Packaging

The energy produced by packaging is a small part of the overall food footprint – about 7%. The ratings for the different types of packaging reflect the amount of CO_2 emissions caused by their manufacture. Plastic comes out fairly well and aluminium scores badly because of the huge amount of energy used to make it. When it comes to recycling, there are different questions to consider. Aluminium can be endlessly recycled, so if you do buy anything with aluminium packaging, make sure you recycle it. Steel can also be recycled and glass can be both reused and recycled. Plastic, although less energy intensive to make, is tricky to recycle.

Transport

Air-freighting food causes large amounts of CO_2 emissions. The most commonly air-freighted items are fresh fruit and vegetables which have been grown outside Europe. Try to avoid buying these, if you can.

Look at the effects of changes

In the online workbook, *Monitoring your Footprint*, on the Carbon Conversations website you will find a spreadsheet called *Changing Your Diet*. Here you can enter the proportions of different types of food in your diet, such as red meat, chicken and pork, fish, dairy produce, cereals and pulses, fruit and vegetables and so on. By playing with the percentages of different kinds of food, you can see the effect that different changes will have on your carbon emissions. Another program that does a similar job is *Laura's Larder* from the Centre for Alternative Technology, http://bit.ly/lauralarder.

Food diary

Food item	Production	Processing	Packaging	Transport

The meaning of food

GROUP ACTIVITY

Food is an emotional matter. It's:

- part of relationships;
- enmeshed with feelings;
- embedded in culture.

In the group, discuss with a partner what food means to you and how you feel about it. Use the space provided to make some notes if you wish.

- What has influenced your food choices? Think about childhood patterns, religious rules, family attitudes.
- Who decides what you eat? Think about who shops, who cooks, who has special food needs or who makes a fuss in your family or household group.
- How do you use food to express or cope with feelings? Think about rewards, comfort, approval and celebrations for example.

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Some quotes from Carbon Conversations participants about food

"I turn to the biscuits when I'm miserable."

"I don't care what I eat – it's just fuel."

"My favourite meals are when watching telly."

"Certain food smells remind me of home and make me want to cry."

"The kids are so picky."

"There are always rows about food in our house."

"I can't look at cabbage without thinking of school."

"It's how I show love."

"Mum controlled us through food."

Food worries

GROUP ACTIVITY

Food can be a source of anxiety. It can seem that scarcely a day goes by without another food scare of some kind. It can be difficult to know what is really 'good' to eat – whether we are talking about a healthy diet, farming or Fairtrade. Listed below are some of the things people worry about. Read through the list and tick the ones that concern you. Add any additional worries of your own.

1. Junk food – people eating too much fat and sugar and not enough fresh fruit and vegetables ☐
2. Eating disorders – anorexia and bulimia ☐
3. Poor quality food in schools, prisons and hospitals ☐
4. Health risks from the typical western diet – obesity, diabetes, heart disease and cancer ☐
5. Livestock-farming methods – battery chickens, intensive pig farming ☐
6. The spread of major animal diseases like BSE, foot-and-mouth and bird 'flu ☐
7. Food safety – problems like *Salmonella*, *Listeria* and *E. coli* ☐
8. Chemical additives in food ☐
9. Residual pesticides and herbicides on food ☐
10. Unhealthy chemicals – like dioxin or growth hormones – getting into the food chain ☐
11. Genetically modified foods ☐
12. The dominance of big supermarkets and the loss of small, local shops ☐
13. The destruction of the marine environment through overfishing ☐
14. Treatment of small farmers in the UK and overseas ☐
15. .....

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Discuss your food anxieties with other group members. Think about the way they may be connected to the global food system. This is explained in more detail in Chapter Four of *In Time for Tomorrow?*

Food time line

GROUP ACTIVITY

Take a large sheet of paper and draw a line that represents your life, starting with the day you were born and ending now. Along the line mark the points where your diet has changed. The kinds of things that might feature would be:

- starting to eat solid food;
- trying spicy food for the first time;
- school dinners;
- making my own packed lunch;
- first visit to a pub;
- leaving home and learning to cook;
- first visit to a restaurant;
- travelling abroad;
- becoming a vegetarian;
- discovering I'm gluten-intolerant;
- discovering sushi;
- getting married;
- living in a shared flat;
- having children.

Older people might remember changes that occurred when food rationing ended in 1954, and the way that immigration in the '60s and '70s brought a range of new foods and dishes to the UK. Younger people might concentrate on the life events that influenced or changed their diets.

On either side of the time-line add comments or draw pictures to show:

- who or what controlled what you ate at that time;
- who or what influenced what you ate at that time.

Think about:

- your values, tastes and preferences;
- family and cultural influences;
- work or school dictates;
- fashion and availability.

Discuss your time line with other group members.

Your food plan

HOME ACTIVITY

Draw up a plan for reducing the impact of your diet.

In the space called 'Existing position' describe your current diet, based on the information you've gained from keeping your food diary.

Under 'My goals' describe briefly what you hope to achieve.

Then list actions you hope to take in the next 12 months and those that you might be able to take in the longer term. Check the list, 'Carbon-reducing actions', at the end of this Workbook for ideas that will make a difference.

Existing position

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My goals

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Plan for the next 12 months

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Plans for the longer term

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Why do we buy?

GROUP ACTIVITY

Many people say that they buy things which they later feel they don't really need or which don't bring them much satisfaction. Others say they feel compelled to buy in order to remain involved in ordinary life. Meanwhile research suggests that our high levels of consumption don't make us happy. Our reasons for spending money are complex.

Take a look at the suggestions below. Add some of your own. Then talk with someone else in the group about the ideas.

- Which apply to you, or to members of your family, friends or colleagues?
- Which do you think are good reasons for buying?
- Which make you uncomfortable?

	Reason for buying something	*Example*	
Basic	1. Need	"I'm hungry/cold/thirsty/tired"	☐
	2. Safety	"I like to know we're protected"	☐
	3 Family	"The kids come first" "Charity begins at home"	☐
Society	4. Belonging	"We all like…"	
		"Wanna be in my gang?"	☐
	5. Approval	"This will impress my boss/mother-in-law/girlfriend"	☐
	6. Self esteem	"People like me always have…" "Because I'm worth it"	☐
	7. Status	"This shows I've arrived"	
		"It marks me out from the crowd"	☐
Personal			
	8. Curiosity	"I'd love to try…"	☐
	9. Enrichment	"This expands my horizons" "My life would be poorer without it"	☐
	10. Coping	"I need cheering up"	☐
Marketing	11. Bargains	"Couldn't resist it"	☐
	12. Lemons	"It packed up just after the guarantee ran out"	☐
	13. Illusions	"This is what I've always dreamt of"	☐
Your ideas	14.		☐
	15.		☐
	16.		☐

The meaning of stuff

GROUP ACTIVITY

This activity is usually done at the beginning of the meeting about consumption and waste. It works best if you can bring some objects or photos of objects from home which have meaning for you. The meaning can be positive or negative or mixed. If you haven't brought anything with you, simply remember some objects that have meaning for you. Your facilitators may suggest that you talk in pairs or in the whole group about the items you have brought. Think about:

- How did this object come into my life? What is its story?
- How do I relate to it? How do I use it? What does it mean to me?
- How should we value the stuff in our lives?
- What does it mean to have too much or too little?

Where does your money go?

HOME ACTIVITY

To complete this activity you need to have read Chapter Five of *In Time for Tomorrow?* Then, go to the online workbook *Monitoring Your Footprint* on the Carbon Conversations website, http://www.carbonconversations, and look for the spreadsheets *Where Does Your Money Go?* and *Spending Diary*.

If you have good records of how you spend your money, go straight to the spreadsheet *Where Does Your Money Go?* Here you enter your household income after tax, the number of people in your household, and the proportion of your income that you spend on different types of purchase, ranging from home improvements and the purchase of a car, through to clothes, holidays, IT and services such as insurance or private health care. You can play with the proportions till you think you have it about right, and then play with them again to see the effects of making changes. The program analyses your answers according to the carbon intensity of each industry sector and your overall household income.

If you don't have good records of how you spend your money, try keeping a diary for a month of all your spending, using the spreadsheet *Spending Diary*. Then take a look at *Where Does Your Money Go?*

Your plan for purchases and waste

HOME ACTIVITY

Draw up a plan for reducing the impact of your purchasing and making sure you deal with your waste.

In the space called 'Existing position' describe your current pattern of purchasing, re-use and recycling, based on the information you've gained from the previous activity 'Where does your money go?'

Under 'My goals' describe the broad changes you would like to make.

Then list actions you hope to take in the next 12 months and those that you might be able to take in the longer term. Check the list, 'Carbon-reducing actions', at the end of this Workbook for ideas that will make a difference.

Existing position

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My goals

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Plan for the next 12 months

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Plans for the longer term

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Carbon-reducing actions

This list brings together and expands the lists of 'Practical Steps' in each chapter of *In Time for Tomorrow?* Throughout your Carbon Conversations group your facilitators will have emphasised that it's essential to:

- understand why we lead such carbon-dependent lives;
- integrate change with your values;
- understand why change can be difficult;
- integrate change in your life, rather than adopting a few token behaviours.

Use the list to help you recognise your achievements and make a plan for each area of your carbon footprint.

Each item has a star rating or a ✪ symbol against it. The more stars, the more CO_2 that action will save. With each additional star the CO_2 savings roughly double, so try to make sure you have some three, four or five star actions as well as lots of ones and twos. The star ratings for home energy relate to a whole house. Those for travel, food and consumption relate to an individual person. ✪ items are either:

- helpful steps that don't make a direct CO_2 saving themselves;
- actions with a very small CO_2 impact that are environmentally useful for other reasons.

As you will have gathered from your group it's difficult to generalise about how much CO_2 any one action saves. There are too many complex factors: how large your footprint was to start with, the details of your particular house, car and lifestyle and the interactions between the various actions you take. Some of the actions on the list are variants of each other – for example, reading your meters and buying an energy monitor are both ways of becoming more aware of your energy use. The star ratings can only show you whether a particular action is likely to have a large or a small impact. If you want a more accurate answer, there is no alternative to monitoring your energy use.

The star ratings are based on calculations relating to average usage and a fuller explanation can be found on our website, www.carbonconversations.org.

Home energy

		Star rating	*I was doing this already*	*I've started doing this since joining the group*	*I'm planning to do this in the future*
1.	Read meters monthly to check how much fuel you're using	**	☐	☐	☐
2.	Sign up to *iMeasure* or *Carbon Account*	**	☐	☐	☐
3.	Buy an energy monitor	**	☐	☐	☐
4.	Turn off lights when they're not in use	*	☐	☐	☐
5.	Turn all appliances off standby	*	☐	☐	☐
6.	Turn the room thermostat down by 1 degree	**	☐	☐	☐
7.	Turn the room thermostat down by 3 degrees	***	☐	☐	☐
8.	Review when heating and hot water turn on and off	*	☐	☐	☐
9.	Ensure heating is turned off at night and when you are away from home	***	☐	☐	☐
10.	Switch heating off an hour before bedtime	*	☐	☐	☐
11.	Review and adjust settings on thermostatic radiator valves	*	☐	☐	☐
12.	Check radiators are off and doors closed in rooms not in use	*	☐	☐	☐
13.	Close curtains at dusk, making sure they don't block radiators	*	☐	☐	☐
14.	Take short showers instead of baths	**	☐	☐	☐
15.	Run the washing machine at 30 or 40 °C and only when full	*	☐	☐	☐
16.	Dry clothes outdoors instead of in tumbler drier	*	☐	☐	☐
17.	Don't overfill the kettle	*	☐	☐	☐
18.	Run the dishwasher at 55 °C and only when full	*	☐	☐	☐
19.	Defrost fridge and freezer regularly	*	☐	☐	☐
20.	Put fridge and freezer in the coolest places possible	*	☐	☐	☐

		Star rating	*I was doing this already*	*I've started doing this since joining the group*	*I'm planning to do this in the future*
21.	Halve the ironing you do	*	☐	☐	☐
22.	Replace any remaining incandescent lightbulbs with energy-efficient ones	**	☐	☐	☐
23.	Replace any lightfittings that can't take LED or CFL bulbs	**	☐	☐	☐
24.	When buying new lamps/side lights check they can take energy-efficient bulbs	*	☐	☐	☐
25.	Draught-strip all external doors and windows	***	☐	☐	☐
26.	Fit draught-strip to your letterbox	*	☐	☐	☐
27.	Seal the gaps around cat-flaps and pipes in external walls	*	☐	☐	☐
28.	Check the insulation on your hot-water tank – add or replace it if it's less than 75 mm (3") thick	*	☐	☐	☐
29.	Insulate hot water pipes	*	☐	☐	☐
30.	Insulate an uninsulated loft	****	☐	☐	☐
31.	Increase insulation in the loft from 50mm to 300mm	***	☐	☐	☐
32.	Find out if you have an unfilled cavity wall and (if yes) have it filled	****	☐	☐	☐
33.	'Shrink-wrap' all single-glazed windows for winter	**	☐	☐	☐
34.	Put up DIY secondary glazing on appropriate windows	**	☐	☐	☐
35.	Fix shelves above radiators on external walls, put foil behind and adjust curtains to sit on the shelves	*	☐	☐	☐
36.	Whenever you replace electrical goods, choose the most efficient based on the EU energy label	*	☐	☐	☐
37.	Buy the smallest appliances you can manage with	*	☐	☐	☐
38.	If appliances are not EU rated, (e.g., TV, Hi-Fi) ask about their efficiency and choose the best you can find	*	☐	☐	☐
39.	Choose the most efficient 'A' rated boiler, remembering also to upgrade controls, radiator valves and hot-water cylinder	***	☐	☐	☐
40.	Upgrade central-heating controls	*	☐	☐	☐
41.	Get good advice about energy saving when having building work done – exceed current building regulations	✪	☐	☐	☐
42.	Insulate solid walls internally by dry-lining	****	☐	☐	☐
43.	Insulate solid walls externally	****	☐	☐	☐
44.	Externally insulate flat roofs	**	☐	☐	☐
45.	Insulate underneath the ground floor	**	☐	☐	☐
46.	Ensure all new lighting takes energy-efficient lightbulbs and upgrade other fittings while the electrician is at your house	*	☐	☐	☐
47.	Choose high-performance, double- or triple-glazed windows and doors	***	☐	☐	☐
48.	Replace front and back doors with high-performance, insulated doors	*	☐	☐	☐
49.	Replace an open fire with a wood-burning stove	**	☐	☐	☐
50.	Install heat recovery kitchen and bathroom extract fans	**	☐	☐	☐
51.	Install solar panels for hot water	***	☐	☐	☐
52.	Install 2kWe of photovoltaic solar panels for electricity	***	☐	☐	☐
53.	Install 4kWe of photovoltaic solar panels for electricity	****	☐	☐	☐
54.	Install a ground-source or air source heat pump	****	☐	☐	☐

		Star rating	*I was doing this already*	*I've started doing this since joining the group*	*I'm planning to do this in the future*
55.	Install a low-water use shower and spray taps	*	☐	☐	☐
56.	Install a low- water use toilet, grey-water system or composting loo	✪	☐	☐	☐
57.	Create a turf or sedum roof	✪	☐	☐	☐
58.	Choose: FSC timber; natural insulation materials (like wood fibre, flax and hemp); natural fibres for floor coverings; and organic, low-solvent paints	✪	☐	☐	☐
59.	**Home energy – your own actions**				
	.....		☐	☐	☐
	.....		☐	☐	☐
	.....		☐	☐	☐

Travel

60.	Keep a travel diary and monitor fuel use	*	☐	☐	☐
61.	Find out about local bus and train services	✪	☐	☐	☐
62.	Get a bike and learn to ride it	✪	☐	☐	☐
63.	Take the bus/tube/train to work instead of the car	****	☐	☐	☐
64.	Join Liftshare	✪	☐	☐	☐
65.	Find a travel partner & share your commuting	***	☐	☐	☐
66.	Share the school run with other families	**	☐	☐	☐
67.	Walk or cycle the children to school	**	☐	☐	☐
68.	Walk or cycle to work every day	***	☐	☐	☐
69.	Walk or cycle to work in the summer or on fine days	**	☐	☐	☐
70.	Find a friend to cycle with/share good routes	✪	☐	☐	☐
71.	Shorten your car commute by 20 miles a day by changing job or moving house	*****	☐	☐	☐
72.	Shorten your train commute by 50 miles a day by changing job or moving house	*****	☐	☐	☐
73.	Work from home one or more days per week	***	☐	☐	☐
74.	Keep to the speed limit	**	☐	☐	☐
75.	Drive at a maximum of 60 mph on motorways and at no more than 50 mph on other roads	***	☐	☐	☐
76.	Check tyre pressures regularly	*	☐	☐	☐
77.	Remove heavy items/roof rack from the car when not in use	*	☐	☐	☐
78.	Drive smoothly, avoiding unnecessary changes of speed	**	☐	☐	☐
79.	Combine car trips together	**	☐	☐	☐
80.	Use a bike trailer (for transporting either goods or children)	*	☐	☐	☐
81.	Trade down to a smaller more efficient car	****	☐	☐	☐
82.	Halve your car mileage	*****	☐	☐	☐
83.	Reduce car mileage to no more than 2000 miles per year	*****	☐	☐	☐
84.	Set a yearly car mileage limit of 10% below last year	**	☐	☐	☐

		Star rating	*I was doing this already*	*I've started doing this since joining the group*	*I'm planning to do this in the future*
85.	Set up or join a car share scheme	**	☐	☐	☐
86.	Use the car only in emergencies	****	☐	☐	☐
87.	Get rid of the car	****	☐	☐	☐
88.	Holiday in the UK	****	☐	☐	☐
89.	Holiday nearer to home in the UK	*	☐	☐	☐
90.	Take the bus or train on holiday	*	☐	☐	☐
91.	Plan leisure trips round the coach/train instead of the car	*	☐	☐	☐
92.	Explore good days out by public transport	✪	☐	☐	☐
93.	Use the train or coach for European travel	****	☐	☐	☐
94.	Reduce flights by 50%	***	☐	☐	☐
95.	Reduce flights by 75%	****	☐	☐	☐
96.	Fly only in emergencies	****	☐	☐	☐
97.	Fly only to see family overseas	***	☐	☐	☐
98.	Reduce frequent trips to family overseas	*****	☐	☐	☐
99.	Stop flying altogether	*****	☐	☐	☐
100.	**Travel – your own actions**				
	.....		☐	☐	☐
	.....		☐	☐	☐
	.....		☐	☐	☐

Food and water

101.	Reduce meat consumption by 50%	***	☐	☐	☐
102.	Reduce meat consumption by 75%	****	☐	☐	☐
103.	Stop eating meat	*****	☐	☐	☐
104.	Reduce cheese and butter consumption by 50%	**	☐	☐	☐
105.	Stop eating cheese and butter	***	☐	☐	☐
106.	Reduce milk and yoghurt consumption by 50%	*	☐	☐	☐
107.	Stop drinking milk and yoghurt	**	☐	☐	☐
108.	Cook vegetarian meals twice each week	*	☐	☐	☐
109.	Cook vegetarian meals four times each week	**	☐	☐	☐
110.	Eat mostly seasonal fruit and vegetables	*	☐	☐	☐
111.	Eat only seasonal fruit and vegetables	**	☐	☐	☐
112.	Join a local, organic, vegetable box scheme	*	☐	☐	☐
113.	Grow some of my own vegetables, salads or fruit	*	☐	☐	☐
114.	Buy air-freighted food only on special occasions	*	☐	☐	☐
115.	Stop buying all air-freighted food	**	☐	☐	☐
116.	Buy 75% of food locally or from UK	**	☐	☐	☐
117.	Buy all food locally or from UK	***	☐	☐	☐

		Star rating	*I was doing this already*	*I've started doing this since joining the group*	*I'm planning to do this in the future*
118.	Eat frozen food only on special occasions/celebrations	*	☐	☐	☐
119.	Give up all frozen food except that stored from the garden/allotment	**	☐	☐	☐
120.	Give up all frozen food and ready meals and dispose of freezer	***	☐	☐	☐
121.	Reduce amount of processed food by 50%	**	☐	☐	☐
122.	Reduce amount of processed food by 75%	***	☐	☐	☐
123.	Reduce amount of 'ready-meals' & 'fast food' by 50%	**	☐	☐	☐
124.	Reject all 'ready meals' & 'fast food'	***	☐	☐	☐
125.	Reject all aluminium cans	*	☐	☐	☐
126.	Chop vegetables and meat into smaller pieces before cooking	*	☐	☐	☐
127.	Reduce food waste by at least 50%	**	☐	☐	☐
128.	Compost all food waste	*	☐	☐	☐
129.	Fit a water meter	✪	☐	☐	☐
130.	Give up drinking bottled water and bottled soft drinks	*	☐	☐	☐
131.	Read water meter	✪	☐	☐	☐
132.	Reduce water use to 80 L per person per day	✪	☐	☐	☐
133.	Avoid purchases with high 'virtual' water content	*	☐	☐	☐
134.	Install a water butt	✪	☐	☐	☐
135.	**Food and water – your own actions**				
	.....		☐	☐	☐
	.....		☐	☐	☐
	.....		☐	☐	☐

Consumption and waste

136.	Review spending	✪	☐	☐	☐
137.	Spend £1000 less a year	****	☐	☐	☐
138.	Think (several times!) before making any purchase	✪	☐	☐	☐
139.	Work less, earn & spend less, enjoy more time on chosen activities	*****	☐	☐	☐
140.	Avoid disposable items	*	☐	☐	☐
141.	Shop for items that will last	*	☐	☐	☐
142.	Avoid goods that can't be re-used or recycled	*	☐	☐	☐
143.	Buy second-hand items, where possible	*	☐	☐	☐
144.	Support charity shops by shopping there	*	☐	☐	☐
145.	Buy goods made from recycled materials	*	☐	☐	☐
146.	Get items repaired, or repair them yourself!	*	☐	☐	☐
147.	Use items until they are worn out	*	☐	☐	☐
148.	Halve your TV watching and do something active instead	*	☐	☐	☐
149.	Look for low-carbon entertainment – e.g. substitute time with friends or self-entertainment for energy-intensive trips and purchases	***	☐	☐	☐

		Star rating	*I was doing this already*	*I've started doing this since joining the group*	*I'm planning to do this in the future*
150.	Look for low-carbon sport/exercise- e.g. halve a three-times-a-week gym habit	***	☐	☐	☐
151.	Spend money on labour-intensive services and items	**	☐	☐	☐
152.	Save spare cash in an ethical fund	❂	☐	☐	☐
153.	Invest £2500 in renewables	*****	☐	☐	☐
154.	Put savings aside for energy-saving projects	❂	☐	☐	☐
155.	Donate £500 to charities alleviating the effects of climate change	***	☐	☐	☐
156.	Explore websites and magazines that promote ethical consumption	❂	☐	☐	☐
157.	Donate unwanted goods to charities	❂	☐	☐	☐
158.	Sign up to Mail Preference Service	❂	☐	☐	☐
159.	Stop Royal Mail's Door-to-Door deliveries of junk mail	❂	☐	☐	☐
160.	Put a 'No junk mail' sticker on the letter box	❂	☐	☐	☐
161.	Avoid buying heavily packaged items	*	☐	☐	☐
162.	Recycle everything that can be recycled	**	☐	☐	☐
163.	Reduce total amount of waste by 50%	**	☐	☐	☐
164.	**Consumption and waste – your own actions**				
	.....		☐	☐	☐
	.....		☐	☐	☐
	.....		☐	☐	☐

Moving on

165.	Create a personal energy-reduction plan	❂	☐	☐	☐
166.	Facilitate a Carbon Conversations Group	❂	☐	☐	☐
167.	Talk to others about climate change and carbon reduction	❂	☐	☐	☐
168.	Promote carbon reduction at work and in other organisations you are involved with	❂	☐	☐	☐
169.	Look for where you can show leadership on climate change	❂	☐	☐	☐
170.	Join a local group working on climate change	❂	☐	☐	☐
171.	Write regularly to your MP about climate change issues	❂	☐	☐	☐
172.	Talk/write to your local councillors about climate change issues	❂	☐	☐	☐
173.	Take part in campaigns about climate change	❂	☐	☐	☐
174.	Take part in direct action on climate change	❂	☐	☐	☐
175.	**Moving on – your own actions**				
	.....		☐	☐	☐
	.....		☐	☐	☐
	.....		☐	☐	☐
	.....		☐	☐	☐

Notes

Carbon
Conversations

Why is climate change so easy to ignore? Rosemary Randall and Andy Brown offer empathy, encouragement and a practical path to anyone who feels concerned but lost, angry or powerless about this urgent topic.

Carbon Conversations groups help people grapple with these questions and move towards the low-carbon lives that we all need to be living. They provide the safe space that lets people explore the issue without fear of judgment. The groups focus on the way people feel in response to climate change, on the psychological process of change, and on the social contexts that make change difficult. The meetings explore the key areas of an individual carbon footprint in a supportive and non-judgmental fashion, allowing people to make plans that feel right for them and which will halve their carbon footprints.

> ***Carbon Conversations is about so many worthwhile things: acting at a community level, helping people envision a low carbon future, achieving real change. For me its greatest value, in which it is truly remarkable, is that it provides a framework for people to share the real reasons why they act the way they do – their motivations, their blockages, and beyond this, their concerns about the world. In Time for Tomorrow? goes far beyond prosaic arguments about saving energy and explores the landscape of hope. This is why it generates such lasting enthusiasm from participants.***

George Marshall, co-founder of The Climate Outreach and Information Network and author of *'Don't Even Think About It: Why Our Brains Are Wired to Ignore Climate Change'*

> ***One of the twenty most promising solutions to climate change.***
>
> **The Guardian**

> ***This lovely handbook covers it all, with sage guidance on delving into climate debates, reducing your own carbon footprint, and encouraging community action. It reckons honestly with the psychological impacts of a crisis that is far too easy for many of us to deny in our everyday lives and can help anyone to take the first step towards joining this crucial conversation.***

Naomi Klein, author of *This Changes Everything* and *The Shock Doctrine*.

The authors

Rosemary Randall is a psychotherapist and group facilitator who has been involved in the environmental movement for many years. She writes and lectures widely on the psychological aspects of climate change.

Andy Brown is an engineer with a background in the social sciences. He works in research for the built environment and has been a lifelong supporter of environmental causes.