

## Why Bother Going Green

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- **Fred Pearce**

PLENTY of people say it, and the rest of us probably think it as we browse the energy-efficient light bulbs, unplug our TV or leave the car and walk to the shops instead. What's the point in cutting our personal carbon footprint when more than a billion Chinese and most of the rest of the planet are jacking up their emissions as if there were no tomorrow?

It's a fair question. After all, the atmosphere doesn't distinguish between a tonne of Chinese carbon dioxide and a tonne emitted by the west. As the rest of the world carries on regardless, are the paltry savings from recycling your beer cans or insulating your roof anything more than a drop in the ocean? If you just stopped trying, would the planet notice? In this special investigation, we crunch the numbers to find out whether going green is worth all the bother.

First though, the big picture. Every year human activities add about 30 billion tonnes of CO<sub>2</sub> to the atmosphere, largely through burning fossil fuels but also through destroying natural carbon sinks, such as forests. Half of this CO<sub>2</sub> is absorbed by the remaining forests, soils and oceans, but the rest accumulates in the atmosphere.

Since pre-industrial times, the concentration of CO<sub>2</sub> in the air has risen by a little over one-third, from 270 parts per million to 380 ppm - or from 2.2 trillion tonnes to almost 3 trillion. Most scientists think it would be unsafe to let CO<sub>2</sub> concentrations rise beyond 450 ppm - an additional 500 billion tonnes. That level would be reached by around 2040 if emissions continue at today's rates. But as developing countries industrialise, global emissions are unlikely to stay the same. Last year, China hiked its emissions by 8 per cent, or around 450 million tonnes - an increase almost as great as the UK's entire annual carbon footprint. Emissions of other large developing countries like India, Brazil and Mexico are increasing at a similar pace.

Against this remorseless rise of CO<sub>2</sub> from the developing world, can the individual actions of a few concerned westerners really make any difference? To answer this we first need to work out what our personal emissions are. That means including items omitted from the UN statistics - particularly international air travel - and the carbon footprint of goods made in foreign countries but imported for our use. When these are taken into account, the CO<sub>2</sub> footprint of the average western European amounts to some 12 tonnes. For Americans and Australians, the figure is almost twice that, mainly because they drive more, in cars with bigger engines.

In general, just under half of the emissions for which each of us is responsible come from things over which we have personal control, such as how much we drive and fly and how we heat and power our homes. Of the rest, about 25 per cent of the total arises indirectly through powering our workplaces, about 10 per cent comes from maintaining public infrastructure and government, and about 20 per cent is emitted during the production of the things we buy, including food. We can still influence some of these indirect emissions through what we buy - or we could if we had access to the right kind of information - but by and large it makes sense to concentrate on the emissions we can control directly.

So how much can we realistically save and, more to the point, will it be worth it in terms of global emissions? Chris Goodall, author of *How to Live a Low Carbon Life*, believes so. He reckons it is possible to cut individual emissions by around 75 per cent without seriously altering our lifestyles. For a western European, that means slashing personal emissions from about 12 tonnes of CO<sub>2</sub> to just 3 tonnes.

### Cutting down

So how do we do it? Like charity, reducing your emissions begins at home (see Diagram). Of course, individual emissions will vary a fair bit, depending on the size of your house, how many people live in it, and how carbon-conscious you are. But a typical western home, with a total power throughput of about 20,000 kilowatt-hours per year, might generate emissions of around 5 tonnes.