



Climate Change - an action pack for churches

Introduction

2006 was the year when ordinary people starting paying attention to what the scientists and environmentalists have been saying for years - that the climate is changing; becoming significantly warmer with more storms and extreme unpredictable weather events.

There is no room for doubt that climate change is happening. It is virtually certain that recent temperature rises, which are far above the range of natural variation, are driven by human activity. Our burning of fossil fuels emits carbon dioxide (CO₂), methane and other "greenhouse" gases into the atmosphere, which trap the sun's heat. Countries measure the amount of CO₂ (and other gases) they produce from electricity, fuels and non-renewable energy consumed and divide it by the population to give a per capita weight - which we call a carbon footprint¹. On average each one of us in the UK has a carbon footprint of 9.62 tonnes.

US 20 tonnes of CO ₂	Bangladesh 0.3 tonnes
UK 9.6 tonnes	Zambia 0.2 tonnes
China 3.6 tonnes	Peru 0.99 tonnes
India 1 tonne	Malawi 0.06 tonnes



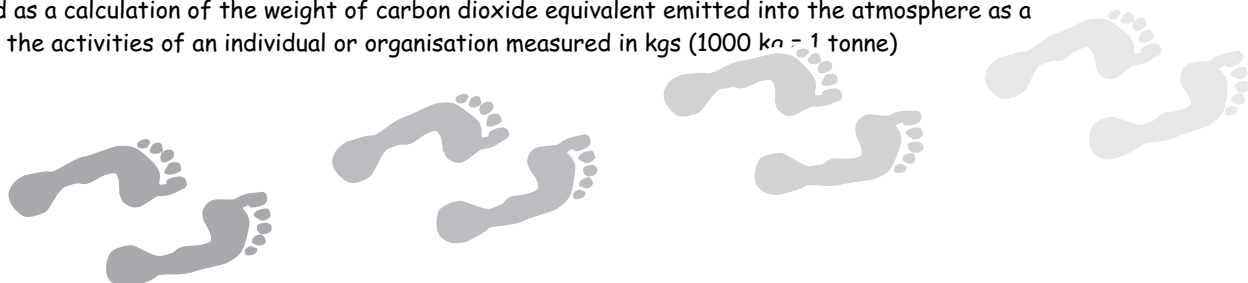
Annual average carbon emissions per person 2004 Source WDM

The Stern Review - published in October 2006 - gave a stark warning of the catastrophe facing the planet unless urgent measures are taken to reduce greenhouse gas emissions. Its key findings were:

- By 2050 or sooner, a world temperatures rise of 2°C is likely and could be 5°C
- Up to 200 million people could become refugees from areas of flooding or drought.
- A temperature rise of 2°C threatens some 18% of animal species with extinction
- Rich nations have caused global warming, but the main sufferers will be poor nations.
- The worst impacts of climate change can still be avoided - but delay would be costly

Stern used the measure of CO₂e greenhouse gases (CO₂, methane and others). At the moment CO₂e is about 430 parts per million (ppm) in the atmosphere and it needs to stabilise at 450-550 ppm. *"Anything higher would substantially increase the risks of very harmful impacts. . . . stabilising at or below 550ppm CO₂e would require global*

¹ Defined as a calculation of the weight of carbon dioxide equivalent emitted into the atmosphere as a result of the activities of an individual or organisation measured in kgs (1000 kg = 1 tonne)



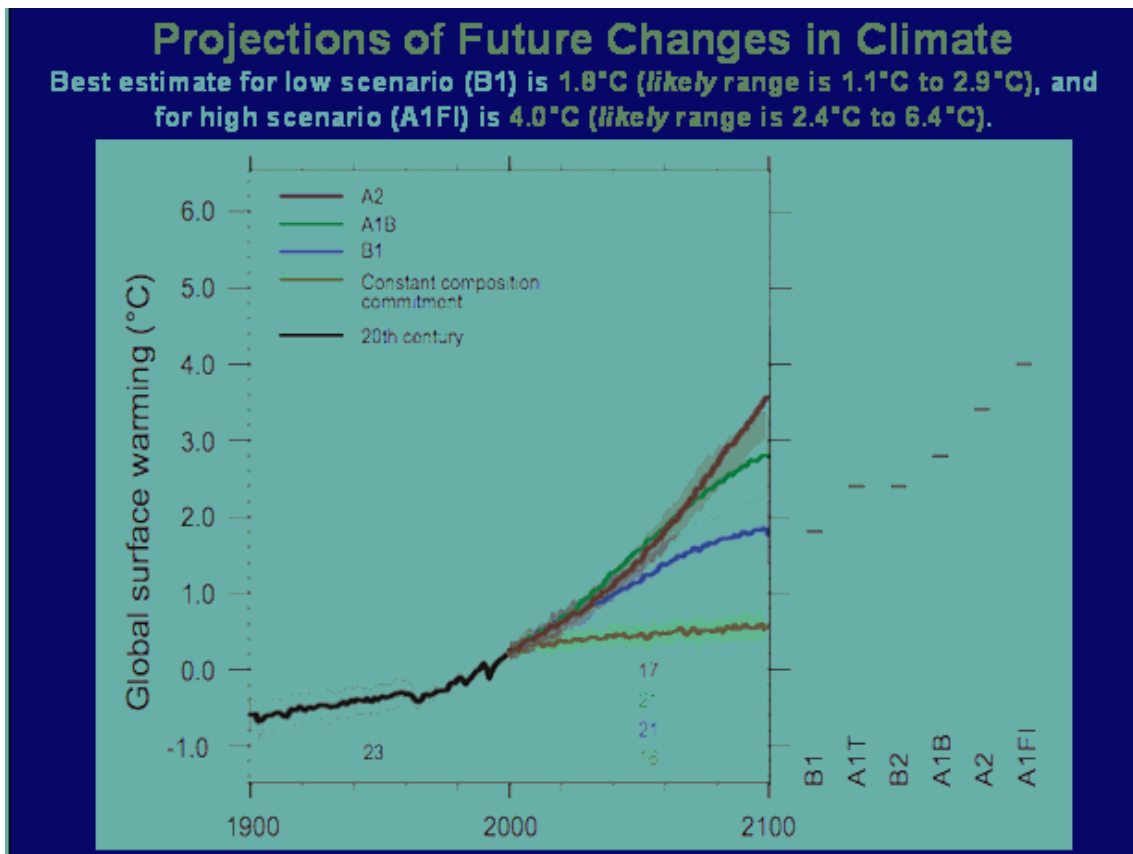


emissions to peak in the next 10-20 years and then fall at a rate of at least 1-3 per cent a year. By 2050, global emissions would need to be around 25% below current levels."

To achieve that will cost, on average, around 1 per cent of annual global GDP by 2050. To do nothing would risk that cost rising later to 20 per cent of global GDP.

Stabilising CO₂e levels at 550ppm - at which Stern and others believe the world should aim - would probably mean a rise of 3°C and possibly 4.5°C (noting that the difference in global temperature between now and the last ice age was a 5°C variation). For that reason many believe 550ppm is actually dangerously high.

Following that, the UN's Intergovernmental Panel on Climate Change (IPCC) Summary Report for Policymakers was published in February 2007. This Report by the world's most illustrious international group of climate scientists marks a watershed in our understanding of our impacts on the world's climate. Global temperature rises this century of between 2°C and 4.5°C are almost inevitable - and most ominously it did not rule out rises of 6°C. Where we end up on that scale will depend mostly on how much fossil fuel the world burns.



IPCC 4th Assessment Report, Feb 2007

The impacts that are likely to arise as temperatures climb are becoming clearer. A 2°C rise is predicted to cause 200 million people to move from areas which can no longer sustain life. 2°C will have a widespread impact on agriculture and water, leading to lost output in many parts of the world including Europe. Global sea levels are predicted to





rise by 25 - 59cm, less high than once predicted, but still likely to cover large areas of land currently lived on and farmed by millions of people, particularly poor people. Droughts, floods, volatile storms and the spread of disease will become increasingly severe as temperatures rise, leading to the death of 160,000 people every year. Some 18% of the world's species face extinction as a result of changes to their habitat.

A 4°C rise in global temperature could lead to 300 million more people suffering from coastal flooding each year, most of them in developing countries. 4°C will cause nearly all the world's glaciers to melt and one consequence will be the water supply for one sixth of the population across the world will be gone.²

Preventing the worst effects of climate change requires us to limit global temperatures. If we can limit this rise to 2°C, the climate system will not reach a tipping point. This is an important threshold and an achievable goal. **A 60% reduction in our carbon emissions by 2050 must now be regarded as the minimum prudent for security**, says the Government Report to local authorities. That means year on year cuts starting now.

Climate Change is not just an environmental threat but a threat to international peace, prosperity, security and development. It is a huge moral crisis for our world, a matter of economic justice and intergenerational justice for we pass to our children a world that is seriously threatened by our unsustainable lifestyles.

For the poorest countries in the world, who contribute little to CO₂ emissions, the prospects are of greater poverty and misery, for they have the least resources to adapt their way of life to a hostile climate. Already the agencies such as Christian Aid and Tearfund are amassing stories of the devastating impact on poor communities.

In Bangladesh the weather has become dangerously unpredictable, with freak storms and unpredictable weather patterns. Melting Himalyan glaciers swell the rivers which have washed away the river banks on which the poorest families build their homes but in the future these waters may not be there.

Tearfund's *Feeling the Heat* report cites examples of people who are already on the move because of water-related problems. Many Mexicans are leaving their homeland and risking death by illegally fleeing to the USA because of poor crop yields. Farmers in Nigeria are being forced to move to cities as the desert advances at 1,350 sq. miles per year.

Christian Aid's *Climate of Poverty* report tells of malaria-carrying mosquitoes in Tanzania and Rwanda spreading to new areas. The Highland regions will no longer be safe from malaria. Their research predicts that 182 million people in sub-Saharan African alone could die of disease directly attributable to climate change by the end of the century.

² Authoritative Website suggestions for more on climate change and its impact:
www.ipcc.ch The Intergovernmental Panel on Climate Change assesses the scientific, technical and socio-economic information relevant for the understanding of the risk of human-induced climate change.
www.defra.gov.uk/environment/climatechange/ noting its link to the climate challenge programme
<http://www.environment-agency.gov.uk/yourenv/639312/>
www.bbc.co.uk/sn/hottopics/climatechange or search [bbc.co.uk](http://www.bbc.co.uk) climate change - lots of pages
www.met-office.gov.uk and its own Hadley Centre, research Centre of climate change





In Northern Kenya the drought has killed thousands of sheep and goats and 10,000 nomadic herders have died, killed in escalating outbreaks of violence - over water. The survival of this group of Kenya's poorest and least-educated people is threatened - for they have too few animals to sustain their way of life.

More intense droughts in southern Africa are predicted to leave millions without access to water and crops. If current carbon emissions are not cut, by 2080, rainfall is predicted to decline by 200mm a year across the region, while the Zambezi river could shrink by between 25 and 40 per cent. From Asia and South American come similar stories - it is a global predicament of enormous proportion.

The degree of economic injustice is becoming clear. The average Tanzanian will emit twelve times less carbon than one person's return flight to New York. Put another way: by the 8th day of the year the average person in Britain will have been responsible for the same amount of carbon emissions as the average person in the poorest countries produces in a year. According to WDM's research, we would need to limit CO₂ emissions per person to 1.1 tonnes a year to prevent rising temperatures. The world's poorest stay within this limit but the average Briton will have emitted that in just 40 days of the year.

It is not too late. A low carbon future is possible if we all change our carbon-hungry lifestyles. We have to make radical changes now and in the next 5-10 years, because the emissions we produce now will be affecting the climate in 30-40 years from now.

The urgency of the situation has prompted some organisations to focus on political campaigning, putting pressure on our leaders not only to commit and achieve UK reduction targets of 30 per cent below 1990 levels by 2020 but also to negotiate international agreements for emission reductions. The UK has the international clout necessary for such negotiations, involving the other major polluters such as the US and China. The UK will have more credibility if it is on track with its emission targets and the development of renewable and alternative energy supplies but it needs to be backed by credible action of individuals and corporations. As a Christian it can not be right to do nothing until our neighbour acts, but rather we have to address the beam in our own eye first.

This resource is aimed at helping your church to respond to God's call to care for His earth which He had lent us for a while. As tenants, we must work daily to reduce our carbon footprint and encourage others to also walk lightly on God's earth.

"We are continually waiting for God, when all the time God and creation are waiting for us. We are central to God's ultimate purpose in creation, we are like 'the key' in the lock of nature's prison, which as we turn and live in harmony with God's character and the natural world, the door of hope begins to swing open towards the new heaven and earth."

(Noel Moules - 'Green Christian' magazine of Christian Ecology Link, Autumn 2006)

*"Treat the Earth well. It was not given to you by your parents.
It was loaned to you by your children."* Kenyan proverb

