

# **Why we need to tackle climate change as a matter of urgency**

Tony Waterston  
ESSOP, 2008

# Why am I talking about this and why don't we change?

- Climate change is about equity in child health, children's rights and tackling poverty
- It will affect every country in the world - but the poorest first



Cycling  
To work  
The day  
Before  
The Stern  
report

My idea of cycling to work the day after the Stern Report





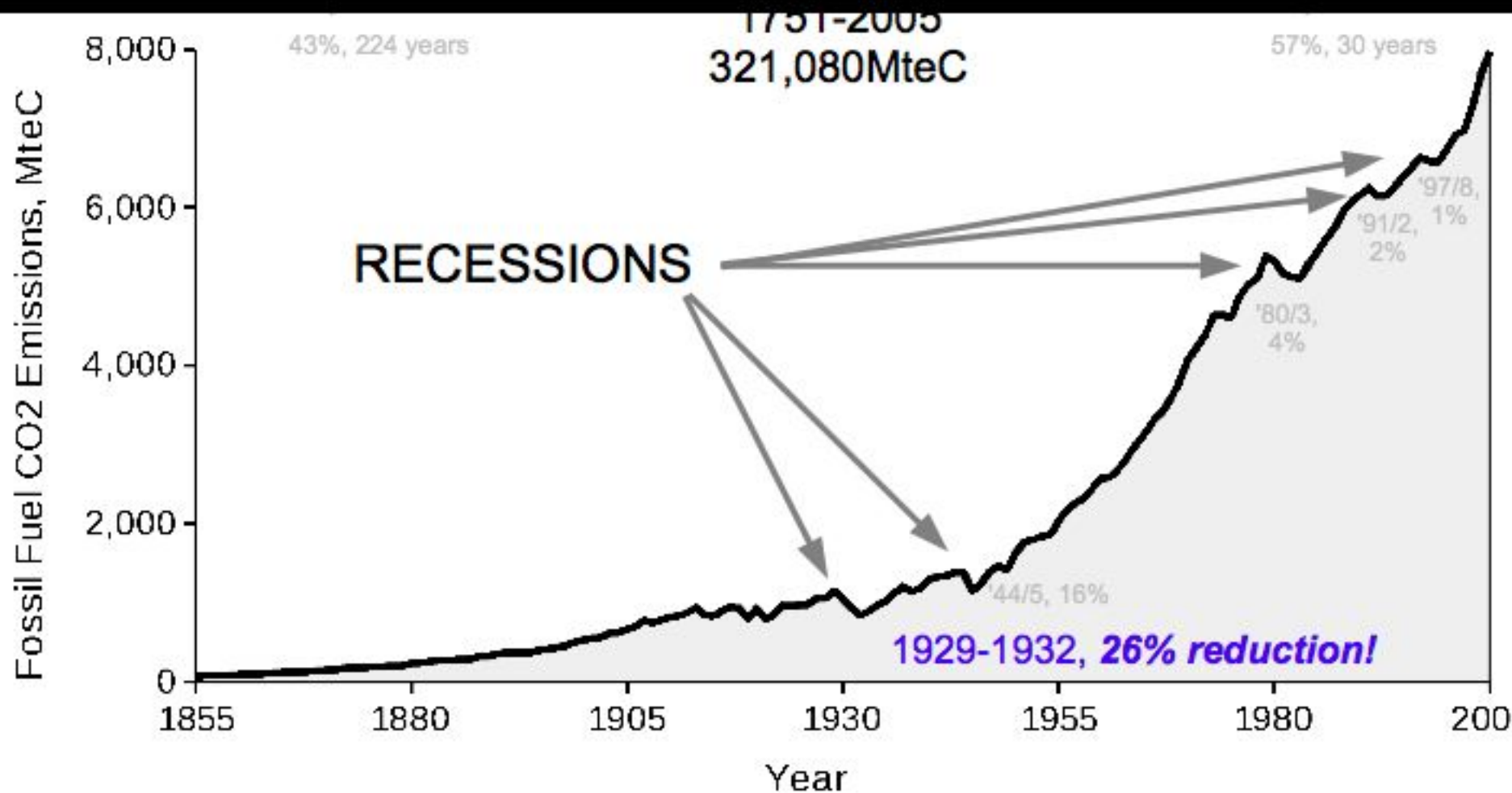
The day  
After the  
Stern  
report

# Essential reading for climate sceptics

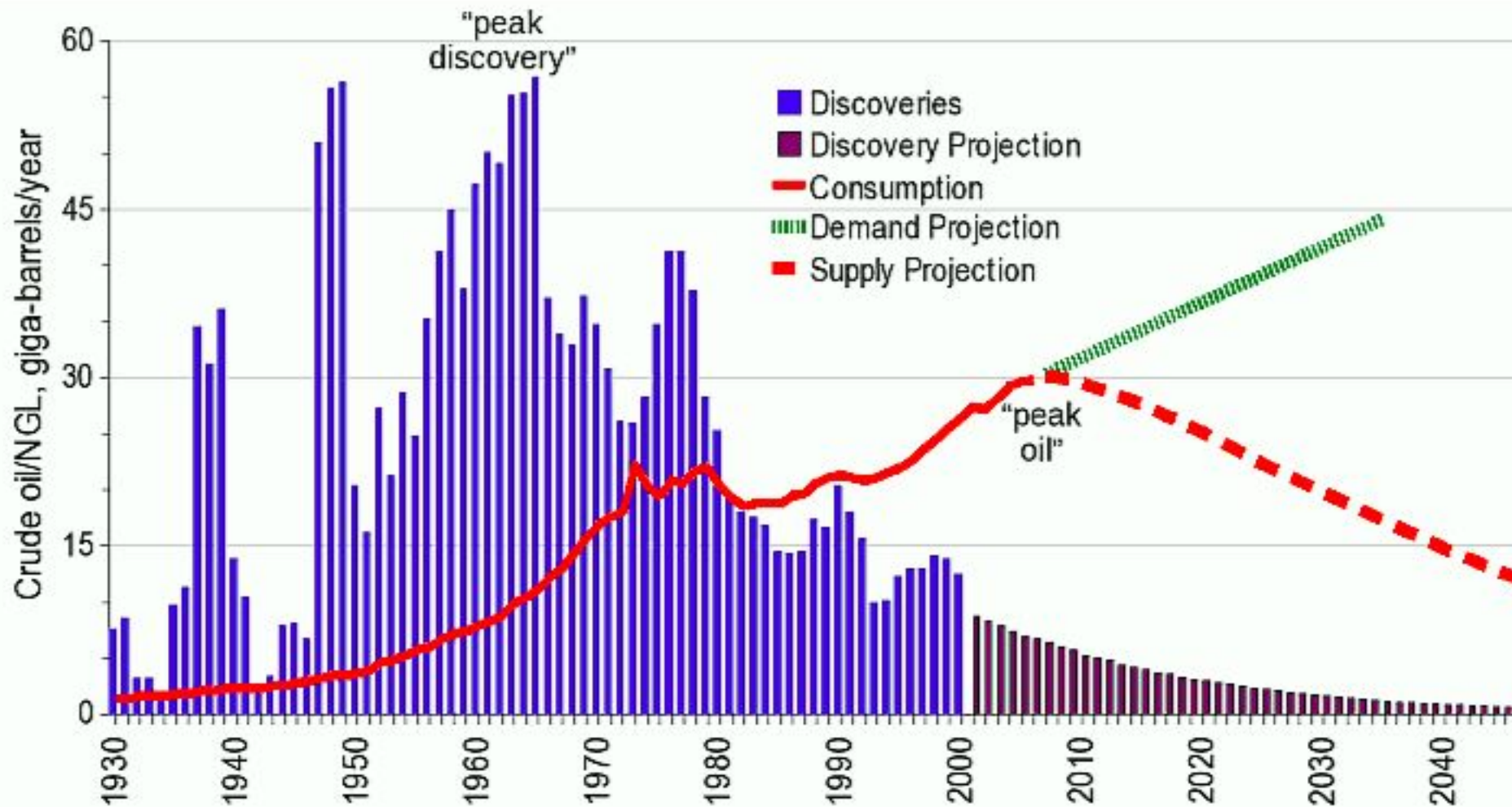
- 'Heat' by George Monbiot Penguin 2006
- IPCC [www.ipcc.ch/](http://www.ipcc.ch/)
- Stern review
- [www.hm-treasury.gov.uk/independent\\_reviews/stern\\_review\\_economics\\_climate\\_change/stern\\_review\\_report.cfm](http://www.hm-treasury.gov.uk/independent_reviews/stern_review_economics_climate_change/stern_review_report.cfm)
- BMJ 28th June 2008 1466
- 'Energy beyond Oil' Paul Mobbs Matador 2007
- Royal Society of Medicine [www.royalsociety.org](http://www.royalsociety.org)
- RCP conference 30 Jan 2008  
<http://www.rcplondon.ac.uk/event/details.aspx?e=947>
- Saving Carbon, Improving health  
[http://www.sdu.nhs.uk/page.php?area\\_id=7](http://www.sdu.nhs.uk/page.php?area_id=7)
- + an Inconvenient Truth by Al Gore

- Energy and inequity
- Child health impact
- Targets
- Action for health professionals

# Global Fossil Fuel Emissions, 1751-2005



# Discovery and Production



**An illustration of the problem...**



**Source:**  
NASA

**The Energy Beyond Oil Project**

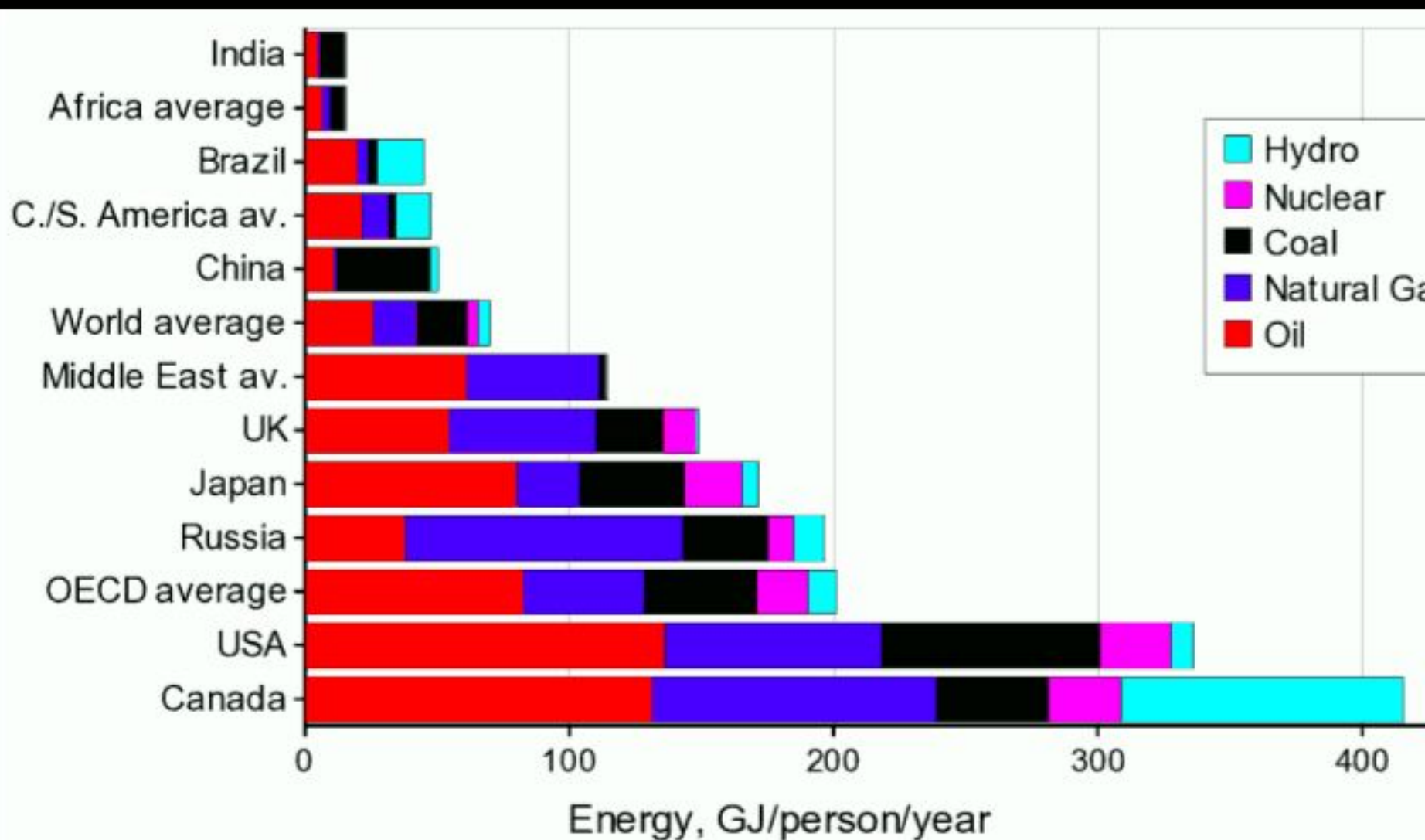
# An illustration of the problem...



Source:  
NASA

The Energy Beyond Oil Project

# Energy Inequalities, 2003



# Ecological overdraft

- **On the 9<sup>th</sup> October 2006, the Guardian newspaper reported that the world had moved into ‘ecological overdraft’ – meaning that in little more than nine months, humans have used up all that nature can replenish in one year, and for the rest of 2006 are destined to eat into the planet's ecological capital. Humanity first went into global ecological debt in 1987, when the year's resources were spent by December 19. Since then, the date has leapt forward year by year to November 21 by 1995 and October 11 in 2007.**

# And 2008?

- By the 4th Jan, the average British citizen will have emitted as much CO<sub>2</sub> as the average person in Lesotho in the whole of 2008
- By 11th Jan: Bangladesh
- By 31 Jan: Nicaragua
- By 12th Feb: Peru

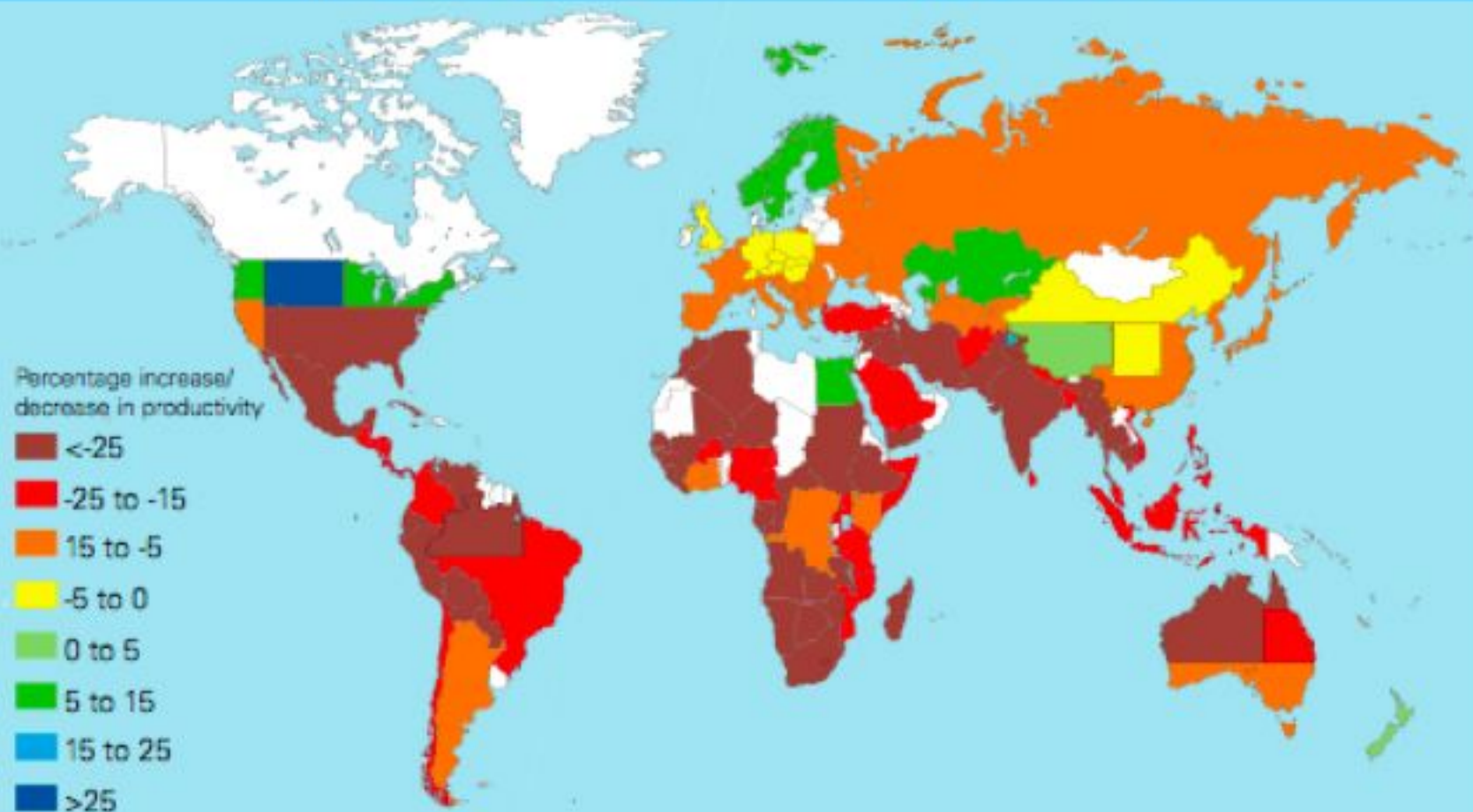
**Our climate, our children, our responsibility**  
The implications of climate change for the world's children

UNICEF 2008



How climate change affects children

## Impact on agricultural productivity by the 2080s



Source: Used with permission from the Center for Global Development and the Peterson Institute for International Economics, from *Global Warming and Agriculture: Impact Estimates by Country*, Willam R. Cline, 2002

Trend: climate change will	Degree of expert confidence
Increase malnutrition and consequent disorders, including those relating to child growth and development	High
Increase the number of people suffering from death, disease and injury from heatwaves, floods, storms, fires and droughts	High
Continue to change the range of some infectious disease vectors	High
Have mixed effects on malaria; in some places the geographical range will contract, elsewhere the geographical range will expand and the transmission season may be changed	Very high
Increase the burden of diarrhoeal diseases	Medium
Increase cardio-respiratory morbidity and mortality associated with ground-level ozone	High
Increase the number of people at risk of dengue	Low
Bring some benefits to health, including fewer deaths from cold, although it is expected that these will be outweighed by the negative effects of rising temperatures worldwide, especially in developing countries	High

Source: Confalonieri et al., "Human health" in *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the IPCC*, IPCC, 2007.

# 1° Increase (Stern report)

- Climate related diseases such as diarrhoea and malaria increase affecting 30,000 each year
- More people exposed to malaria in Africa up to 60 million

- Figures suggested by the Stern review suggest that, with temperature increases of 2° C, an additional 30-200 million people will be placed at risk of hunger across the world, rising to as many as 550 million with warming of 3° C

- In Ethiopia children age five or under are 36% more likely to be stunted if they were born during a drought year and were affected by it. This translates into some 2 million additional malnourished children
- For Kenya being born in a drought year increases the likelihood of children being malnourished by 50%
- In Niger children age 2 or under who were born during a drought year are 72% more likely to be stunted

# What is the outcome we wish to prevent?

- 2 degrees of warming has been widely recognised as the critical threshold for warming of the earth; at this point, critical positive feedbacks are expected.
- At the present rates of rise, temperatures are likely to reach that point in about 2030. If we are to curtail further rises, we would need to stabilise concentrations of greenhouse gases below the equivalent of 440 ppm of CO<sub>2</sub>. Currently the CO<sub>2</sub> level stands at 380 but the other greenhouse gases raise this to 440 or 450. Hence the emissions in 2030 need to be roughly the same as they are now.

# Who uses what energy?

■ UK	12 tonnes/person/yr
■ US	20 tonnes
■ France	6
■ India	1
■ China	3
■ World mean	4

– *Whose responsibility to change?*

# Current Carbon outputs (UK)

- National: 25% each from
  - home and workplace energy
  - transport
  - food industry
  - all other products and services
- Personal: approx 12 tonnes/year - just over half from personal travel and household energy

# Targets

- England: 60% (? Now 80%) cut by 2050, 26-32% by 2020
- Scotland: 80% by 2050
- Monbiot: 90% by 2030
- Personal: a sustainable footprint for each person on the globe would be 2 tonnes/yr

At its AGM in 2007, the Royal College of Paediatrics and Child Health adopted a target of becoming carbon neutral within ten years

Monday  
30<sup>th</sup> June 2008

BMJ



*joint meeting organised by*

**BMJ, Royal College of Paediatrics and Child Health & Faculty of Public Health**

---

# Carbon reduction and health

*A guide to reducing the footprint of the health sector*



# BMJ

ISSN 0959-8122 No. 7008 Contents 0100-0101  
28 June 2008 | bmj

## International conferences: an outdated luxury?

**PLUS** Introducing patient

BMJ  
28 June 2008

# Medical misdemeanour

- **Last year, many doctors flew to attend the European Respiratory Society annual congress in Munich. It is estimated that the 17 000 delegates generated about 4000 tonnes of carbon dioxide from travel alone. Earlier this month, Callister and Griffiths reported the carbon footprint of the American Thoracic Society meeting in San Diego. The meeting was attended by about 15 000 delegates who generated an estimated 10 779 tonnes of carbon dioxide from air travel.**
- **11 000 tonnes of carbon dioxide is equivalent to that produced in one year by 11 000 people in India and 110 000 people in Chad**

# And social paediatricians?

- 34 international delegates to ESSOP in Iceland emit about 8 tonnes of carbon from flights
- 51 delegates would emit 12 tonnes: the output of one person in UK over one year, or 360 people in one day
- In India, this is the output of 3600 people in one day, or 36,000 people in Chad

# Cochrane Collaboration: setting a good example

- The most recent (meeting) was in Dublin in 2006, with 820 delegates from 40 countries. However, the organisers piloted electronic ways of enabling people to "attend" the conference on the internet, and a plenary session used video conferencing to "bring" keynote speakers from Papua New Guinea, Tunisia, and Uganda. This is a step in the right direction. The BMJ/IHI annual International Forum on Quality and Safety in Health Care is taking similar measures. At the meeting in Barcelona in April, videos of the four main plenaries and the subsequent panel discussions will be available on [bmj.com](http://bmj.com) in both Spanish and English.
- Can we do the same for ESSOP?

- Most of us do not yet think of our high carbon lifestyle as an addiction that is more destructive than tobacco, and irreversibly so

Mike Gill, BMJ 2008, 336, 1506

- Ten practical steps for doctors to fight climate change

Griffiths J et al op cit p 1507

# Seven top actions

- Measure your Carbon footprint  
[www.carboncalculator.co.uk](http://www.carboncalculator.co.uk)
- Become Carbon literate
- Sign up to the climate and health council declaration <http://www.climateandhealth.org/>
- Commit yourself to reduce year on year
- Take one action at work - eg walk once a week
- Move to electronic conferencing
- Go by train in Europe

# And the bottom line..

- Doctors are part of the problem
- Can we also be part of the solution?
- The health benefits of a low carbon world are huge



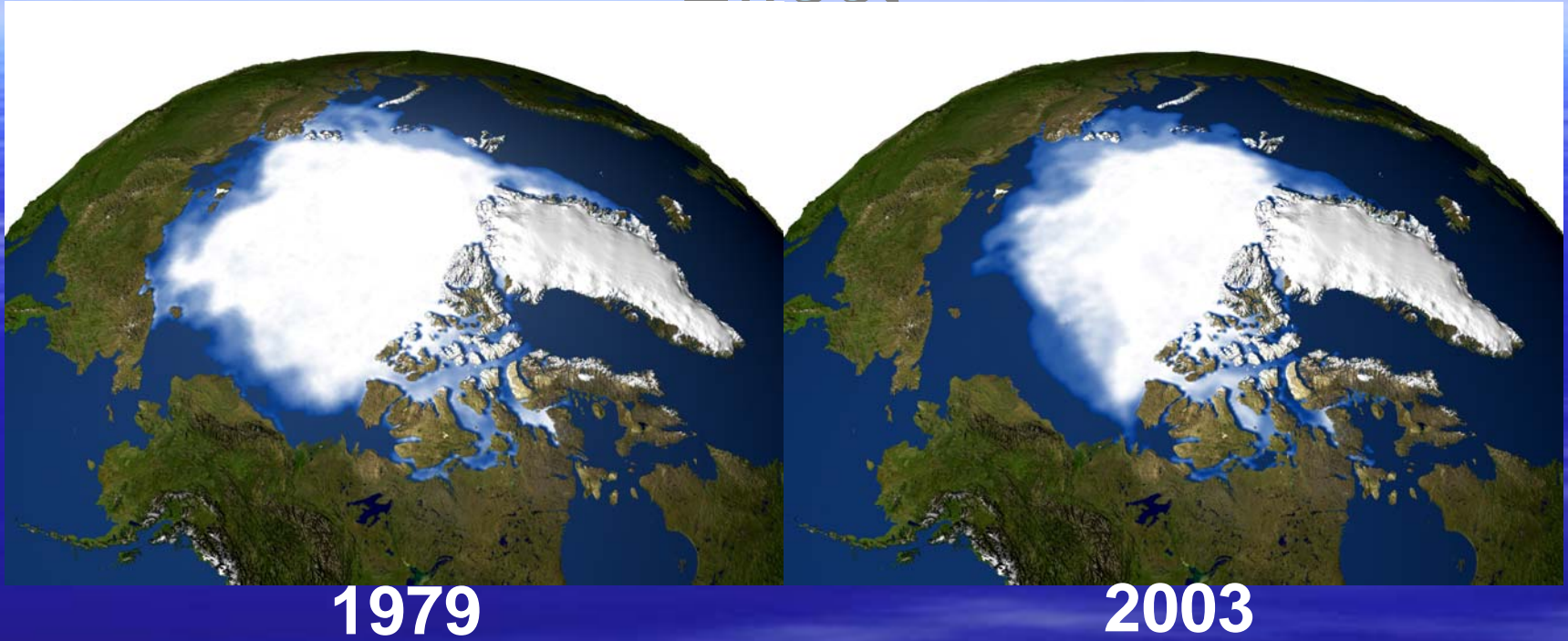
# Health co-benefits

- Less animal fat in food system
- More exercise
- Fewer accidents
- More equity
- Cancer, heart disease, diabetes, air pollution - all reduced

# Positive feedback

- It is predicted that by about 2040 living systems on the land will start to emit more CO<sub>2</sub> than they absorb. This is an example of ‘positive feedback’: climate change accelerating itself. Soil for example becomes a net source of carbon when temperatures rise, as the metabolism of the microbes it contains speeds up. In 2005 British scientists reported that soils in England and Wales had already become carbon sources; the carbon they were releasing had already cancelled out all the cuts the UK had made since 1990.

# Positive Feedbacks: The Ice-Albedo Effect



# Positive Feedbacks: Melting Permafrost

