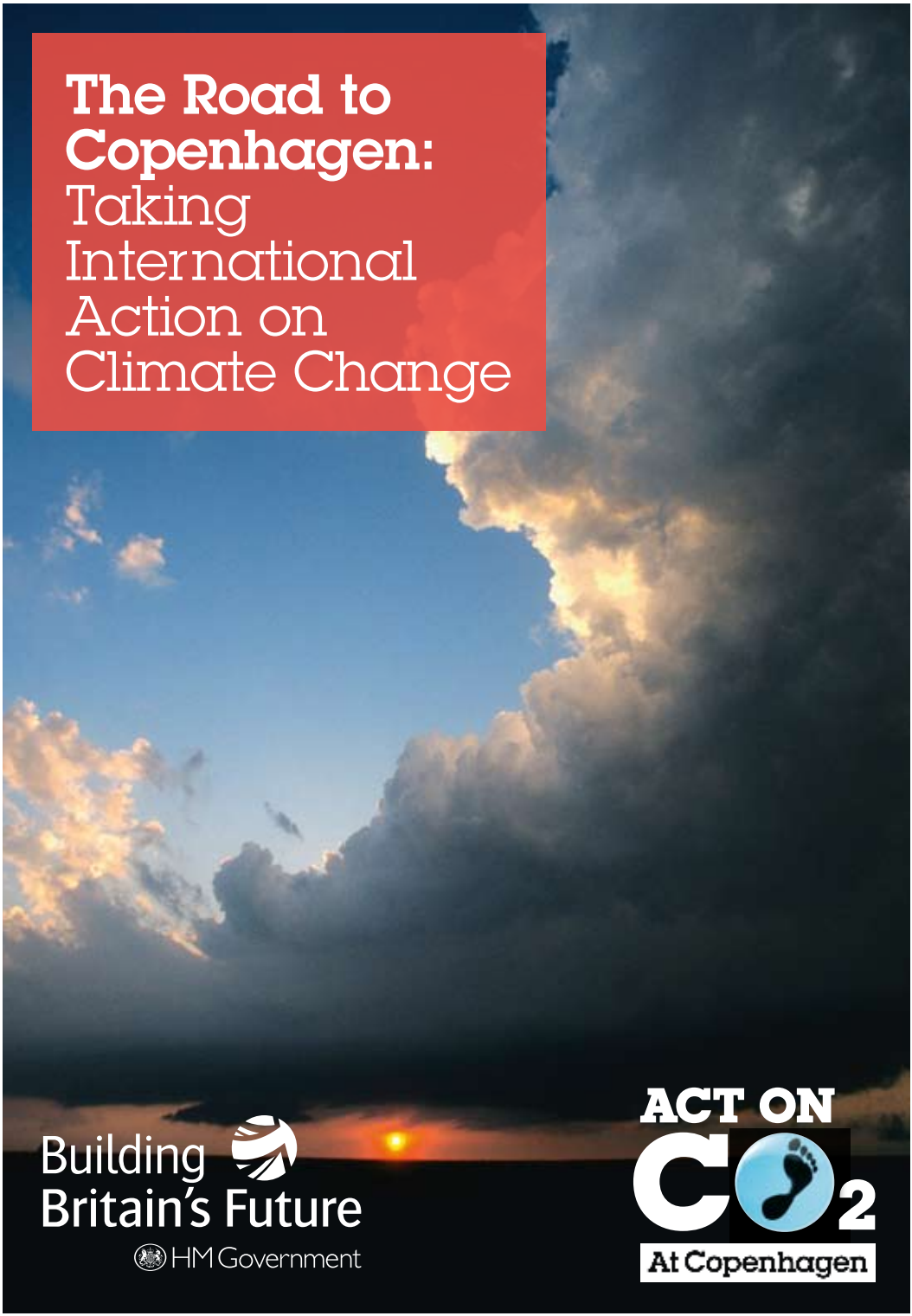
The Road to Copenhagen: Taking International Action on Climate Change



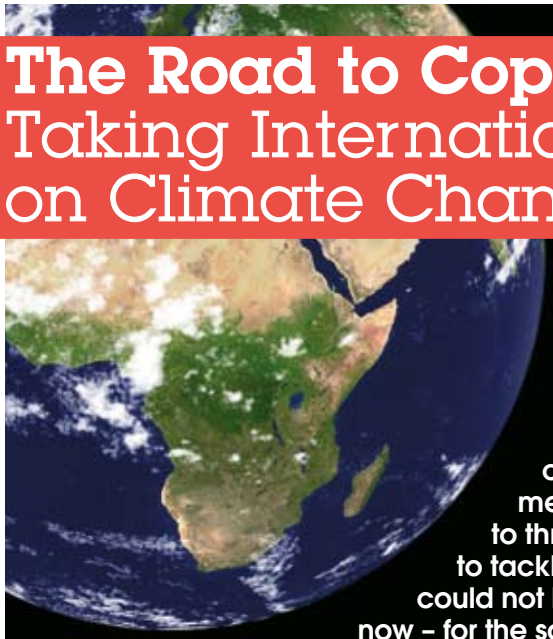
Building Britain's Future

HM Government

ACT ON CO2

At Copenhagen

The Road to Copenhagen: Taking International Action on Climate Change



What is happening at Copenhagen?

Later this year, more than 180 countries will join a United Nations meeting in Copenhagen, Denmark, to thrash out a new international deal to tackle climate change. The stakes could not be higher. Action must be taken now – for the sake of people all over the world, and for future generations. If we do nothing, scientists predict that global warming will cause potentially catastrophic changes in the world around us over the course of this century, including:

- **extreme weather:** Summer temperatures as experienced in 2003 – a record breaking heat-wave in Europe which killed 35,000 people – could become the norm.
- **sea level rise:** Steep increases in global sea levels will cause severe flooding in many countries. In Asia, 94 million people could be left homeless, leading to large-scale migration.
- **water shortages:** Glaciers could shrink by almost two thirds, and the rivers they feed could start to dry up. This would affect drinking water supplies for around a sixth of the world's population.
- **food shortages:** Drought in parts of Africa could reduce harvests by half by 2020.
- **extinctions:** Up to a third of known plant and animal species will be at risk of extinction. Entire natural environments – like coral reefs and rainforests – would be under threat.

There are alarming signs that these changes are already well underway. Storms, floods, and droughts are happening more often and are more extreme. Arctic summer sea ice is melting faster than previously predicted.

Part One: Why we need to take action

What is causing these changes?

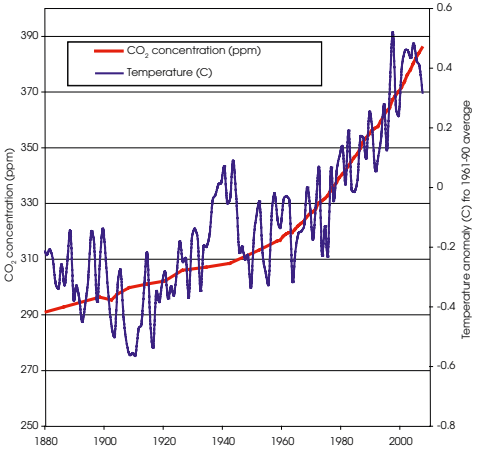
Human activity has caused global warming. That is the overwhelming verdict of the UN climate change panel, made up of scientists from more than 130 countries. They say the temperature increases of recent years **cannot** be explained by natural factors alone.

Greenhouse gases are causing climate change by trapping the earth's heat before it can escape into space. The biggest culprit of all is carbon dioxide (CO_2), which is produced by burning fossil fuels like coal and oil. Levels of CO_2 in the atmosphere have risen by 40% since the Industrial Revolution. The graph on the right shows how temperatures have risen alongside levels of carbon dioxide in the atmosphere since the late 19th century.

What will happen if we don't act?

The UN panel (known as the Intergovernmental Panel on Climate Change) predicts that global temperatures could rise by between 1.8 and 4 degrees Celsius (°C) by 2100 if urgent action isn't taken. In the worst-case scenario, they could soar by as much as 6.4°C.

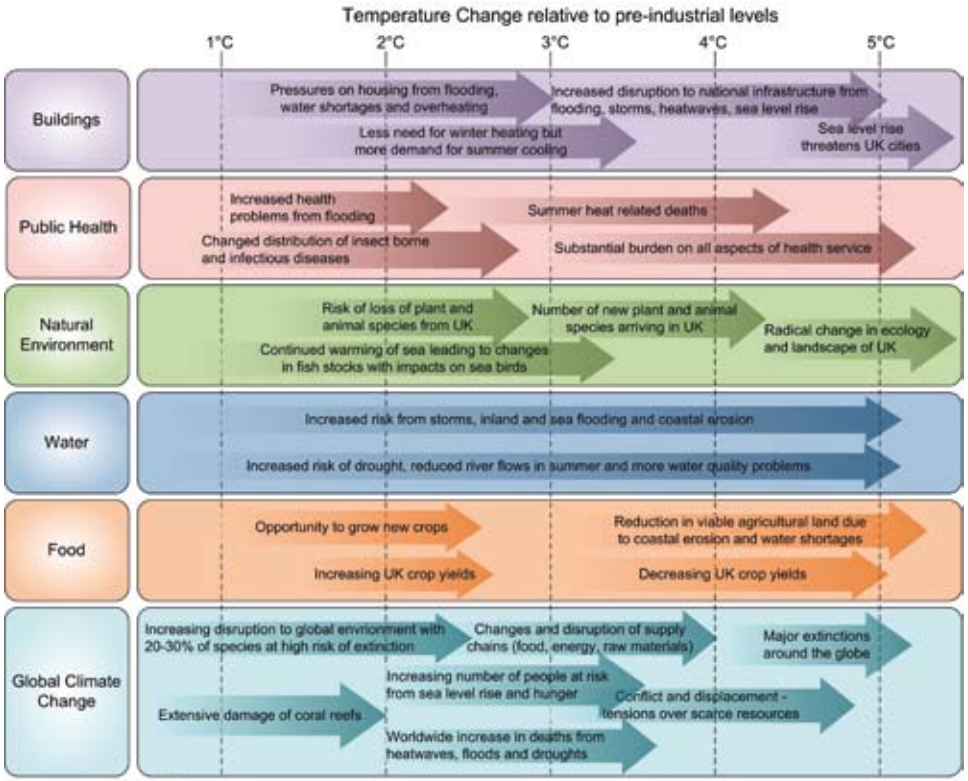
These predicted figures are deeply worrying because most experts agree that temperatures should rise by **no more than 2°C** if we are to prevent potentially catastrophic damage to the planet.



"Climate Change is the biggest global health threat of the 21st Century"

– The Lancet, May 2009

The chart below sets out what temperature rises of different scales could mean for the world around us.



As the chart above clearly shows, temperature rises above 2°C could trigger climate changes which may never be reversed. The effects of this would be far-reaching and unpredictable, and would change everyone's lives

Sea ice reflects energy from the sun back into space, whereas the sea itself absorbs energy.

If sea ice melt accelerates, a smaller portion of the Earth's surface will reflect energy. Even more heat energy from the sun will be absorbed, causing temperatures to rise even faster. Recent science shows that arctic summer sea ice could disappear by the 2030s.

Can we afford to take action?

We cannot afford not to. In 2006 the highly respected economist Lord Stern looked at all the evidence on the possible costs of climate change for a landmark report. His conclusion was simple: if we do nothing, the effects of climate change will pose a significant threat to worldwide economic prosperity. But if we take action quickly, the costs of tackling climate change will be affordable.

The benefits of action

Avoiding dangerous climate change is not just about saving money. A low carbon, low emissions economy offers real benefits both in the UK and worldwide. In the UK alone, low carbon and environmental goods and services are already worth over £100 billion each year and the sector employs 880,000 people. Important benefits of creating a low carbon future for the UK include:

- New jobs and business opportunities in low carbon industries, such as solar and wind energy, and low carbon vehicles
- More secure energy supplies and a more resilient economy as dependence on imported and increasingly expensive fossil fuels is reduced
- A cleaner, healthier environment with lower levels of pollution and noise.

Around the world, countries are putting low carbon initiatives at the centre of their efforts to revive economic growth. In the 2009 budget, the UK Government put in place measures to stimulate an extra £10.4 billion of investment in the low-carbon sector.

Part Two: Our plans for international action

The key challenge at Copenhagen will be to drive action to limit global average temperature rise to no more than 2°C above the level it was before the Industrial Revolution. To achieve this, countries will have to find ways to reduce the amount of CO_2 and other greenhouse gases that they produce.

Our priorities for Copenhagen

An international agreement is needed to:

- Set clear actions for cutting the amount of greenhouse gases countries release into the atmosphere
- Support poorer countries in preparing for the effects of climate change
- Encourage the development and sharing of technology to tackle the causes and consequences of climate change
- Protect forests – the loss of forests is a major contributor to the levels of greenhouse gases in our atmosphere.

A deal will also need to set out how to pay for these actions, and how international bodies can best ensure that they are taken effectively.

Action to reduce emissions

We need to rapidly reduce the amount of greenhouse gases we release into the atmosphere if we are to limit global temperature increase to no more than 2°C. Scientists have worked out the maths: outputs of these gases need to peak and start to decline in the next 10 years, and by 2050 they must at least halve compared to what they were in 1990.

To get on track to reach this goal, all developed countries must commit to firm reductions in amount of greenhouse gases they emit at Copenhagen. Developing countries will also need to play their part by agreeing to limit the extent to which their production of these gases increases as their economies grow.

The European Union has already pledged that it will reduce emissions by 20% below 1990 levels by 2020, and by 30% if other countries commit to a similar level of action in a global agreement.

Adapting to climate change

Unfortunately, a certain amount of global warming is now unavoidable. The greenhouse gases already in the atmosphere will continue to affect temperatures for some time. So, even if the world makes deep cuts in the rate at which we produce these gases today, we would still need to prepare for some effects of climate change. This process is called 'adaptation.'

Adaptation is essential for all countries, but especially for poorer, developing countries because they are more vulnerable to impacts such as drought and flooding, and are least able to cope with their effects.

Adaptation actions could include better water conservation, new farming methods and plans to build new homes and businesses away from flood plains.

The UK wants a deal which gives developing countries the support they need to develop their own national plans to adapt to climate change.

"Climate change is the greatest emerging humanitarian challenge of our time, causing suffering to hundreds of millions of people worldwide."

– Former UN Secretary General, Kofi Annan.

Daily emissions from deforestation are equivalent to those from around **580 coal-fired power stations**.

Tackling deforestation

Nearly a fifth of the carbon dioxide released into the atmosphere by humanity is a result of the destruction of forests and changes in the way we use land – more than the entire worldwide transport sector. In the tropics, an area of trees half the size of England is cut down **every year**. Urgent action to save forests must therefore be at the heart of the Copenhagen agreement.

The UK wants to see a deal which at least halves the rate at which we are cutting down tropical forests by 2020, with a complete end to global forest loss by 2030 at the latest.

Photograph: Charlie Pye Smith

Technology

Developing efficient new low carbon technologies – and bringing them into global use is key to tackling climate change. This challenge is all the harder because these technologies must be both effective and affordable. But we believe it possible if politicians and business leaders can work together.

The UK has two key goals for technology:

- To ensure existing technologies are **shared** more rapidly around the world through better co-operation between countries.
- To **develop** new technologies more quickly so that they can be put into use as soon, and as cheaply, as possible.

What kind of technologies do we need:

- **Carbon Capture and Storage** to prevent emissions from fossil-fuelled power stations entering the atmosphere
- **Electric vehicles** that produce lower emissions
- **Solar and other renewable power** that produces cleaner energy
- **Energy efficient products** for use in homes and business

Paying for action

One of the highest priorities at Copenhagen is to find ways to pay for action to both reduce the amount of greenhouse gases we produce and to adapt to climate change. In the long-term most of the cash is likely to come from the private sector, and a deal must find ways to encourage this. However, public funding will also be needed to make sure the world acts fast enough.

The UK wants to see extra money made available to tackle climate change, with measures in place to make sure it is spent effectively.

The UK will be working with our international partners to develop our proposals in more detail and prepare for Copenhagen. But international agreements between Governments are only part of the effort we need to be successful in tackling climate change.

Action at all levels: international, national, in business, in local communities and in our homes, can make a difference.

This pamphlet has set out what the UK Government intends to achieve at the talks at Copenhagen.

To find out more about what the UK Government is doing to tackle climate change in the UK and internationally, visit **www.actoncopenhagen.gov.uk**

Part Three: Action at home

Tips to save money and energy - and reduce your carbon footprint

The following list of tips suggests how **you** can take action to reduce the CO_2 impact of the actions you take in your home and in your life.

These tips will reduce your carbon footprint whilst also saving you money!

The most effective action you can take today is to install straightforward home insulation. This could save you up to £280 a year.

If every household in the UK with less than 270mm loft insulation were to upgrade to this amount, the overall saving would be around £250m and around 7 Mega tonnes CO_2, the equivalent annual emissions of three and a half large (900MW) gas-fired power stations.

You can make the £280 saving by:

1		Fitting loft insulation to the recommended amount (270mm) could save you up to £100 a year, Even if you already have insulation, you could still save up to **£30** a year.
2		Cavity wall insulation can take a matter of hours to install, and could save you around **£150** a year on fuel bills, as well as reducing your carbon footprint.
3		Installing draught excluders where there are gaps and you could save around **£20** per year.
4		Windows – If your house does not yet have double glazing, installing it could save up to **£80** a year.

Other steps you can take to save money and energy:

Won't cost you a penny – do this week!

1 	Switch off appliances when not in use to save **£30** per year. Leaving unused appliances on standby (which means they're still using energy) costs around £800 million a year in the UK alone.
2 	Only boiling as much water as you need could save you up to **£25** a year (based on five kettles a day, boiling one litre more than necessary).
3 	Hang out clothes to dry in good weather. Also, switch on the washing machine when you have a full load, and wash clothes at 30 degrees to save energy and money.
4 	Take a quick shower rather than a long bath to cut your water use.
5 	Turning your thermostat down by 1°C could reduce CO_2 emissions and cut your fuel bills by up to 10 per cent.
6 	Try walking instead of driving to replace one short car journey a week. Also, follow smarter driving tips – like keeping tyres correctly inflated and changing up a gear a little earlier – to save up to a month's worth of fuel a year.
7 	Try not to waste food – the average UK household spends £424 a year on food that goes straight in the bin. Plan a menu for the days ahead, make shopping lists and use leftovers wisely.

Will cost a little but you will save money almost immediately – do within the next few weeks

1 

Replace traditional 100W lightbulbs with energy saving ones and you will save up to **£60** over the lifetime of the new bulb.

2 

Recycle everything your local council will collect. Much recycling is free, but bulky goods/electrical items may cost a small amount.

3 

Fitting your hot water tank with an insulating jacket will only cost a few pounds and, with all the heat it traps, it pays for itself within six months. Fit one that's at least 75mm (3 inches) thick and you could save around **£30** a year. If every UK household that could fitted an adequate tank-jacket tomorrow, it would save over £132 million of energy every year.

Will involve upfront costs, but you will save money over the longer term

1 

Replace a boiler (10-15 years old) with an energy efficient condensing boiler ('A' rated) and suitable controls (e.g. thermostats) and you could save up to **£90** each year.

2 energy saving recommended

Replace white goods with energy saving recommended appliances, and you could save between **£5** and **£20** each year.

For free energy saving advice, including on financial support available to help you take many of the steps above (in some cases meeting 100% of the cost), call the Act on CO_2 advice line: **0800 512 012**

To calculate your carbon footprint, visit: **www.direct.gov/ActOnCO2**

To find out more about what the UK Government is doing to tackle climate change in the UK and internationally, visit **www.actoncopenhagen.gov.uk**

For further copies, you can access this document online at: **www.direct.gov.uk/ActOnCO2**
Please consider the environment when printing and only print as many as you need.

ACT ON CO2

www.direct.gov.uk/ActOnCO2