

# PANiC Stations

## People Against New Coal Stations

This document is based on information available from the government websites and from key industry and research organisations working on Climate Change. For a list of useful websites see the end of this document.

## Climate change: what is climate change?

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Climate change affects all of us - and we can all be part of the solution.

### What is Climate Change?

Climate refers to the average weather experienced over a long period. This includes temperature, wind and rainfall patterns. The climate of the Earth is not static, and has changed many times in response to a variety of natural causes.

The Earth has warmed by 0.74°C over the last hundred years. Around 0.4°C of this warming has occurred since the 1970s.

The recent Fourth Assessment Report (AR4) of the Intergovernmental Panel on Climate Change (IPCC) leaves us in no doubt that human activity is the primary driver of the observed changes in climate. Scientists at the UK Hadley Centre (part of the Met Office) made significant contributions to this report.

### What are the causes of Climate Change?

The main human influence on global climate is emissions of the key greenhouse gases – Carbon Dioxide (CO<sub>2</sub>), Methane (CH<sub>4</sub>) and Nitrous Oxides (NO<sub>x</sub>). The accumulation of these gases in the atmosphere strengthens the greenhouse effect. At present, just over 7 billion tonnes of CO<sub>2</sub> is emitted globally each year through fossil fuel use, and an additional 1.6 billion tonnes are emitted by land use change, largely by deforestation. The concentrations of these gases in the atmosphere have now reached levels unprecedented for tens of thousands of years.

According to the AR4 report, mean global temperatures are likely to rise between 1.1 and 6.4°C (with a best estimate of 1.8 to 4°C) above 1990 levels by the end of this century, depending on our emissions. This will result in a further rise in global sea levels of between 20 and 60cm by the end of this century, continued melting of ice caps, glaciers and sea ice, changes in rainfall patterns and intensification of tropical cyclones.

### What climate change means for us

For the UK, climate change means hotter, drier summers (more heat waves), milder wetter winters, higher sea levels and an increased flood risk to coastal areas.

Across the globe, there will be more intense heat waves, droughts and more flooding. There may be severe problems for regions where people are particularly vulnerable to changes in the weather. Food shortages and the spread of disease are commonly predicted. The social, environmental and economic costs of climate change could be huge, as indicated in the recent Stern report on the economics of climate change:

# Information sources for PANiC Stations documents

Main document source from Climate change: what is climate change?

[www.defra.gov.uk/environment/climatechange/about/index.htm](http://www.defra.gov.uk/environment/climatechange/about/index.htm)

[The greenhouse effect](#)

[www.defra.gov.uk/environment/climatechange/about/g-effect.htm](http://www.defra.gov.uk/environment/climatechange/about/g-effect.htm)

[Greenhouse gases](#)

[www.defra.gov.uk/environment/climatechange/about/g-gases.htm](http://www.defra.gov.uk/environment/climatechange/about/g-gases.htm)

[Global effects](#)

[www.defra.gov.uk/environment/climatechange/about/globaleffect.htm](http://www.defra.gov.uk/environment/climatechange/about/globaleffect.htm)

[UK effects](#)

[www.defra.gov.uk/environment/climatechange/about/ukeffect.htm](http://www.defra.gov.uk/environment/climatechange/about/ukeffect.htm)

[Links](#)

[www.defra.gov.uk/environment/climatechange/about/links.htm](http://www.defra.gov.uk/environment/climatechange/about/links.htm)

[Intergovernmental Panel on Climate Change \(IPCC\)](#)

[www.defra.gov.uk/environment/climatechange/internat/ipcc/index.htm](http://www.defra.gov.uk/environment/climatechange/internat/ipcc/index.htm)

[Hadley Centre](#)

[www.metoffice.gov.uk/research/hadleycentre/index.html](http://www.metoffice.gov.uk/research/hadleycentre/index.html)

[Stern Report - on the HM Treasury website](#)

[www.hm-treasury.gov.uk/independent\\_reviews/stern\\_review\\_economics\\_climate\\_change/sternreview\\_index.cfm](http://www.hm-treasury.gov.uk/independent_reviews/stern_review_economics_climate_change/sternreview_index.cfm)

BERR sites being transferred to DECC

<http://www.berr.gov.uk/whatwedo/energy/index.html>

<http://www.berr.gov.uk/whatwedo/energy/sources/coal/index.html>

DEFRA website being transferred to DECC

<http://www.defra.gov.uk/environment/climatechange/index.htm>

NB lifted logo for ActOnCO2 and Google Earth warming from this page.

DECC website

<http://www.decc.gov.uk/>