

GLOBAL WARMING / CLIMATE CHANGE

Answering Scepticism

OBJECTION: *The climate changes naturally in cycles – it always has.*

ANSWER: True; due to changes in the strength of the sun, volcanic activity and other causes. But it doesn't follow that **we** can't change it too! Our emissions have been described as "the largest uncontrolled scientific experiment in history".

OBJECTION: *It's the sun which is causing global warming.*

ANSWER: Researchers advise that the sun's irradiance increased during the first half of the 20th century (and caused warming) but has been constant since, apart from the 11-year sunspot cycle. They say that the temperature increase during the last 40 years can only be explained by our carbon emissions.

OBJECTION: *It was as warm or warmer in Britain during the Mediaeval Warm Period than it is now.*

ANSWER: Researchers disagree on this. But even if it *were* warmer (due to natural causes), there is now much more greenhouse gas in the atmosphere and fast increasing. This has the potential to increase warming substantially and in a short timescale.

OBJECTION: *Greenhouse gas is only a very tiny part of the atmosphere.*

ANSWER: True - the science was established 150 years ago (by John Tyndall) that it is these trace gases which trap the heat!

OBJECTION: *Water vapour is a greenhouse gas and is much more abundant than the carbon-based gases.*

ANSWER: True – but water vapour acts to amplify the warming of the carbon-based gases, the amount in the atmosphere depending on temperature. We can't control water vapour.

OBJECTION: *But we want some warming in Britain!*

ANSWER: The concern is about the **average** warming **globally**; this is believed to make the climate systems more volatile and result in increased extreme weather. Most of **us** may still be OK but people in many parts of the world are suffering badly. The problem came much closer in summer 2003 with around 20,000 deaths in France – it could soon get very uncomfortable here too!

OBJECTION: *But we need to consume energy to live.*

ANSWER: After meeting our basic needs, there is enormous scope for **moderation**.

OBJECTION: *There is no proof that human activity is the main cause of climate change.*

ANSWER: True, but the majority of researchers believe that it is, so let's not gamble with the wellbeing of other people and of future generations. There may **never** be cause-and-effect proof. After all, temperature rises from human-produced emissions, similar to current predictions, were foreseen as long ago as the **1890s** (by Arrhenius).

OBJECTION: *Not all climate scientists agree that climate change is mainly caused by our emissions.*

ANSWER: The majority do. The leading names among the sceptics belong to organisations which receive funding from oil and mining companies – this is well documented.

OBJECTION: *But during the 1970s, we were being warned that another ice age was due!*

ANSWER: This was because there had been a slight global cooling between approx. 1945 and 1965. This is believed to have been due to the amount of sulphur particle pollution in the atmosphere from fossil fuel burning – sulphur particles reflect the sun and have a cooling effect. But carbon emissions have greatly increased since that time. Also, the sulphur falls out after a short period, whereas carbon emissions remain for many years and accumulate. Estimates of the onset of an ice age are several thousand years away - warming due to our emissions is probably here now and is expected to increase

rapidly during the next few **decades**! Some climate scientists even believe that there is already enough greenhouse gas in the atmosphere to prevent another ice age.

OBJECTION: This is *doom-mongering*!

ANSWER: But people are suffering now! And the risks are too great to be ignored.

OBJECTION: *I can't make any difference.*

ANSWER: Edmund Burke stated 200 years ago: "Nobody made a greater mistake than he who did nothing because he could only do a little". It's a matter of principle and moral responsibility to try. More and more people are now doing their bit to reduce their energy consumption and helping to increase the inertia. Governments and large businesses too are taking the problem more seriously – we must **all** work together.

OBJECTION: *It's too late already.*

ANSWER: It may be, but climate predictions are uncertain and nobody really knows for sure just what will happen or when. We should make every effort to reduce emissions in the hope that life will be safe and tolerable for future generations.