

Global warming – What’s responsible?

by Simon Watkinson

As the media is currently saturated with the effects of global warming, it’s interesting that scientists disagree regarding its causes.

The great debate

One scientific argument affirms that climate change is solely due to man-made carbon emissions which result from the excessive burning of fossil fuels. Last year, much political activity sought to ensure more environment-friendly behaviour; on 09 March 2007, EU heads of state committed to “reducing European CO₂ emissions by 20% by 2020”. Then on 13 March 2007, UK Secretary of State for the Environment, David Miliband, laid out his government’s plans in the draft Climate Change Bill “to reduce greenhouse-gas emissions by 60% by 2050”.

It’s debatable whether these measures are enough to reverse any damage already inflicted. Enticing people into lowering their living standards and thereby reducing their carbon footprint will not be easy. Tax incentives to encourage greener lifestyles could well be in vain if the carbon emissions of China, India and the US remain unchecked.

Meltdown

The carbon emissions lobby claims that changes which previously took centuries are now taking place in decades. They say that if this rate continues there will soon be catastrophic rises in sea levels, caused by the collapse of the ice sheets on both Greenland and in the west Antarctic.

An article in The Times on 24 March 2006 entitled “London under water by 2100 as Antarctica crumbles into the sea”, by Mark Henderson, supported this fatalistic view. The piece portrayed how scientists believe that sea levels could rise by up to 20 feet by 2100. Many cities, such as Bombay, London, New York and Tokyo would be flooded, and millions of people placed at risk. The evidence for this came from a study that used data from ancient coral reefs, ice cores and other natural records to reconstruct the climate during the last gap between Ice Ages, when the Arctic warmed to temperatures now forecast to reappear in 2100.

However, these calculations of rapid temperature changes in Greenland are based on interpretations of ice cores which assume that the ice sheets are millions of years old.

Star turn

Another group of scientists believe that climate change is merely cyclical, and that rising temperatures result from abnormal activity on the Sun’s surface. The article “The truth about global warming – it’s the Sun that’s to blame”, by Michael Leidig and Roya Nikkhah, in the Daily Telegraph on 17 July 2004, endorsed this claim. This piece featured an interview with Dr Sami Solanki, the director of the renowned Max Planck Institute for Solar System Research in Göttingen, Germany. Having directed a research team on climate change, Solanki said that the Sun could now be affecting global temperatures.

“The truth about global warming – it’s the Sun that’s to blame”

“The Sun is in a changed state. It is brighter than it was a few hundred years

ago and this brightening started relatively recently – in the last 100 to 150 years,” he said.

To determine the Sun’s role in global warming, Solanki’s research team measured magnetic zones on the Sun’s surface known as sunspots, which are believed to intensify the Sun’s energy output. By studying sunspot data going back several hundred years, the team found that a lack of sunspots coincided with a cold period – which could last up to 50 years – but that over the past century their numbers had increased as the Earth’s climate grew steadily warmer. The scientists also compared data from ice samples collected in Greenland in 1991. The most recent samples contained the lowest levels recorded for more than 1,000 years of beryllium 10, a particle created by cosmic rays, which decreases in the Earth’s atmosphere as the magnetic energy from the Sun increases.

Dr Solanki admitted that he did not know what was causing the Sun to burn brighter now, or how long this cycle would last. He conceded that the increased solar brightness over the past 20 years had not been enough to cause the observed climate changes, but believed that the impact of more



intense sunshine on both the ozone layer and cloud cover could be affecting the climate more than the sunlight itself.

Dr Bill Burrows, a climatologist and member of the Royal Meteorological Society, believed that Solanki's research was significant. Burrows said, "It shows that there is enough happening on the solar front to merit further research. Perhaps we are devoting too many resources to correcting human effects on the climate without being sure that we are the major contributor."

Solanki's research also gives credence to the views of Dr David Bellamy, the conservationist, who said, "Global warming – at least the modern nightmare version – is a myth. I am sure of it, and so are a growing number of scientists. But what is really worrying is that the world's politicians and policy-makers are not. Instead, they have an unshakeable faith in what has, unfortunately, become one of the central credos of the environmental movement: humans burn fossil fuels, which release increased levels of carbon dioxide – the principal so-called greenhouse gas – into the atmosphere, causing the atmosphere to heat up. They say this is global warming: I say this is poppycock."

The sceptics' view

Such conflicting views make it difficult to ascertain the truth about global warming, especially when 20,000 scientists, 2,700 of whom are physicists, geophysicists, climatologists, meteorologists, oceanographers or environmental scientists, and, therefore able to understand the global warming issues, have signed the following statement:

There is no convincing scientific evidence that human release of carbon dioxide, methane, or other greenhouse gasses is causing or will, in the foreseeable future, cause catastrophic heating

of the Earth's atmosphere and disruption of the Earth's climate. Moreover, there is substantial scientific evidence that increases in atmospheric carbon dioxide produce many beneficial effects upon the natural plant and animal environments of the Earth.

Global warming may bring many benefits. More warmth will result in fewer deaths from harsh winters and there will also be a longer agricultural growing season. Higher temperatures lead to more water vapour in the air and increased rainfall; global precipitation rose by 1% per decade during the 20th century. More plants will also soak up some of the extra carbon dioxide, thereby increasing growth and requiring less water. Another bonus would be extra shipping in the Arctic Ocean.

However, UN Secretary-General Ban Ki-moon spoke of the impending chaos in his November 2007 Statement on Antarctica:

"Antarctica is a natural lab that helps us understand what is happening to our world. We must save this precious earth, including all that is here. It is a natural wonder, but above all, it is our common home. It is here where our work, together, comes into focus. We see Antarctica's beauty and the danger global warming represents, and the urgency that we do something about it. I am determined that we shall."

Recent studies from the IPCC (the Intergovernmental Panel on Climate Change, which consists of 2,500 experts) reveal that global warming and climate change will most disadvantage the world's poorest countries and result in an unprecedented refugee crisis.

So that's all the more reason for establishing the true causes of global warming. ●

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