

Read the documents in the accompanying Resource Booklet and answer **all** the questions.

Global Warming

1 Study Document 1.

- (a) (i) Summarise the arguments of the writer of Document 1 against the work of the IPCC. [4]
(ii) Identify **two** pieces of evidence he uses to support his arguments about the work of the IPCC. [2]
- (b) Assess the strengths and weaknesses of Document 1. [10]

2 Study Documents 1 and 2.

To what extent is Document 2 more convincing than Document 1 in its view about global warming? [14]

[Total: 30]

The documents below consider Global Warming. Read them **both** in order to answer **all** the questions on the question paper.

Document 1: adapted from 'A Logical Argument Against Man Made Global Warming for the Layman' by Erik Bays. This was written in June 2009 as part of a degree course in Journalism at the University of Oregon.

Did you know the Earth has been cooling for the last decade? Did you know that the poles of the planet are gaining about as much ice as they are losing? Did you know that for 420,000 years changes in Earth's temperature have happened before? These are not things you are likely to learn listening to mainstream media.

Before getting to the actual logical arguments against global warming, it is necessary to address a common fallacy used to support it and give some political background. The fallacy is the presumed authority of the Intergovernmental Panel on Climate Change (IPCC).

The IPCC was created by the United Nations (UN). The IPCC was to be an objective scientific body that could produce reports on climate change for politicians worldwide. In 2007 the IPCC won the Nobel Peace Prize with Al Gore for informing the world about global warming.

The IPCC cannot be trusted as an objective scientific body. In its Second Assessment Report the IPCC made headlines when it announced for the first time that 'the balance of evidence suggests a discernible human influence on global climate.' This was a ground-breaking change from its position in its First Assessment Report, and it had heavy political significance. Shortly after this Report, the United States announced that it would now support 'a binding but realistic target' for emissions. It was on the basis of this Report that the Kyoto Protocol¹ was entered into.

A coalition of oil, coal and utility companies quickly accused the IPCC of misconduct. The accusations had to do with revisions made to Chapter 8 of the Report, the most controversial section. A working group of six dozen climate scientists met and debated each portion of the chapter. Based on this discussion the chapter was written, submitted to the IPCC and accepted. Then government representatives had, under IPCC rules, the opportunity to respond. The lead author, under IPCC rules, was required to revise the chapter in response to these government comments. He made the revisions without consulting the other scientists.

This revision amounted to deliberate fraud and 'corruption of the peer review process.' Specifically, the following statement was deleted, 'None of the studies cited above has shown clear evidence that we can attribute the observed changes to the specific cause of increases in greenhouse gases' and the following statement was added, 'The balance of evidence suggests a discernible human influence on global warming.'

These practices continue to this day. For the 2007 Fourth Assessment Report, the summary was released months before the text being summarised was completed. Then anything in the scientific text that did not agree with the predetermined summary was changed. In short, the IPCC cannot claim to be a scientific body as long as government has input into the decision making process.

There is no good reason for government review and feedback during the generation of a scientific report. And historically, governments have used global warming as an excuse to expand their control and authority.

¹['Kyoto Protocol' = A United Nations-backed agreement on climate change.]

Document 2: adapted from 'Arctic Melt Unnerves the Experts', an article by Andrew Revkin, published in the *New York Times* in October 2007. Revkin is a journalist and author and a senior fellow at the Academy for Applied Environmental Studies at Pace University.

The Arctic ice cap shrank so much this summer that waves briefly lapped along two Arctic shipping routes, the Northwest Passage over Canada and the Northern Sea Route over Russia. The floating ice dwindled to an extent unparalleled in a century.

Now the dark season has returned to the North Pole and new ice is spreading over vast stretches of the Arctic Ocean. Astonished by the summer's changes, scientists are studying the forces that exposed one million square miles of open water beyond the average since satellites started measurements in 1979.

Scientists are unnerved by the summer's implications for the future, and their ability to predict it. The pace of change has far exceeded what had been estimated by almost all simulations used to calculate how the Arctic will respond to rising concentrations of greenhouse gases linked to global warming.

The world is paying more attention than ever. Proponents of cuts in greenhouse gases cited the meltdown as proof that human activities are propelling a slide toward climate calamity.

Many scientists said they were becoming convinced that the system is heading toward a new, more watery state, and that human-caused global warming is playing a significant role. Experts are having trouble finding any records from Russia, Alaska or elsewhere pointing to such a widespread Arctic ice retreat in recent times, adding credence to the idea that humans may have tipped the balance. Some scientists who have long doubted that a human influence could be clearly discerned in the Arctic's changing climate now agree that the trend is hard to ascribe to anything else.

"We used to argue that a lot of the variability up to the late 1990s was induced by changes in the winds, natural changes not obviously related to global warming," said John Wallace, a scientist at the University of Washington. "But changes in the last few years make you question that."

Experts say the ice retreat is likely to be bigger next summer because this winter's freeze is starting from such a huge ice deficit. Arctic waters may be behaving more like those around Antarctica, where a broad fringe of sea ice builds each winter and nearly disappears in the summer.

Without thick ice, which can endure months of nonstop summer sunshine, more dark open water and thin ice absorbed solar energy, adding to melting and delaying the winter freeze. The thinner fresh-formed ice was more vulnerable to melting from heat held near the ocean surface. This may be where the rising influence of humans on the global climate system could be exerting the biggest regional influence.

A host of Arctic scientists say it is too soon to know if the global greenhouse effect has already tipped the system to a condition in which sea ice in summers will be limited to a few passageways in northern Canada.

"The Arctic may have another ace up her sleeve to help the ice grow back," Dr Eicken, a geophysicist, said. "But from all we can tell right now, the means for that are quite limited."