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Climate change 'real and severe'

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An expert panel convened by BBC News has concluded that climate change is "real and dangerous".

Temperatures are likely to rise by 3C to 5C by the end of the century, with impacts likely to be "severe" but not "catastrophic", the panel said.

It also concluded that politicians are unlikely to cut emissions sufficiently to prevent dangerous global heating.

The panel's discussions were based on themes set by Professor James Lovelock in his latest book *The Revenge of Gaia*.

The book argues that human society, through greenhouse gas emissions and other forms of environmental degradation, has brought the natural world to the brink of a crisis.

"Would you get on an aeroplane if the pilot told you there was a 5% or a 1% probability that you wouldn't reach your destination?"

Chris Rapley

Temperatures will rise, Professor Lovelock warns, reliable supplies of water will be disrupted, life in the oceans will be compromised, food production will decline, and there will be mass migrations to areas of the planet's surface which remain habitable.

With fossil fuels currently the dominant source of energy, he sees a large-scale switch to nuclear power as vital if electricity supplies are to

continue reliably and carbon dioxide emissions are to be brought down.

Testing times

After its publication earlier this year, *The Revenge of Gaia* was criticised by some scientists who felt it painted an overly apocalyptic vision and did not reflect uncertainties in scientific understanding.

Climate panel: the verdict

Your questions answered



Despite the phrase "How we can still save humanity" in the book's subtitle, others argued it was an alarmist text, likely to promote despair and hopelessness rather than being a "call to action", as the author intended.

For perspectives on these issues, BBC environment affairs analyst Roger Harrabin brought together a panel of seven eminent academics with expertise including climate modelling, the Antarctic, and social aspects of environment policy.

On Monday and Tuesday they discussed and debated issues raised in *The Revenge of Gaia* in BBC Broadcasting House in London, a discussion recorded for use on Thursday's edition of the Today programme on Radio 4 and for a future BBC World Service broadcast.

'Pessimistic but possible'

There was general agreement that Professor Lovelock had used rather

severe projections of future climate change.

"If we go out and say to journalists 'we will have this and that disastrous event', I think we are doing a disservice to the public"

Hans von Storch

But, he insisted, he had not gone further than the science indicated; a temperature rise of between 3C and 5C over this century was within the range projected by the Intergovernmental Panel on Climate Change (IPCC) in its most recent major report.

Chris Rapley, director of the British Antarctic Survey, declared that Professor Lovelock's choice was fully justified.

"The fact that you've been taking higher-end, pessimistic predictions of the IPCC is something that shouldn't be dismissed," he said, "even if there's only a 5% or even a 1% probability that they might be real.

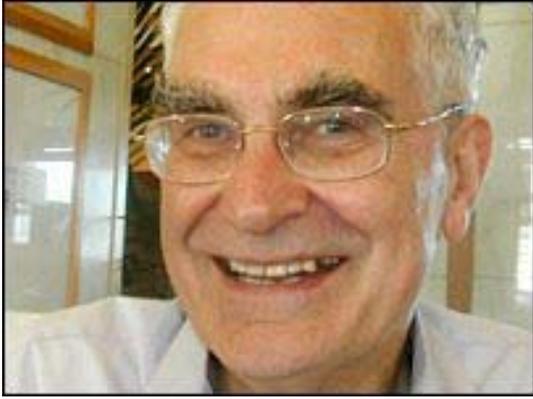
"Would you get on an aeroplane if the pilot told you there was a 5% or a 1% probability that you wouldn't reach your destination? No of course you wouldn't; you have to take even very low-probability scenarios very seriously."

The panel spent a vigorous session debating how precisely to word their view of the climate "threat", eventually concluding unanimously that it will "probably bring severe changes" to human societies and rejecting the phrase "catastrophic changes".

There was acknowledgement that some areas of climate-related science remain substantially uncertain. The behaviour of forests and the impacts of rising greenhouse emissions on oceans were two fields picked out as needing further study.

"The future is not inevitable, but we have to work hard to avoid the scenarios Jim has described"

Ron Oxburgh



Hans von Storch from the Institute for Coastal Research in Geesthacht, Germany, cautioned against making public statements on the basis of science that is not fully mature.

Early computer models of climate, he said, had predicted increases in storminess, which had not shown up in later, more sophisticated models.

"So as long as we simply play around with these models as toys and enjoy ourselves and develop our knowledge, that's fine," he said.

"But if we at the same time go out and speak to journalists and say 'therefore we will have this and that disastrous event', I think we are doing a disservice to the public."

Nuclear solution

There was general agreement that the rising global population and rising levels of consumption are major issues which are largely absent from discussion in political and public circles in many countries.

But on nuclear power, Professor Lovelock found himself at odds with the BBC panel.

While declaring it an option meriting "full public and political discussion" for the UK, they could not endorse his view in *The Revenge of Gaia* that it was "the only effective medicine we have now".

Professor Lovelock insisted he did not rule other energy options out. "I'm not a nuclear fanatic, I don't believe in it for all the world, or that it's the absolute solution for everything," he told the panel.

"But it happens to be the cheapest, the cleanest, and the most reliable source of electricity; and that's the key thing, electricity. You can't run a modern city without it; London would die within a week, totally die, if the

electricity supply was cut off."

'In our own grasp'

If the panel endorsed Professor Lovelock's climate diagnosis, what of its potential impact on society? Views were divided on whether it was likely to promote action or apathy.



"I hope the reaction won't be the one that I think there may be, that everything is so bleak that we should just throw up our hands and enjoy what remains, or commit suicide, or whatever occurs to us," said chairman Brian Hoskins of Britain's Reading University.

"I think it should be a call for action, and that action has to involve organisations and governments worldwide."

The panel did not believe, however, that governments were hearing alarm bells as loudly as they should, with only one of the seven members feeling that carbon emissions would be cut sufficiently to avoid "dangerous" warming.

Ron Oxburgh, a former chairman of Shell, contended that the die had not yet been cast.

"Whether the very serious and gloomy scenarios that Jim is emphasising come about is really within our own grasp," he said.

"I'm confident on the technology; I'm much less confident that we have the social and political will to make the hard decisions that are required.

"The future is not inevitable, but we have to work hard to avoid the scenarios Jim has described."

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