



Photo: Greenpeace

A wake-up call to the Churches in the face of our climate emergency

Faced with a climate emergency and the likely extinction of God’s creation, Christians in rich countries seem as unwilling to change their lifestyles as non-believers. Yet surely Christ’s message is that we all have to be ready to take radical action before it is too late RICHARD NICHOLSON WRITES

The current economic turmoil has drawn attention away from climate change at a critical time. Yet we have seen politicians worldwide willing to commit enormous sums to ameliorate the inevitable economic damage of a minimally regulated free market. Now real pressure can be put on them to take the similarly drastic steps necessary in the next few years if our globe is to remain habitable.

Dangerous potential for rapid change

Recent observations show that the extent and effects of climate change do not grow in a linear fashion, as early models predicted. We can no longer say that a given rise in atmospheric carbon dioxide will produce a specific temperature rise; nor that carbon dioxide can rise to ‘a safe level’. Global heating (warming is too gentle a word) is now known to be rising exponentially. This results from many natural feedback loops being knocked out of equilibrium by the rapid rise in atmospheric carbon dioxide in the last two centuries. Climate change feedbacks are nearly all positive: a small increase in global temperature makes them act so as to produce a further rise in temperature, which then produces a further rise and so on.

The melting of the Arctic Ocean ice cover last

summer shows the dangerous potential for rapid change. Only four years ago it was predicted that total summer loss of the ice would not happen till about 2100; now it is thought possible that it might happen in 2010. That is the result of the ‘albedo’ effect. Ice reflects most solar radiation but open water absorbs most of it: as the edges of an ice sheet melt, exposing water, the amount of heat radiation absorbed immediately increases making the local temperature rise faster.

Around the Arctic littoral, enormous

quantities of methane are stored in permafrost, with yet more on the ocean floor. What really scares climate scientists is growing evidence that substantial amounts of methane are being released both from permafrost and from ocean floors. If only 0.1% of those stores were released in one year, its global warming effect would be the same as all the carbon dioxide we shall send into the atmosphere this year, and – as a positive feedback – global heating would be out of control.

Carbon dioxide levels rising faster

All the talk, all the reduction in individuals’ carbon footprints, and all the carbon trading have achieved nothing. Carbon dioxide levels in the atmosphere are rising faster now than in the early 1990s. We have gone beyond the point at which reduction of carbon dioxide emissions alone can stop runaway global heating from eventually extinguishing most species, including humans. To gain any sort of control over global heating, we need drastic cuts in carbon dioxide emissions, to start taking carbon dioxide out of the atmosphere, and to cool the planet using (risky) geoengineering. Scientific optimists say we may have until 2012 to get this done. It is physically possible to achieve the





Surviving floods in Bangladesh

changes needed. The entire global generation of electricity could be achieved by two million 3.5MW wind turbines. That number would allow for 35% efficiency – the wind does not always blow and they have to be maintained. If industrial nations showed the same will as during the Second World War, and with much manufacturing capacity now lying idle, those turbines could be built in two years and installed – all around the world, both on land and offshore – and connected to grids in another two.

Solar generation in countries near the equator could also be rapidly increased. By siting renewables in developing countries, development could be enhanced. With a simultaneous rapid change to electric-powered vehicles only, some electricity would for the first time be stored, in those vehicles' batteries. What has to be absolutely clear is that, from now on, the only safe place for fossil fuels, whether coal, oil, or gas, is underground.

Radical and immediate steps

To take carbon dioxide out of the atmosphere, and keep it out, we need methods immediately available. The most effective are to plant hundreds of billions of trees, while minimising deforestation, and to move agriculture away from large areas of monoculture to tillage methods that store carbon in the soil. Cooling our planet will probably be done most effectively by painting everything possible white, to increase the radiation reflected straight back into space.

Last spring, I circulated a proposal that the Church of England should, as a global organisation committed to stewardship of God's creation, take responsibility for ensuring that one tree a day was planted for every member of the Anglican Communion for the next five years. Nine months later, little has happened. Since the proposal

involved getting 140 billion trees planted, I made clear that it would turn the Church on its head. Faced with a climate emergency and the likely extinction of God's creation, Christians seem as unwilling to change their lifestyles as non-believers; yet surely Christ's message is that we all have to be ready to do so.

Rich countries using up resources

Climate change is caused by too many people in rich countries using too much of the world's resources. With half the world's population surviving on \$2 a day or less, we are all rich. Almost no-one in our congregations lives on less than \$20 a day: bishops have over \$100 a day in pay and perks. It really is time to take seriously the Gospel to the poor: 'It is easier for a camel to go through the eye of a needle than for a rich man to enter the Kingdom of God'. Many of us supported the Make Poverty History campaign, but it addressed only half the issue. If we want to live in a world in which justice has some meaning, and in which man and the rest of God's creation can survive, we need a new campaign in rich countries like ours: Make Wealth History.

Make Wealth History

As global institutions, all the main Churches and faiths should play leading roles in taking action. If they do so in the next few months, it would add to the pressure on world leaders, gathering in Copenhagen next December, to take the decisions necessary to ensure that humans – and many other species – survive. 



Coping with drought in Kenya

about the writer

Dr Richard Nicholson was formerly editor of the *Bulletin of Medical Ethics*. He has closed the publication in order to concentrate on his work on global climate change

SCIENCE AND FAITH

Being a Christian is more about celebrating mystery than conquering it.

Rob Bell

The God having the creative force to make the entire observable universe in a dense dot of pure energy is incomprehensible, beyond human imagining. And yet we can see the consequences of this unimaginably powerful creative act: a universe congenial to the ultimate formation of life, life giving rise to intelligence that can ask questions science cannot answer. It is God's universe.

Owen Gingerich

God's Universe

It seems as though science will never be able to raise the curtain on the mystery of creation. For the scientist who has lived by faith in the power of reason, the story ends like a bad dream. He has scaled the mountains of ignorance; he is about to conquer the highest peak; as he pulls himself over the final rock, he is greeted by a band of theologians who have been sitting there for centuries.

Robert Jastrow

God and the Astronomers

Some people will be very disappointed if there is not an ultimate theory that can be formulated as a finite number of principles. I used to belong to that camp, but I have changed my mind. I'm now glad that our search for understanding will never come to an end, and that we will always have the challenge of new discovery. Without it, we would stagnate.

Stephen Hawking

*'Godel and the End of Physics',
(lecture on his website)*