

What if there is no safe CO2 level?

Introduction

Almost every day that passes provides three critical types of news with respect to the science of global warming. The first type of news is of the form 'It is a lot more complicated than we at first thought'. This in itself is bad enough. The second type of news is of the form 'It is a lot worse than we thought'. This compounds the gloom. The third type of news tends to be 'Oh, we never expected *that* to happen'. Just when you thought things were as bad as they could get, they get worse. Now the distributed computing project, climateprediction.net, has come up with the most alarming assessment yet: there is no 'safe' level of carbon dioxide emissions and, on current forecasts, eventually temperature increases will be double those initially expected. On the same day, in a 'moderate' speech meant to embrace US concerns, the UK Prime Minister announced that economic growth could not and would not be constrained by concerns over global warming. What does this conflict of opinions mean for sustainability?

The nightmare scenario

Average global temperature rises of more than 11°C are forecast for the long term by climateprediction.net using their model that, as with the SETI (Search for Extra-Terrestrial Intelligence) project, runs in the background on millions of computers owned by volunteers around the world. Using this approach climateprediction.net can claim to run the largest climate modelling exercise in the world without the need for an expensive supercomputer. This gives the headline findings an extra level of credibility. It is certainly the case, as the critics of the global warming thesis assert, that this is a science in its infancy. Unfortunately, as the scientific basis of climate change analysis improves and matures, so the predictions get more dramatic.

The secondary impacts on issues such as rainfall, sea level, species diversity, the viability of crops and livestock, will be profound, devastating even for millions of people. Moreover, the pace of change is alarming – and is evidently proceeding faster than the ability of the political and economic structures in the world to adjust, adapt and formulate coherent responses. As scientific understanding increases, so more feedback loops are identified

that could reinforce undesirable outcomes and, just as worryingly, render the entire process irreversible.

This does not mean the end of life on earth. Life in its myriad forms will continue and, as the palaeontology record shows, can recover from periodic episodes of mass extinctions. It does not even mean the end of humanity. It does, however, almost certainly mean the end of 'life as we know it'. Two mechanisms can be envisaged to contribute to this situation. The first is that it is hard to envisage the human carrying capacity of the planet being able to support the existing density of population without the productivity afforded by carbon-based economies. Not only does this apply at a fundamental agricultural level, it also applies at an economic level, where again it is hard to envisage existing levels of material consumption, wealth and population, and existing structures of production and consumption, surviving without all the activities that contribute to global warming. The second mechanism is simpler: war. There will be wars for resources, getting scarcer by the day; wars over the failure of one country to redress its contributions to global warming; and wars over population movements triggered by famines, droughts and floods.

Business as usual

Thus far, predictions over future climate change have to some extent remained 'comfortable'. Maybe the science is not as robust as is claimed. Maybe it will happen, but it will be a small overall heating of the planet for which many in North America and Europe would be grateful. Maybe it will happen, but it will be gradual and therefore be a long time before any significant effects will be noticed. For Homo Economicus, as Keynes pithily noted, in the long run we are all dead so the distant future does not matter.

This is the essence of the business-as-usual response. Tony Blair is simply articulating a coherent and logical position for a politician to take, and one that is not overly different to that taken by industrialists. It is perhaps telling that the oil-industry funded Global Climate Coalition that campaigned against the global warming thesis in the 1990s was closed down in 2001 upon the election of George W. Bush as president of the US. The news over global warming from climateprediction.net had not one iota of impact upon the Stock Exchanges of the world: it will not influence profits this year, or even next year. It is only for short periods of crisis that

political representatives feel able to offer us the Churchillian diet of 'blood, tears, hardship and sweat'.

Civilisation, progress and death

Unfortunately, civilisations rise and then they fall. While of course there is continuity in human history, so too are there plenty of examples where civilisations have collapsed. As Jared Diamond has explored, in these instances (in so far as it is possible to determine the causes) there has been an interplay of social, economic and environmental factors that has brought once-powerful civilisations to destruction. From the outside, and with hindsight, it is puzzling. How did the people there allow this to happen? It appears that they were trapped within their own logic and, despite the much-vaunted adaptability of humanity, unwilling or unable to make critical changes.

The distinguishing feature of civilisation collapses in history is that they have essentially been local affairs, geographically confined. The problems were local too. The contemporary social world is not like this. One consequence of progress is the inter-connectedness of all things and simultaneously our ability to undertake actions that have an impact on the entire planet. The inevitable consequence is surely that the next civilisation collapse could be triggered by global warming and is likely to affect everybody. We too are trapped within our own logic, and seemingly accept those often irrational or inconsistent constraints. It is interesting that while President Bush and, more recently, Tony Blair felt able to justify inaction over global warming because of some uncertainties about the knowledge base, there were no such niceties observed over the weapons of mass destruction that were not in Iraq. More profoundly, social phenomena like the Stock Exchange, the private limited company and the electoral system are the defining points of our own logic. Perhaps these elements provided the basis of our progress to date, but equally they are the equivalent of the Shakespearian fatal-flaw in the lead character of a tragedy: they contain the source of our eventual demise.

What next?

It seems that we have three choices:

- Tackle global warming with renewed vigour
- Keep pursuing the eco-efficiency, diplomacy and consensus strategies of the last 15 years

- Start planning for the worst

It is safe to say that collectively and individually we will not do the first. No country is going to take unilateral action to, say, ban the use of fossil fuels. In any case, it does not matter what even relatively large industrial powers like the UK do on this issue: it is a case of what China, the US and India do. Further, if there is any truth in the above analysis, then the very basis of our social and cultural practice needs to be challenged.

The second choice offers a modest amelioration of current trends, and the emotional comfort of knowing that something is being done, but appears increasingly inadequate to the task.

All of which leaves the third option, the eco-survivalist route to salvation: the modern equivalent of a bunker in Colorado or 'head for the hills'. In this context, it is no surprise that a new Thames barrier is being considered because too often in the recent past the existing one met with unexpectedly high water levels.

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