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One of the dubious benefits of having been around for a while is the feeling that *de ja vu* becomes familiar! I make this statement in recognition of the latest and, it must be said, utterly frightening, sixth assessment report to be published by the IPCC (Intergovernmental Panel on Climate Change) on Monday.

The IPCC, a United Nations body consisting of 195 member countries, having been established in 1988 in collaboration with the World Meteorological Organization (WMO), examines and assesses the science related to climate change. As such, its reports, produced every six or seven years, are hugely influential.

The latest report is particularly significant for the UK as the climate summit to discuss the contents of the report at what will be known as the Cop26 Conference, takes place in Glasgow in November. As host government, Boris Johnson will be under immense pressure to take a strident lead in advocating policies to deal with climate change.

In the 1970s I vividly recall the long hot summer of 1976. As I was at school, it was possible to enjoy the glorious sunshine each day. The 'heatwave' commenced in May and lasted until September.

For those who worked, however, that temperatures hit the upper 80s Fahrenheit and didn't get cool at night made each day somewhat wearing. Factories, in which temperatures soared to levels making work all but impossible, had to improvise and change shift patterns. The sale of ice cream and electrical fans, unsurprisingly, soared.

1976 is, despite the privations suffered by many which, for some, included water rationing and standpipes as reservoirs reduced in capacity, is remembered fondly because it was so different to the usual British summer which are often cool and prone to rain. For this reason, many don't trust British weather during their summer holidays and, instead, go abroad for guaranteed sun.

Sun-starved Brits tend to believe hot weather's a good thing and associate it with happy times relaxing on holiday and attending outside events impossible when it's raining and/or cold. However, sun, like everything, in excessive quantities, becomes a problem.

Monday's report, *Climate Change 2021: The Physical Science Basis*, is, at just under 4,000 pages, a mammoth text that, I am absolutely certain, will never be read by the overwhelming majority of people. The key message contained in its contents, however, should be made known as widely as possible.

This message is that, as previous reports produced by the IPCC have stressed with increasing alarm, humanity, particularly since the industrial revolution when burning fossil were used as fuel in ever-increasing quantities, combined with population growth that's risen with similar speed, is having a major impact on the 'Goldilocks' planet that's earth.

Our planet, which seen from space is immediately identified by characteristic blue and green is, largely, not too hot, not too cold, and with reasonably abundant supplies of water. It has allowed life to flourish in a way that, despite extensive searching, has not been found elsewhere in the known universe.

In *Physical Science Basis of Climate Change*, the report's 234 scientific experts who contributed having utilised over 14,000 scientific papers, stress the earth is warming up in a way that is unprecedented. Crucially, greenhouse gases produced by a range of activities is causing the earth to heat up in a way that will result in increasing droughts and flooding making life all but impossible for potentially many hundreds of millions of its inhabitants. That many such people tend to live in the poorest regions of the globe and already are struggling to survive, will, according to the IPCC, without urgent action, mean an existential struggle.

Even in developed countries we are not immune. We're experiencing catastrophic 'heat bubbles', as in North America and Canada a few weeks ago, fires raging in Greece this week, and a deluge of rain in Germany that led to floods killing over 100 people and thousands made homeless.

UN Secretary General António Guterres describes *Physical Science Basis of Climate Change* as "a code red for humanity". In summary, the key messages contained in the latest report from the IPCC are that:

- The surface temperature of the earth is 1.09°C higher in the decade between 2011-2020 than between 1850-1900
- The past five years have been the hottest on record since 1850
- It is "virtually certain" that hot extremes including heatwaves have become more frequent and more intense since the 1950s, while cold events have become less frequent and less severe
- The recent rate of sea level rise has nearly tripled compared with 1901-1971
- Human influence is "very likely" (90%) the main driver of the global retreat of glaciers since the 1990s and the decrease in Arctic sea-ice

Worryingly, and with resonance to the two other great issues of recent times, the UK's departure from the EU and Covid, especially the efficacy of vaccines, climate change has a tendency to divide opinion. Sceptics of climate change point to the fact that, assuming you don't believe in creationism, over hundreds of millions of years the earth has varied in temperature.

Within the last 100 million years two major heat spikes have occurred, the Cretaceous Hot Greenhouse (about 92 million years ago), and the Paleocene-Eocene Thermal Maximum (about 56 million years ago). This was long before humanity. However, as 'recently' as 18,000 years ago, ice covered almost a third of the land surface of the earth. In this country, only land south of the Bristol Channel was free of ice.

As the IPCC contend, the impact for humanity due to the consequences of altered weather patterns will make survival of many millions much more difficult. As the FT Editorial Board argues, 'Failure to cut greenhouse gas emissions deeply would lead within a few decades to what a leading climatologist called "hell on earth"' [\[1\]](#).

Based on the IPCC's scientific analysis, global warming because of human activity is irrefutable. Accordingly, their report plainly spells out, urgent and extensive cuts in emission of greenhouse gases are crucial. One of the authors, Dr. Tamsin Edwards of Kings College London, believes that with such action it will be possible to limit warming to no more than 1.5°C [\[2\]](#).

António Guterres, at the press conference to accompany publication of *Physical Science Basis of Climate Change*, backs this up by stating “If we combine forces now, we can avert climate catastrophe.”

Given this report was signed off by all 195 member states of the IPCC, Guterres’ hope that he can “count on government leaders and all stakeholders to ensure COP26 is a success” would seem strange.

It might reasonably be assumed that doing whatever it takes to by all 195 member states to avoid the impending catastrophe outlined in *Physical Science Basis of Climate Change* would be a given.

The reality is that it’s not and, as those who’ve examined what will be needed acknowledge, different countries, depending on the size of population and their industrial sectors, pollute at different rates.

Absolute commitment and unanimity of purpose by every country, especially the worst offenders in terms of emission of greenhouse gases, is essential.

Unfortunately, this is far from guaranteed: quite the contrary, in fact[3]. It’s to be noted that the global surface temperature of the earth has risen by 0.2 °C since publication of the IPCC’s last report only eight years ago.

What we can all do is to ensure we as individuals are supportive of efforts to reduce our impact through behaviour and use of resources in every aspect of our daily existence. Pollution and waste are an appalling blight we’re collectively responsible for and have a vested interest in reducing.

Extensive details of what any transition to a greener existence may be found in the book I was involved in publishing a couple of weeks ago, *Exploring the Green Economy, Issues, Challenge and Benefits*[4].

Though the reality of what’s involved in such a transition will require some degree of upheaval and, as must be accepted, considerable cost, there is extremely persuasive evidence that delay will cost us even more[5]. Indeed, as reported in the Guardian, ‘The UK’s low carbon economy is now worth more than £200bn, almost four times the size of the country’s manufacturing sector, with growth expected to accelerate in the coming years’[6].

The summer of 1976 may, with the passage of 45 years seem somewhat idyllic and embody happy memories of great music, sometimes dreadful fashion and appalling television; see Grace Dent’s examination of summer viewing in the 1970s[7].

What’s critical is to that we all realise, and act with urgency, of the need to mitigate conditions leading to rising temperatures on earth that will, for many hundreds of millions, literally means the difference between life and death. Climate change leading to temperature increases may make life dreadful for millions closer to home and force us to change the way we live.

We are at the precipice of calamity and there’s not a moment to lose.

Dr. Steven McCabe is co-editor of *Exploring the Green Economy, Issues, Challenge and Benefits* published by Bite-Sized Books (ISBN-13 979-8532032347) on 5th July. His chapter ‘AI Promised You a Miracle – Life Under ‘Greased Piglet’ Johnson’, is included in *Populism and the Media*, published by Abramis Academic Publishing in June.

[1] <https://www.ft.com/content/fc07027c-7bb3-4472-8ff4-16113f75041e>

[2] <https://www.newscientist.com/article/2286579-ipcc-author-tamsin-edwards-still-possible-to-limit-warming-to-1-5c/>

[3] <https://www.ft.com/content/8c4b138f-13f1-4d41-855a-ce8a4264956a>

[4] https://www.amazon.co.uk/Exploring-Green-Economy-Challenges-Benefits/dp/B098H61XNR/ref=tmm_pap_swatch_0?encoding=UTF8&qid=1628690316&sr=8-1

[5] <https://www.theguardian.com/commentisfree/2021/aug/11/climate-action-bargain-britain-net-zero>

[6] <https://www.theguardian.com/environment/2021/aug/10/uks-green-economy-four-times-larger-than-manufacturing-sector-says-report>

[7] <https://www.radiotimes.com/tv-programme/khk8cf/what-we-were-watching>