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# Rebalance Climate Policy



By David Hemous, INSEAD Assistant Professor of Economics and Political Science

## **Scepticism and uncertainty surrounding the recent conclusions of the Intergovernmental Panel on Climate Change (IPCC) should not be a call for policy inaction**

Like its previous instalments this report is supposed to summarise the findings of the literature on climate change. As such, it does not contain any novel research and is supposed to represent the view that most climate scientists would adhere to. Overall, this report is very much in line with the previous edition.

It does, however, have some worrying implications. The main point is that we are even more confident than before that climate change is of anthropogenic nature (the likelihood that the increase in temperature is due to human activity has increased from 90 percent in the previous report to 95 percent today). We now believe that the last thirty years were the warmest period of the last 1400 years (against 1000 years, for instance, in the third report). Climate change is happening and affecting the Earth in various ways: oceans are getting more acidic (its pH has decreased by 0.1 since the pre-Industrial era); the ice sheets are melting at an accelerated rate of 147 Gigatons (Gt) a

year in the 2002 – 2011 period versus 30 Gt a year in the 1992 – 2001 period for the Antarctic (the numbers are similar for the Greenland ice sheet); extreme weather events, particularly heat waves in Europe, Asia and Australia, are likely to be more frequent now than they were before 1950; the sea level has increased at a rate of 3.2 mm per year between 1993 and 2010.

In several instances this edition is more worrying than the previous one. For instance, an important parameter for the very long-term effect of climate change is the permanent temperature increase since pre-industrial times necessary to lead to the nearly complete melting of the Greenland ice sheet, which would lead to a sea level rise of about 7 metres (a word of caution though, a full melting would take a millennium or more). In the fourth report, this range was 1.9 to 4.6 °C (which is one of the reasons why climate negotiations had focused on trying to stabilise the temperature increase at around 2°C); the fifth report mentions a range of 1 to 4°C. In other words, the worst consequences of climate change could occur for lower temperatures than was thought before.

### **Temperatures on a plateau**

Yet, a large part of the media coverage has been on a fact that is seen as an argument in favour of climate sceptics. In the last 15 years, temperatures have plateaued, that is they have essentially stayed at their peak, while CO<sub>2</sub> concentration has steadily increased. This is not a serious argument against climate change; it is as if after a month of June with constant temperatures, one would deny that summer is coming.

The climate models are supposed to accurately predict the evolution of temperatures over decades not year after year. In fact, similar plateaus have occurred before (temperatures were stable from the 1930s to the 1970s), and if current temperatures are below the predictions of climate models, the ones in the previous 15 years period were generally above.

Nevertheless, the report explains that this current slowdown in the rise of temperature can be explained by two factors: first, the sun's cycle and volcanic activities have contributed to reducing the temperature increase, but these are transitory factors. Second, more heat may have been accumulated in the lower ocean, which is a phenomenon consistent with the internal climate variability at such a time scale (note that this heat accumulation in the ocean contributes to the rise in the sea level). It is

possible that some climate models have overestimated the *short-term* response of temperature to CO<sub>2</sub> emissions, but this is hardly an argument in favour of the sceptics' position.

## **Consequences for climate policy**

Yet, the most shocking part of the climate sceptics' position is their full misunderstanding of the economics of climate change. Uncertainty is not a call for inaction. We know for sure that CO<sub>2</sub> concentration is increasing very rapidly, and numerous climate scientists have explained how that may lead not only to modest temperature increases (1 – 2 °C), but possibly to much higher increases in the presence of positive feedback (3°C or more). The economic consequences of a 1 - 2°C increase will be very bad for several regions of the world, but more importantly, it is the possibly much worse consequences of a larger increase in temperature that are the reasons for action now.

Climate policy today is not really about avoiding certain but modest economic damages; it is about avoiding large and uncertain damage. Therefore, if climate sceptics want to convince the world that environmental policy is a damaging waste, they should not try to convince us that there is a chance that climate models have overestimated the impact of humans in the (still modest) increase in temperatures since 1850. They should try to convince us that there is absolutely no risk that a large concentration of greenhouse gases can have very damaging effects on the planet and our economy.

Therefore, this report is definitely not an argument against environmental policy. Yet, the combination of a more modest rise of temperatures in the short-term, with the confirmation of a temperature increase that could be very large over the coming century, could be an argument in favour of a slight rebalancing of the desired environmental policy towards supporting clean R&D. Carbon taxes and support towards energy efficiency should result in immediate reductions in emissions, while clean R&D subsidies should have a more delayed impact. To be clear, considering the default situation, we should probably increase both carbon taxation and clean R&D subsidies, but this slow-down may shift the balance in favour of a larger effort on the R&D side.



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