

TO DISCUSS THE PAPERS IN E&E 21(4) 2010 ON 'PARADIGMS IN CLIMATE RESEARCH'

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The papers will be made available to those who are prepared to further investigate the difficult scientific issues which are under discussion, and to present appropriate comments. If you are not interested to participate in such an exercise, I would appreciate to learn why.

To begin with a quote from Dr (hc) Ir N. van Andel (former research director of AKZO) from his presentation at a meeting in the press centre (Nieuwspoort) of the Dutch parliament in 2007:

The coincidence of climate change and the increase of CO₂ in the atmosphere is of such a great importance that we cannot avoid a thorough discussion its theoretical foundations. The Netherlands has a four-centuries reputation to criticize prevailing concepts. It may take the lead to organise such a discussion.

It is not our intention to deal with the events which have become known as 'Climategate' and its ramifications. Nor do we want to address the recent assessment studies of the evidence for climate change phenomena, as presented in IPCC AR4 WG2. These are of secondary interest.

We believe that it is of utmost importance to evaluate the frequently used, but coarse metaphor of the atmosphere behaving as a blanket, keeping the surface warm, whereby CO₂ is acting as an extra eiderdown. This metaphor is substantiated by the argument that it is well-founded on indisputable physical laws. This is, however, only partly true, since it ignores several physical laws and established meteorological events. The atmosphere is not a passive blanket but a complex structure in which a wide variety of processes are taking place, which keep the surface temperature within certain limits.

Three mechanisms are of special importance. (1) The evaporation of water at the surface which acts directly as a cooling device. (2) The water circulation initiated by evaporation, leading to cloud formation, shielding the heat coming from the sun, which acts as a feedback mechanism. (3) The tendency for maximum entropy production (which is deduced from the second law of thermodynamics) in the upper atmosphere. This acts as an overflow when the heat content of the atmosphere is rising. (Compare it with a wash tube with a sink at the bottom and an overflow near the top).

Most authors in the special issue of E&E are of the opinion, that if these processes are taken in full account, there is little room left for CO₂ to produce a significant effect.