

*First – who I am and what I think about climate change.*

My name is Hans von Storch; I am in climate science since 1976; my background is physics and mathematics; my methodical field is climate modeling and climate analysis; specific interest is directed towards the changing climatology of storms and its impact on marine environments; I am working together with social and cultural scientists for about 15 years. Presently I am director of the Institute of Coastal Research in Germany and Professor at the Meteorological Institute of the University of Hamburg.

With minuscule doubt, I am convinced that we observe since a few years the effect of elevated greenhouse gas levels on air and sea temperature and related variables including sea level. I am strongly convinced that we will see accelerated warming, and related effects, in the coming decades. I am not convinced that we can attribute recently changed levels of weather extremes, apart of heat and cold waves, to this anthropogenic change; for some of the extremes we will see changing conditions in the coming decades to emerge.

I have little doubts that the impact of anthropogenic climate change in the coming decades will represent a formidable challenge for humans and societies, but not a catastrophe. The smaller the changes, the better for humans, societies and ecosystems. Therefore, limiting the growth of greenhouse gas concentrations for reducing these challenges is an obvious societal task.

I feel considerable uncertain how anthropogenic climate changes has to be ranked a global problem when compared to other global challenges, in particular poverty and, in general, the north-south imbalance.

*Second – what I think about the division of labor of science and policy-making.*

The purpose of science is to provide understanding of processes, systems, sensitivities, developments and perspectives. In practical terms, science helps to explain the present and past situations, the driving forces and dynamics behind such developments; it points out opportunities and problems; it answers “what-if” questions; science offers predictions, when possible, otherwise scenarios. Science does not limit the spectrum of options of how to respond to problems, by downplaying options which may be normatively less valuable, and by preferring others, which match the normative system of the scientist best. Instead science informs on all available options including their caveats.

Scientists should limit themselves to their field of expertise, when they communicate as scientists to the public.

Policymakers, on the other hand, are used to take decisions related to high-stake problems with large uncertainties. They include scientific advice about the expected implications of their decisions, but they factor in also in the normative preferences and limits of their constituents and partners. They should not ask science to “solve problems” but they should ask for all options and then select that mix, which is effective and culturally consistent.

If scientists limit the range of the spectrum of options then they damage the democratic process of policy-making, and damage the process of science, by compromising to the utility of science in the policy-making process.

*Third – what are the options to respond to the perspective of significant anthropogenic climate change?*

In principle we have two options, namely to avoid or reduce anthropogenic climate change and/or to empower humans and societies to deal with the impacts of anthropogenic climate change.

The first – mitigation of climate change – can be achieved by hindering carbon dioxide and other greenhouse gases to accumulate in the atmosphere; a major way of doing so is to “generate” and use energy more efficiently, so that less coal and oil is burned. Another option is to limit the greenhouse gases to enter the atmosphere, by using technological measures; a third one is to try to take greenhouse gases out of the atmosphere by technical measures; finally a fourth one is manipulating the radiative balance of the climate systems to counteract the anomaly introduced by the increased levels of greenhouse gases in the atmosphere.

So far, in the public almost exclusively the first option – producing less greenhouse gases – is discussed. Most scientists and policymakers appearing in public strongly support this option. It is, however, already now clear that this strategy will at best limit climate change to, some say 2 degree C in terms of global mean air temperature. More pessimistic people, including myself, expect higher changes. Without a strategy of efficient energy use, considerably higher changes are to be expected. In any case we have to expect significant climate changes to emerge in the coming decades.

The other three mitigation strategies meet great resistance, if not outright tabooing, in the public and with most climate scientists, even if these strategies are discussed in technical circles.

The adaptation is getting little attention in the public arena, even if more and more scientists and decision makers recently admit the need of such research and planning. Since we have already now anthropogenic climate change, and will get significant climate change, adaptation measures are needed in any case. Investment into more realistic perception of risks, investment in knowledge, technology, and implementation of better adaptation to climatic risks is win-win, since already now climatic extremes are causing severe damages. Climate has always been dangerous.

*Why I am concerned about the present situation of deliberations.*

In the present situation, we see alarmists trying to dominate the agenda, so that only the dramatic reduction of greenhouse gas generation is offered as “solution” by scientists and policy-makers. In the public this is paralleled by a debate with only two sides, namely the good caring party, which works to save the planet, and an evil side of so-called skeptics, who claim that anthropogenic climate either does not exist (with the whole concept representing a scientific flaw) or claim that the present and future man-made change is just marginal. The latter group operates mostly on an amateur-level and has hardly anything to offer. However, they are used by the alarmists to maintain that the front line is between responsible pro-activists and irresponsible skeptics.

The real debate is, however, between those who take climate change seriously, by examining all options so that policymakers arrive at the best mix of measures to deal with a serious challenge to humankind, and those, who use the climate problem as an argument for a broader environmental agenda, who allude that the key to the solution is the individual’s willingness to limit personal and overall economic energy use.

(I ask policy-makers and climate scientists to take climate change seriously, and not to downgrade it to a support argument for a general environmental agenda. Otherwise the results will be bad policy choices and a compromised social institution, which we will need also in the future – science.)

*Hans von Storch, 25. October 2007*