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International Herald Tribune

TUESDAY, MARCH 2, 2010

THE GLOBAL EDITION OF THE NEW YORK TIMES

GLOBAL.NYTIMES.COM

Feeling the heat from critics, climate scientists battle back

WASHINGTON

BY JOHN M. BRODER

For months, climate scientists have taken a vicious beating in the media and on the Internet, accused of hiding data, covering up errors and suppressing alternate views.

Their response until now has been largely to assert the legitimacy of the data and reclaim the science and to mock their critics as cranks and know-nothings.

But as the volume of criticism and the depth of doubt have only grown and many scientists now realize they are facing a crisis of public confidence and

have to fight back. Slowly, tentatively and grudgingly, they are beginning to engage their critics, open up their data and reshape the way they conduct their work.

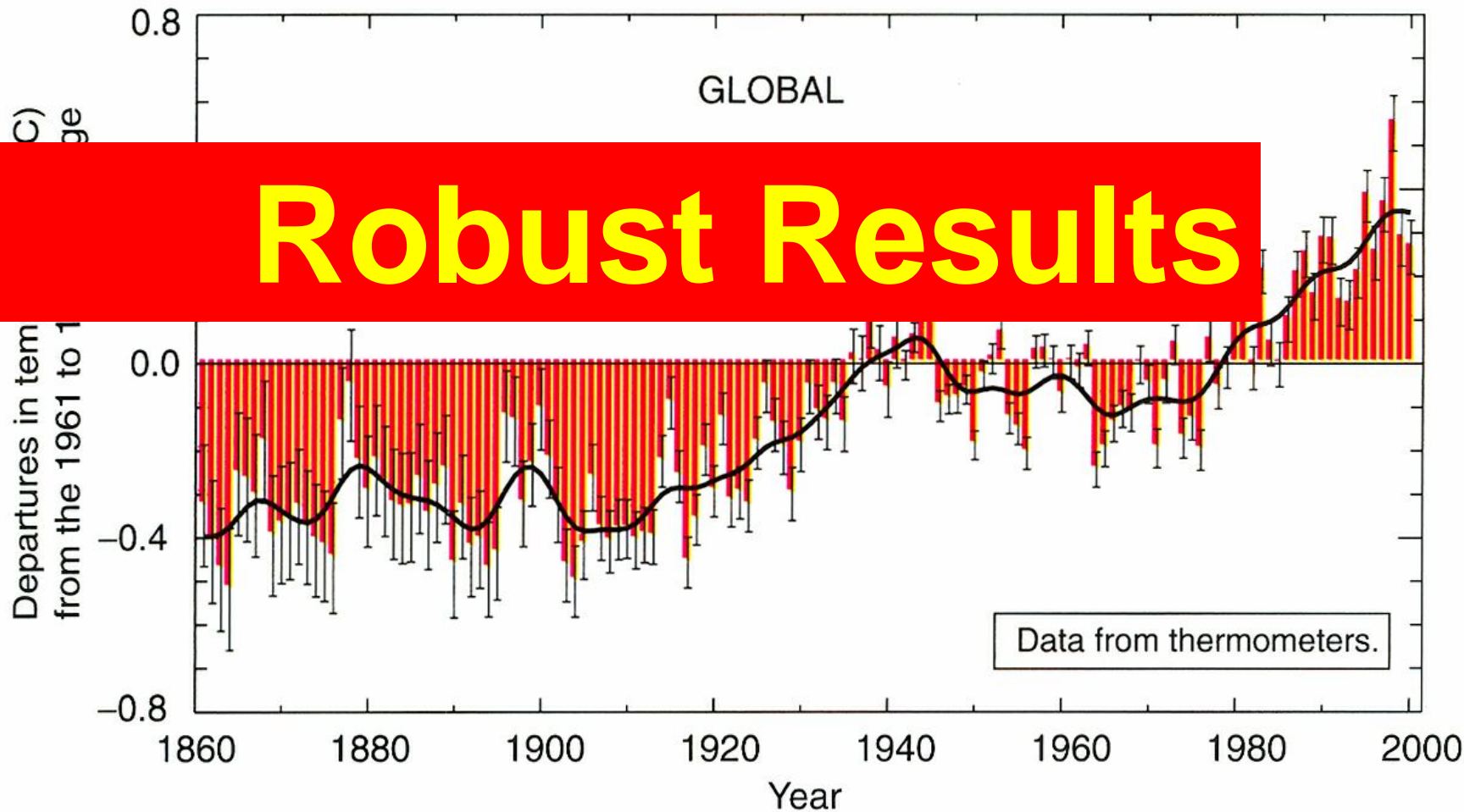
The official British climate agency is undertaking a complete review of its global temperature data and will make its records and analysis fully public for the first time. The United Nations panel on climate change will accept external peer review of its research, also for the first time. Two universities are investigating the work of top climate scientists to determine whether they have violated academic standards or undermined faith in science. The *NATIONAL CLIMATE*, PAGE 8

**Climate science, IPCC, postnormality
and the crisis of trust**

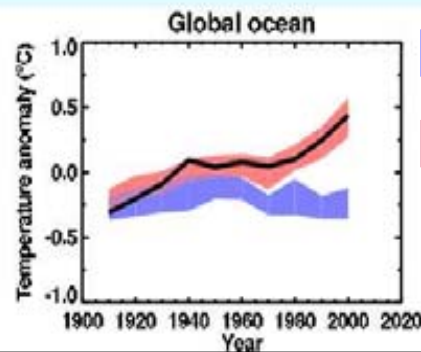
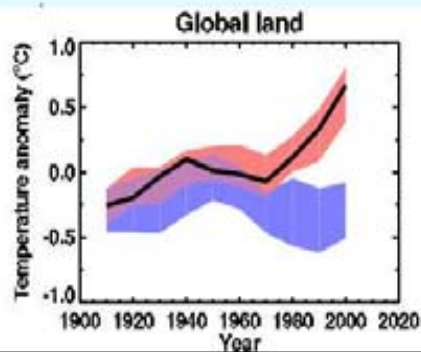
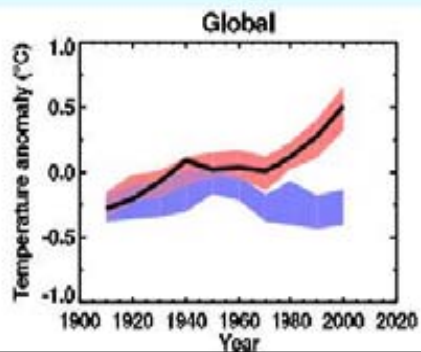
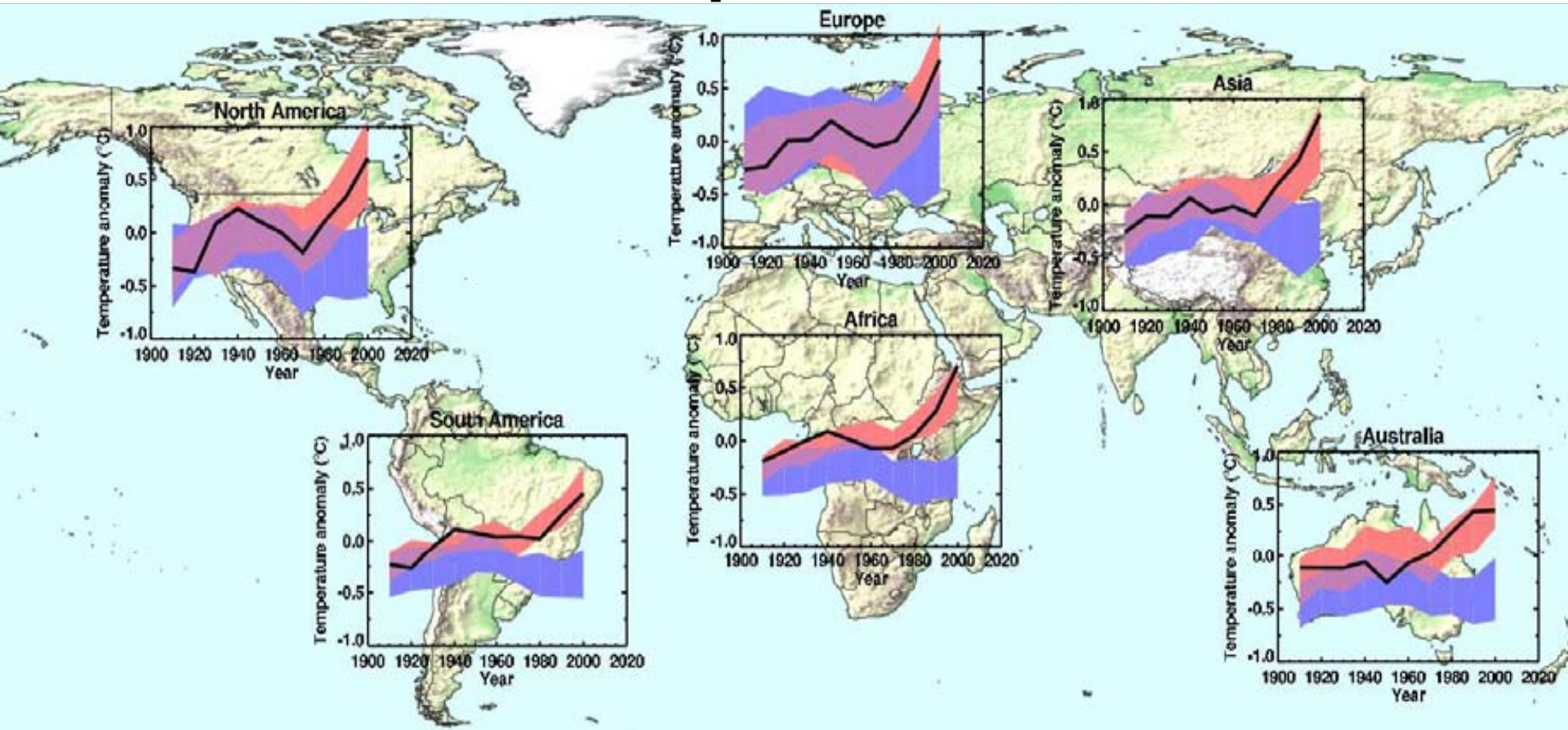
Overview

- Robust Results
- The IPCC
- Crisis of Trust
- Postnormality
- The 2 deg goal

Global temperature derived from thermometer data (CRU)

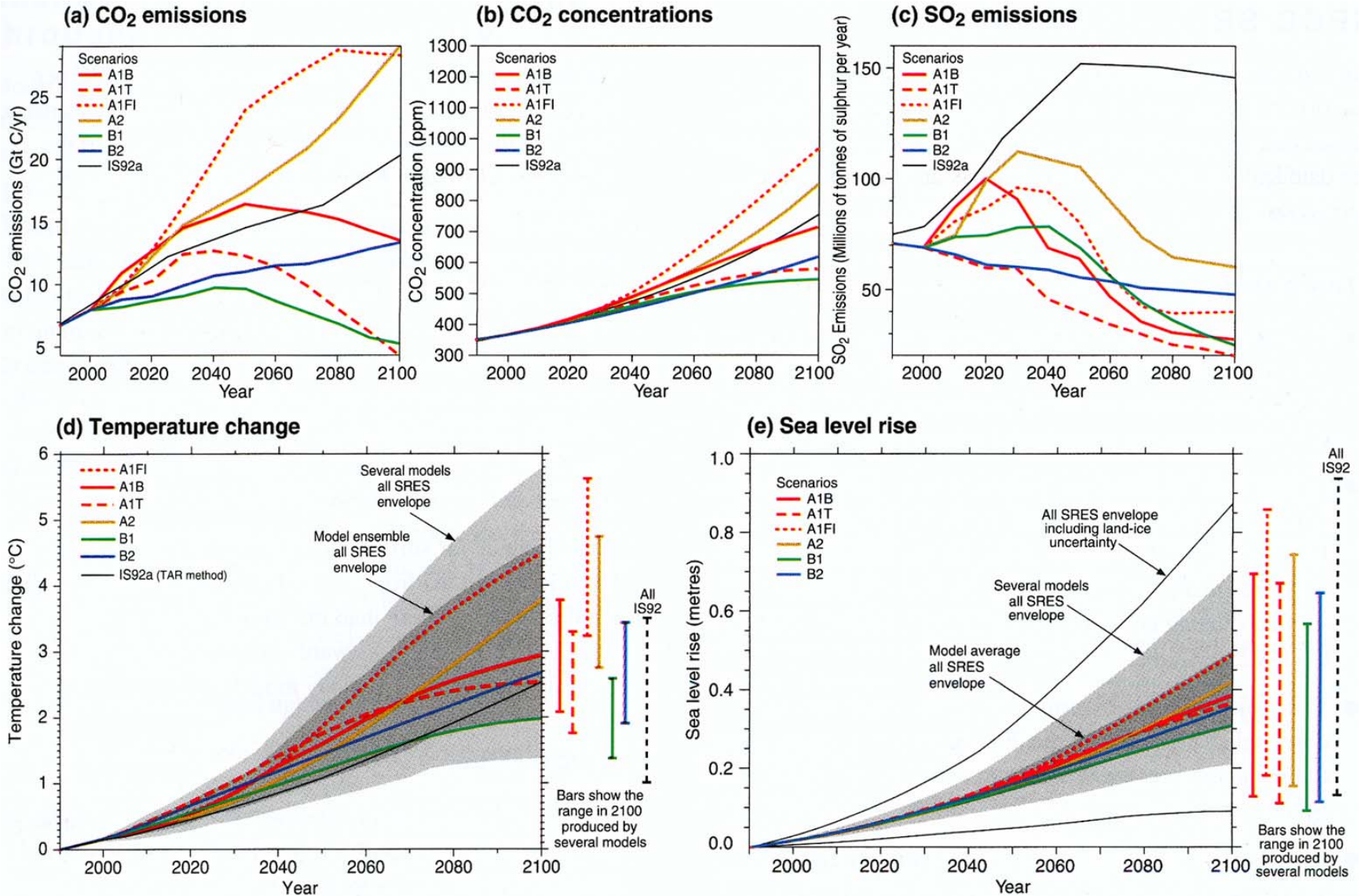


Explaining global mean surface air temperature



- Only natural factors
- Additionally man-made factors
- „observations“

Scenarios, not predictions



Mission: determine *present* status of scientific knowledge, and its consensus – not: discover “truth” about climate change

Intergovernmental Panel on Climate



The IPCC

IPCC Secretariat

IPCC Bureau

Working
Group I

The Physical
Science Basis

TSU

Working
Group II

Climate Change
Impacts,
Adaptation and
Vulnerability

TSU

Working
Group III

Mitigation
of
Climate Change

TSU

Task Force
on
National
Greenhouse
Gas
Inventories

TSU

Authors, Contributors, Reviewers

The IPCC

- is needed as an impartial institution to provide relevant knowledge for decision makers.
- has documented strong consensual evidence that the human emissions of greenhouse gases (GHG) in the past, and foreseeable future has, and will continue to warm the climate system.
- most of this warming can not be explained without the increase in GHG concentrations – with the present knowledge.

The IPCC...

- Reports contain errors. This is not a surprise given the sheer volume of the reports.
- Examples: Himalaya, Low lying part of The Netherlands, endangered food supply in Africa.
- *All* WG 2 (impacts) or WG3, *all* exaggerations – by coincidence? Often related to employing material provided by interested parties
- IPCC has not adopted mechanisms for dealing with such problems.
- But, maybe “just” sloppiness...
- And: No known errors in WG 1(physics)

Policy-relevance of the Working Group II Contribution to IPCC AR4 (Fourth Assessment Report)

Jean-Pascal van Ypersele*
(jean-pascal.vanyperselle@uclouvain.be)

IPCC Vice-chair,

With the kind collaboration of Chris Field
IPCC WGII Co-chair, and the IPCC
Secretariat

(UNFCCC, Barcelona, 3 November, 2009)

(*)The support of the Belgian Science Policy Office is
gratefully acknowledged

Policy-relevance of the Working
Group II Contribution to IPCC

AR4 (Fourth

Jean-
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(*)The support

Case Study on Impacts

Glacial retreat in the Himalaya

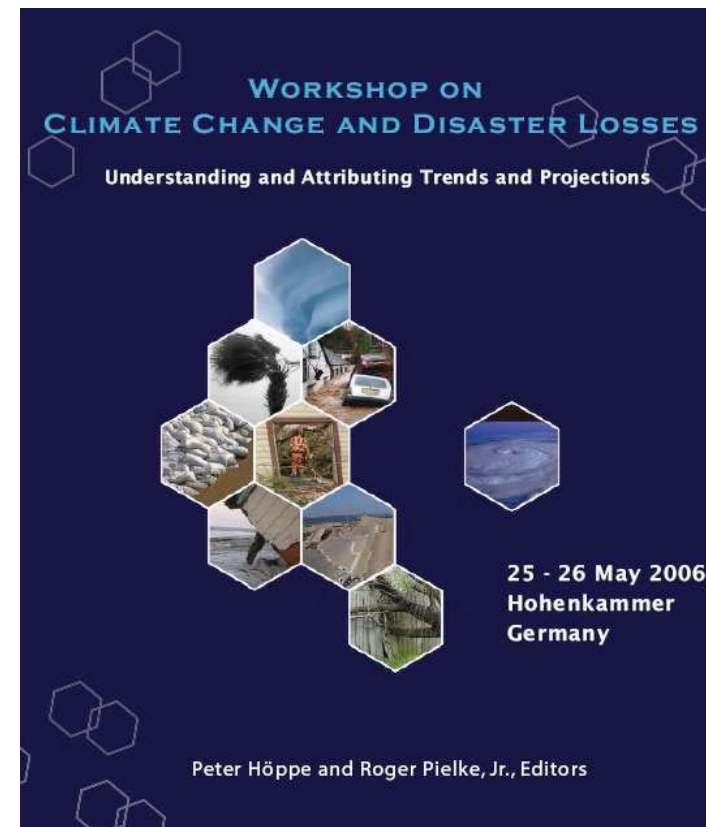
- ***receding and thinning*** of Himalayan glaciers can be attributed primarily to the global warming; in addition, high population density near these glaciers and consequent ***deforestation and land-use changes*** have adversely affected these glaciers
- the total glacial area will likely shrink from the present 500,000 to 100,000 km² (or disappear entirely) by the year 2035
- the 15,000 Himalayan glaciers form a unique reservoir of water which in turn, is the lifeline of millions of people in South Asian countries
- it is likely that glacial melt will ***turn the big Asian river systems into seasonal rivers*** and affect economies in the region

The hurricane/damage story

Hohenkammer consensus

- Analyses of long-term records of disaster losses indicate that societal change and economic development are the principal factors responsible for the documented increasing losses to date.
- Because of issues related to data quality, the stochastic nature of extreme event impacts, length of time series, and various societal factors present in the disaster loss record, it is still not possible to determine the portion of the increase in damages that might be attributed to climate change due to GHG emissions
- In the near future the quantitative link (attribution) of trends in storm and flood losses to climate changes related to GHG emissions is unlikely to be answered unequivocally.

2006



- Co-sponsors: US NSF, Munich Re, GKSS Institute for Coastal Research, Tyndall Centre for Climate Change Research
- 32 participants from 16 countries
- Summary consensus report
- Consistent with IPCC WGI

IPCC AR4, WG2, 2007, suggests instead:

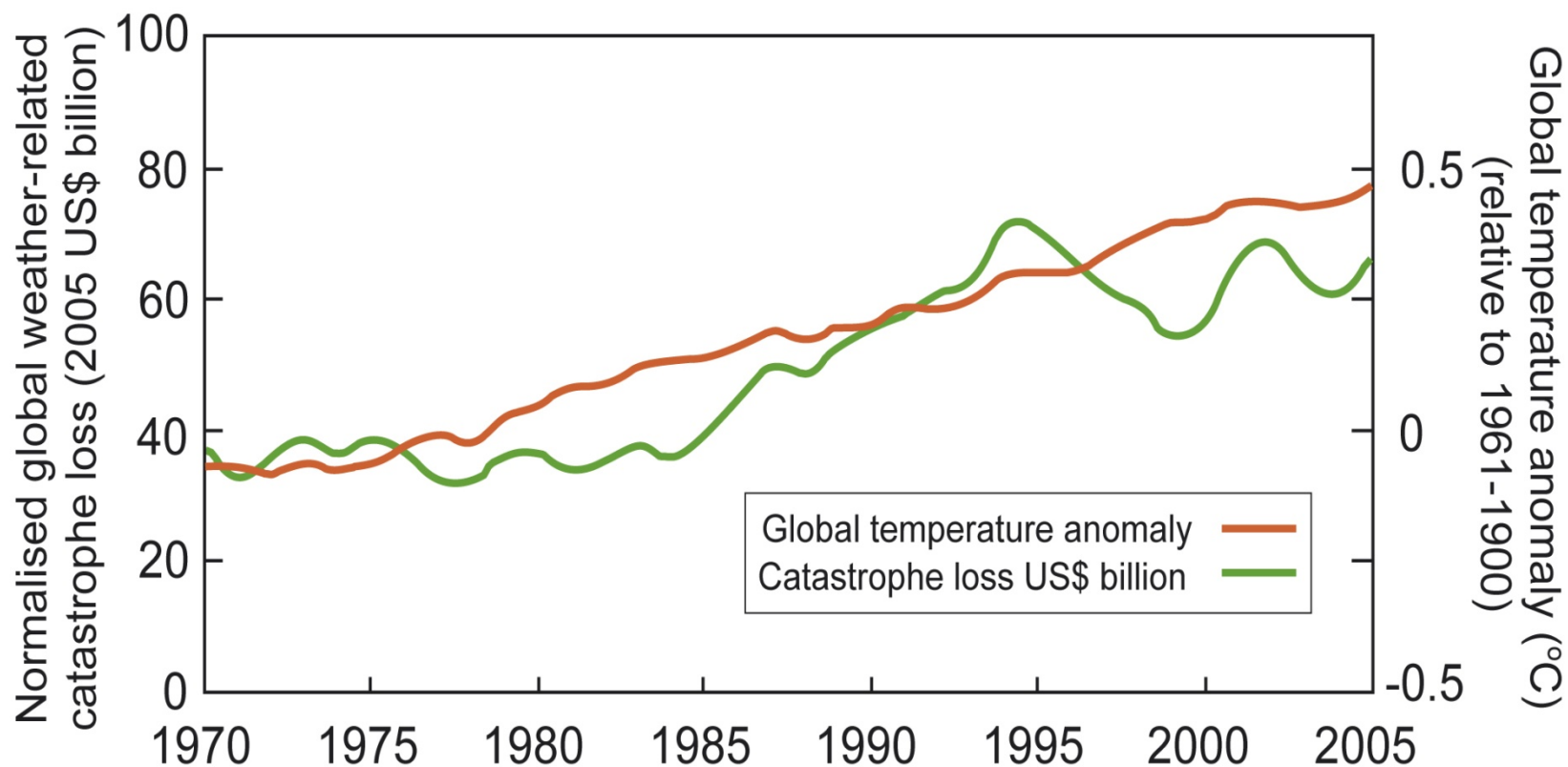
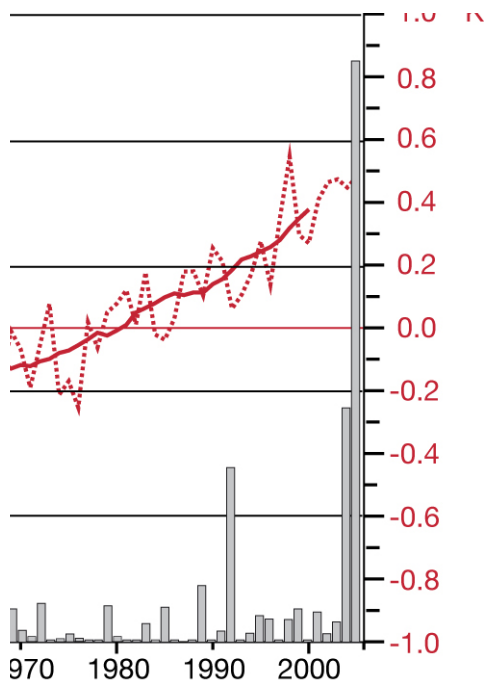
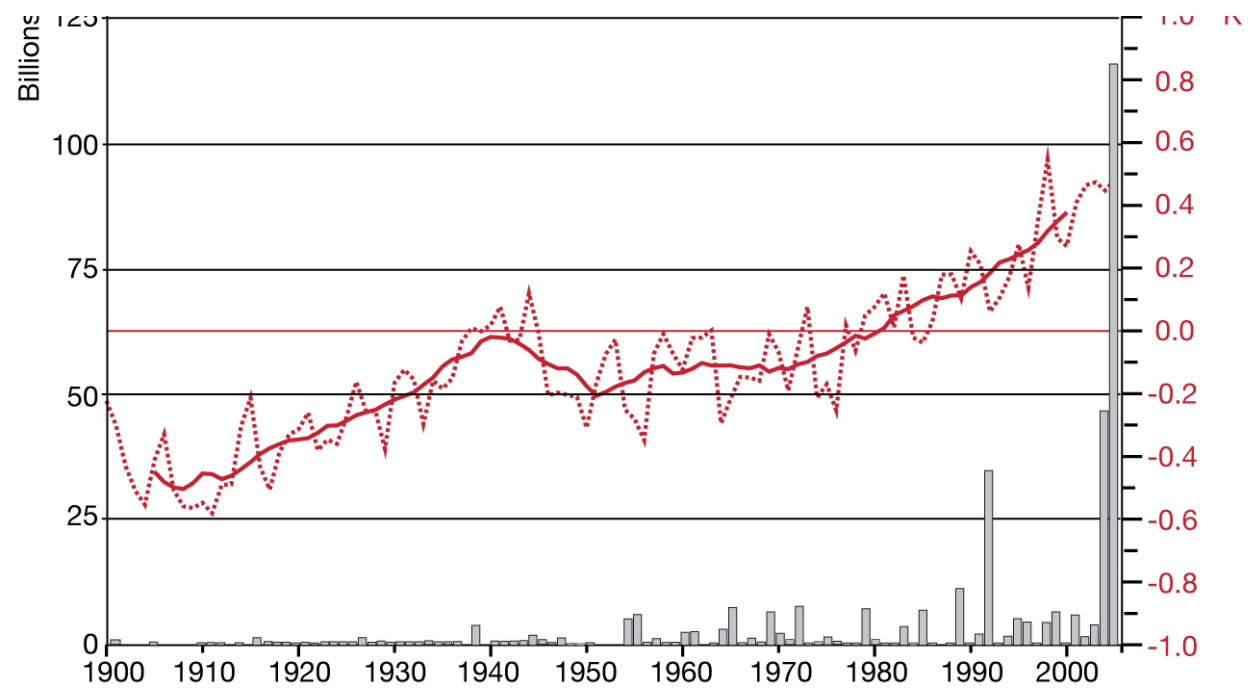
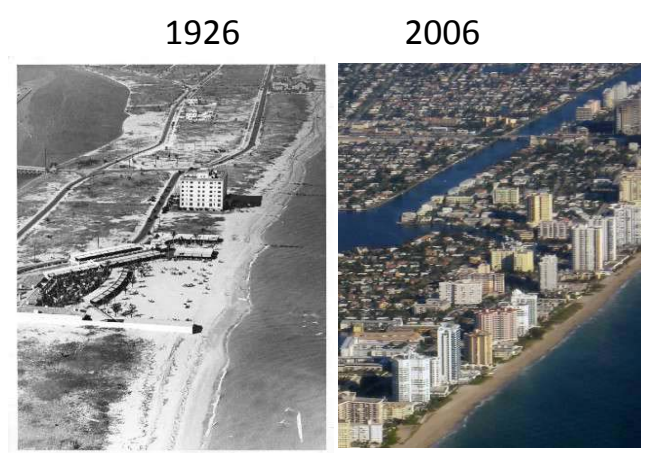
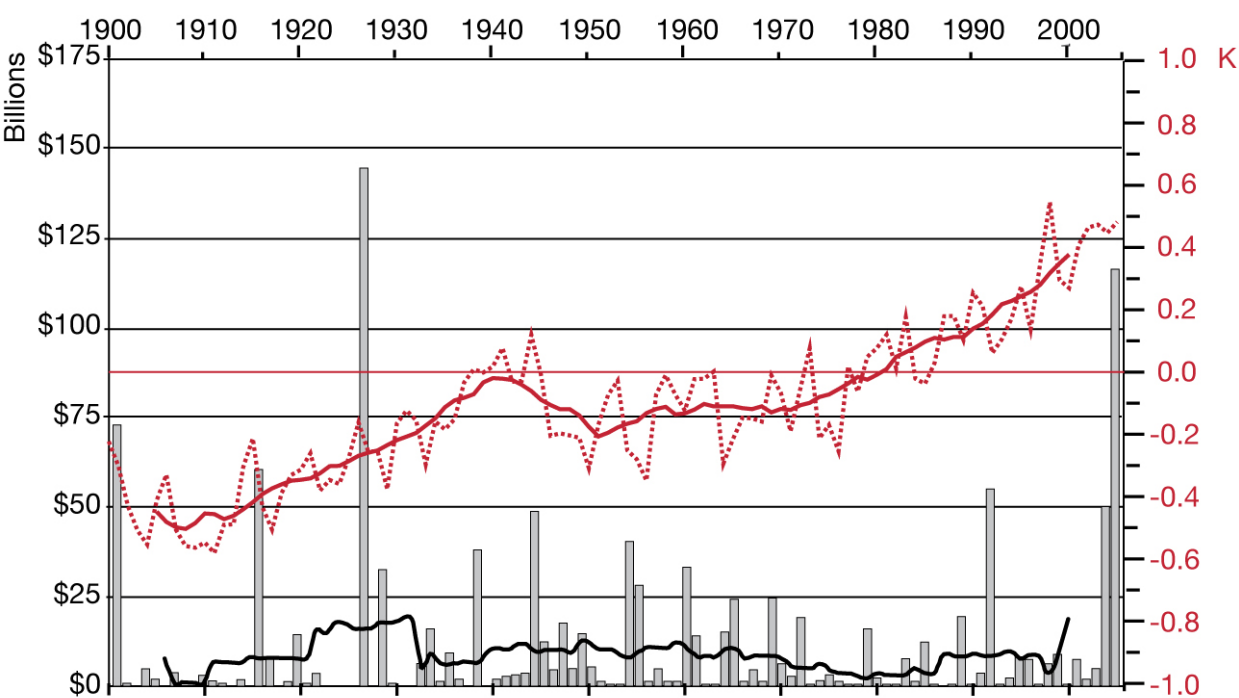


Figure SM-1.1. An example from the literature of one study analysing rising costs of normalised weather-related catastrophes compared with global temperatures. Data smoothed over ± 4 years = 9 years until 2001 (Muir Wood et al., 2006).







“Great Miami”,
 1926, damage: – in
 2005 terms: 139 b\$

Katrina, 2005: 81 b\$

Pielke, Jr., R.A., Gratz, J., Landsea, C.W., Collins, D., Saunders, M., and Musulin, R., 2008. Normalized Hurricane Damages in the United States: 1900-2005. Natural Hazards Review

This time it was not a sloppy error

- reviewers pointed to the problem
- the authors choose this representation even though the issue was, and still is, scientifically contested. Significant literature was disregarded.
- IPCC authors have decided to violate the mission of IPCC, by presenting disinformation.
- IPCC secretariat is not giving answers, why issue is not rectified.

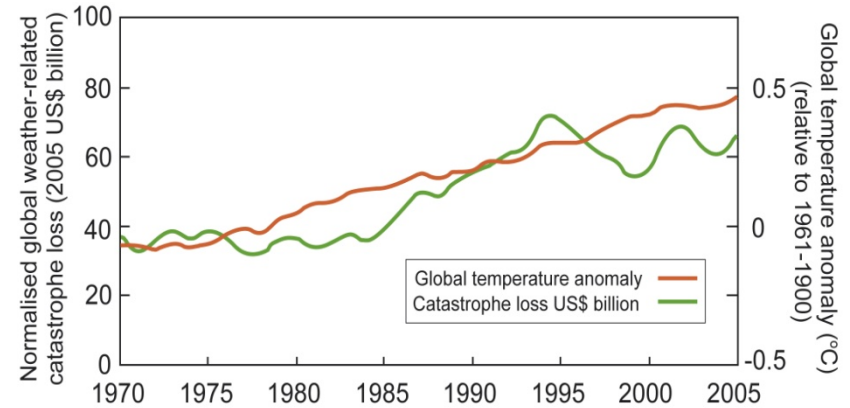
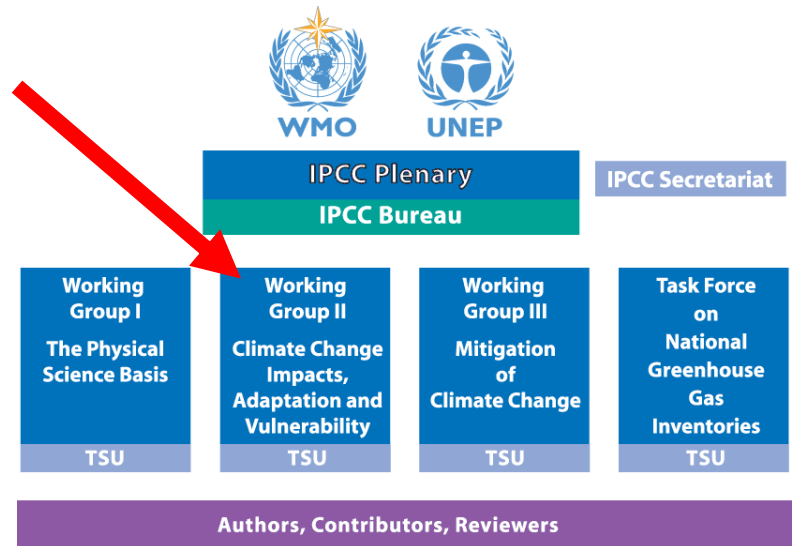


Figure SM-1.1. An example from the literature of one study analysing rising costs of normalised weather-related catastrophes compared with global temperatures. Data smoothed over ± 4 years = 9 years until 2001 (Muir Wood et al., 2006). SM.1-4



The Tol/Edenhofer case



Richard Tol on Klimazwiebel: *“Ottmar Edenhofer claimed in „ZDF umwelt“ on September 5, 2010 “Die Aussage, der IPCC hätte bewusst Dinge herausgehalten, die ihm unbequem waren, die nicht gewissermassen in eine Gesamtstory gepasst hätten, kann ich beim besten Willen nicht sehen”. (I cannot understand, even if I try hard, the assertion that the IPCC would deliberately have omitted things, which would have been inconvenient, which would not have been consistent with the overall story.)*

This assertion of the co-chair of Working Group III of the IPCC is at best peculiar if not outright false. In the following, I will back this statement in some detail, by demonstrating how specific conclusions from white publications, known to the IPCC lead authors, have been filtered out in support of a (false) claim of consensus in the Summary for Policymakers. At the time of his interview, Dr. Edenhofer was aware of these inconsistencies. ...”

Recognition that complaint arrived by IPCC secretariat, but no further reaction.

IAC: IPCC’s slow and inadequate response to revelations of errors in the last assessment ... have made communications a critical issue. The IAC report recommends that IPCC complete and implement a communications strategy now in development. The strategy should emphasize transparency and include a plan for rapid but thoughtful response to crises.

„Policy relevant, not policy prescriptive“

IAC: IPCC's mandate is to be policy relevant, not policy prescriptive. However, IPCC spokespersons have not always adhered to this mandate. Straying into advocacy can only hurt IPCC's credibility. Likewise, while IPCC leaders are expected to speak publicly about the assessment reports, they should be careful in this context to avoid personal opinions.

KLIMA

31.01.2010

Klimaforscher: Ohne Reform wird Weltklimarat irrelevant

Der Weltklimarat Ipcc muss sich nach Überzeugung des Klimaforschers Prof. Hans von Storch grundlegend reformieren, um nicht irrelevant zu werden. „Der Ipcc leistet einen wesentlichen Service für die Klimapolitik.“



IPCC procedures need revisions

1. Dominant (“best”) authors are no longer responsible for describing consensus (as “lead authors”) – (otherwise they assess their own work).
2. Political and economic interests are not informing the process of assessing the legitimate scientific knowledge.
3. An independent “ombudsman”-system takes care of complaints about factual errors (in determining consensus and conflicts of interest). – *possibly fulfilled*.
4. Assessment by IPCC is independent of acting persons. Dominant authors must be frequently replaced.
5. IPCC is providing an assessment of the contested issues. In particular it describes dis-sensus. IPCC encourages falsification.
6. Political and scientific functions within IPCC must be strictly separated.

31 January 2010

Tror du att klimathotet är överdrivet?

Ställningen just nu:

Ja (51.1 %)



Nej (48.9 %)



November 2009

Crisis of Trust

Omrostningen startade 2009-11-21

Vad tror du om klimathotet?

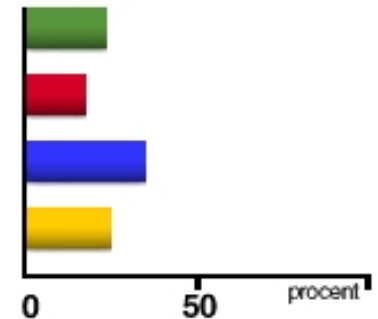
Ställningen just nu:

Det är mycket allvarligt (23.3 %)

Det är för tidigt att säga (17.1 %)

Det är överdrivet (34.9 %)

Det är en bluff (24.6 %)

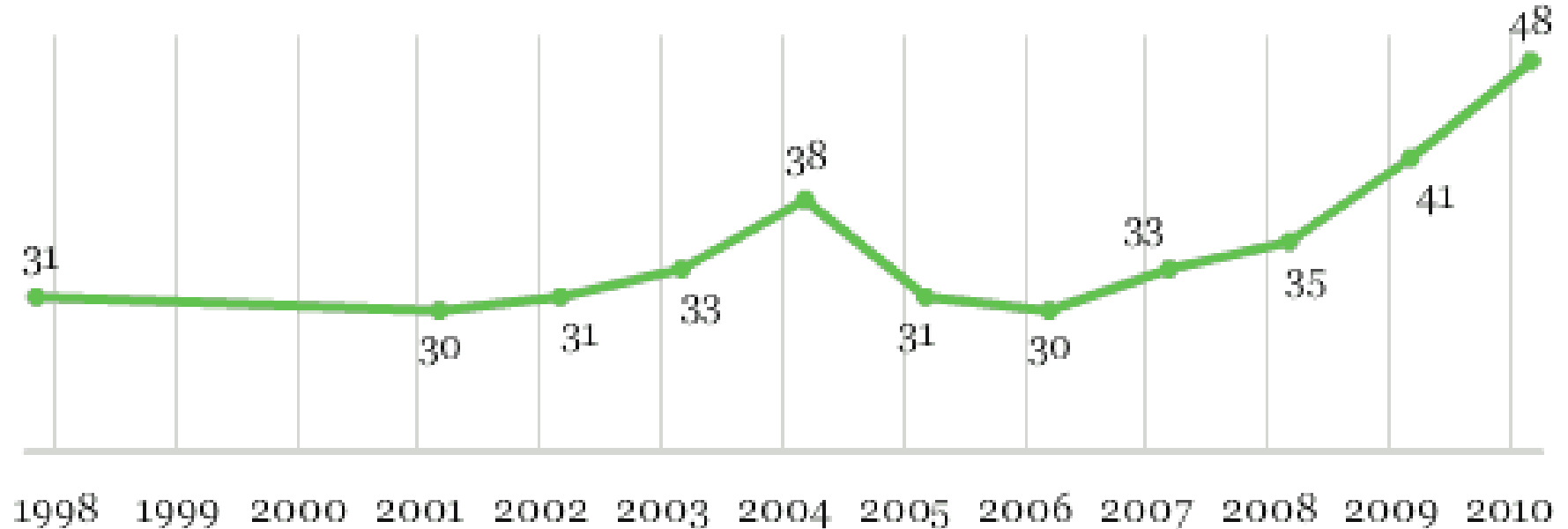


March 2010

Totalt har 97418 personer röstat.
Omrostningen startade 2010-02-07 13:55

Thinking about what is said in the news, in your view is the seriousness of global warming -- [ROTATED: generally exaggerated, generally correct, or is it generally underestimated]?

■ % Generally exaggerated

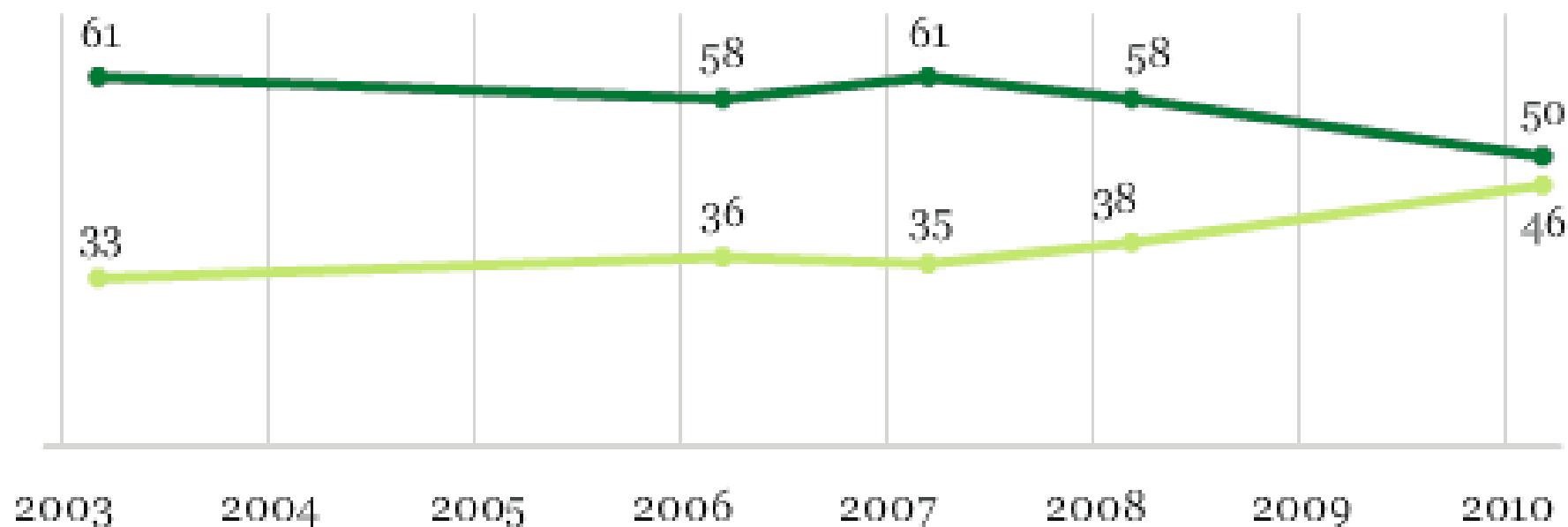


GALLUP®

USA-sample

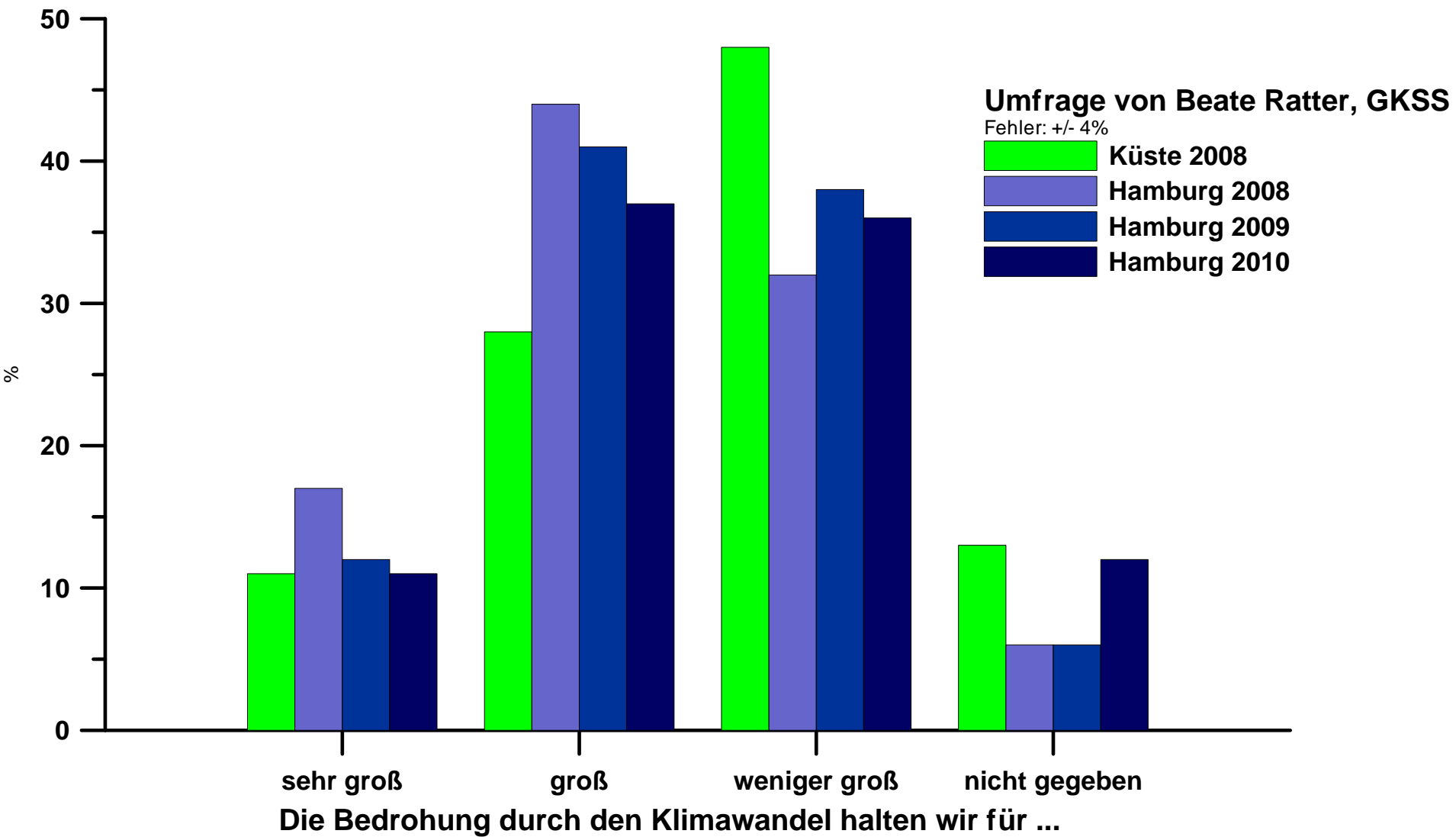
And from what you have heard or read, do you believe increases in the Earth's temperature over the last century are due more to -- [ROTATED: the effects of pollution from human activities (or) natural changes in the environment that are not due to human activities]?

■ % Human activities ■ % Natural causes



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USA-sample



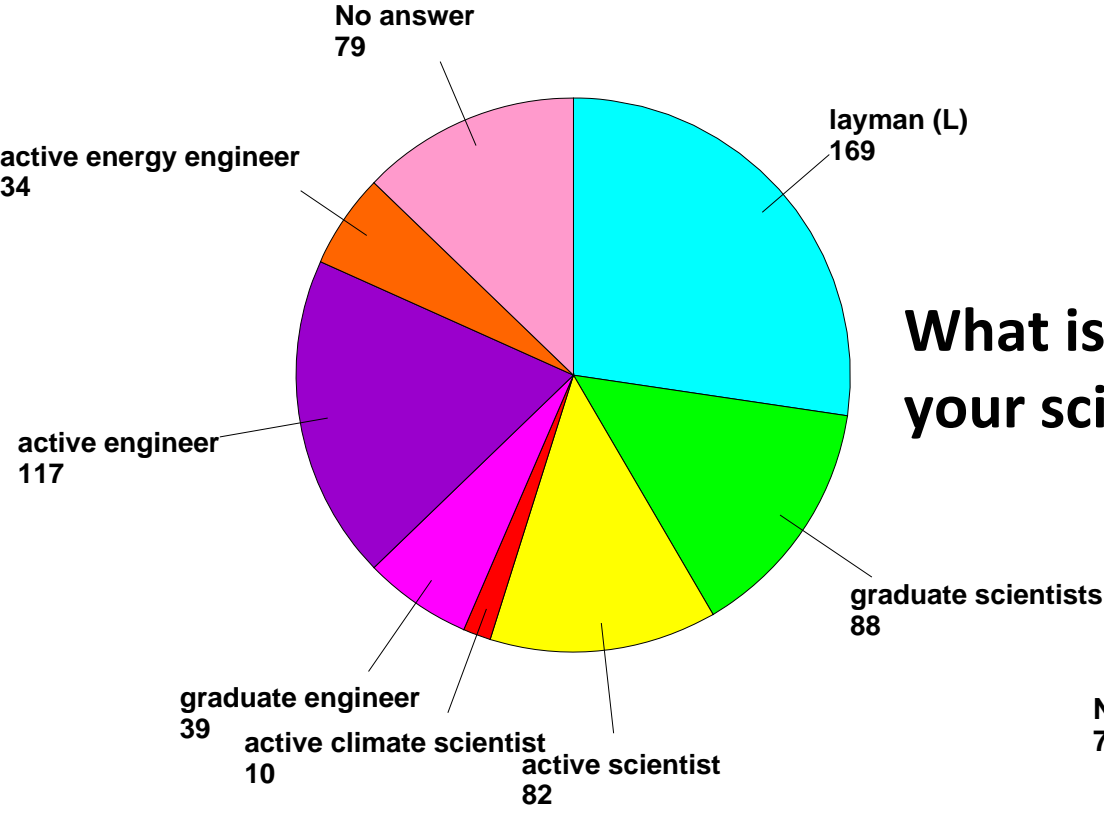
„Skeptics“

- Who are they?
- What are skeptics skeptic about?
- How did they become skeptics?
- Non-representative survey on Klimazwiebel-blog done by Rob Maris with the help of Peter Heller



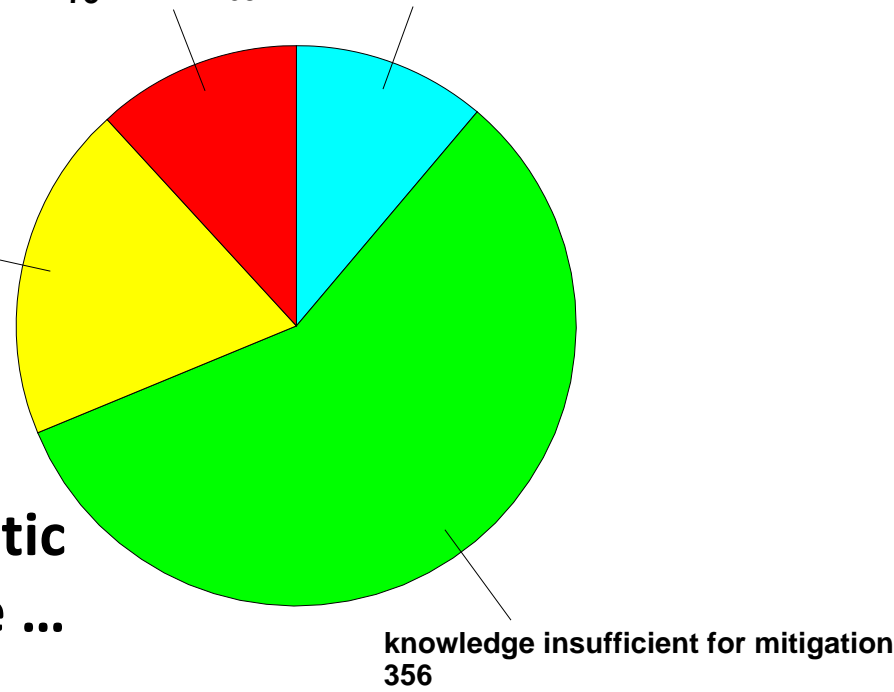


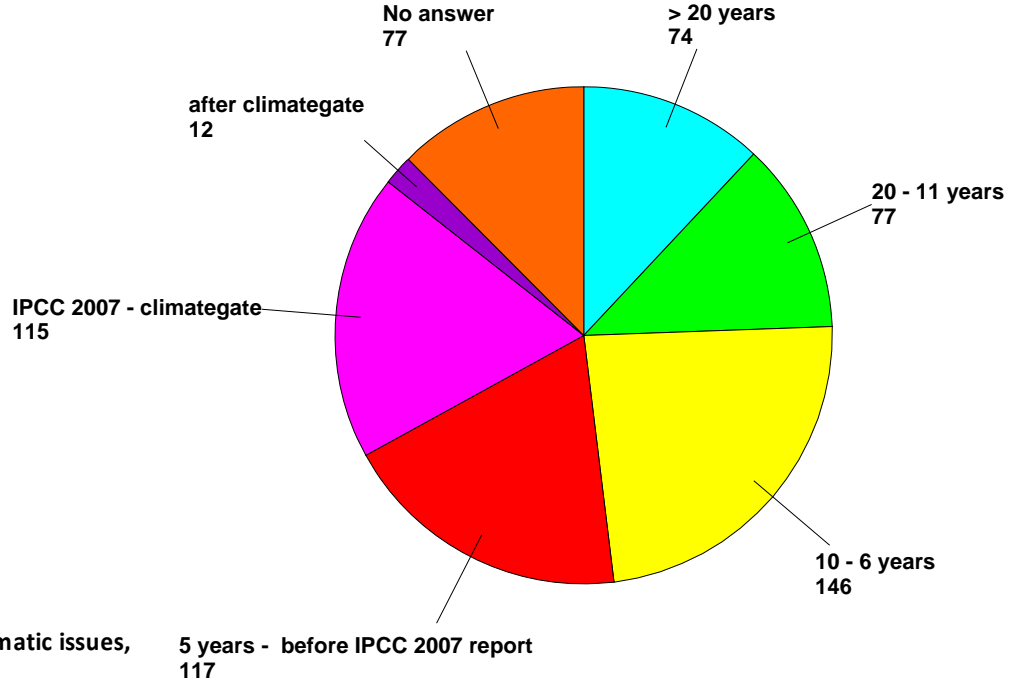
What is the best description of your scientific background?



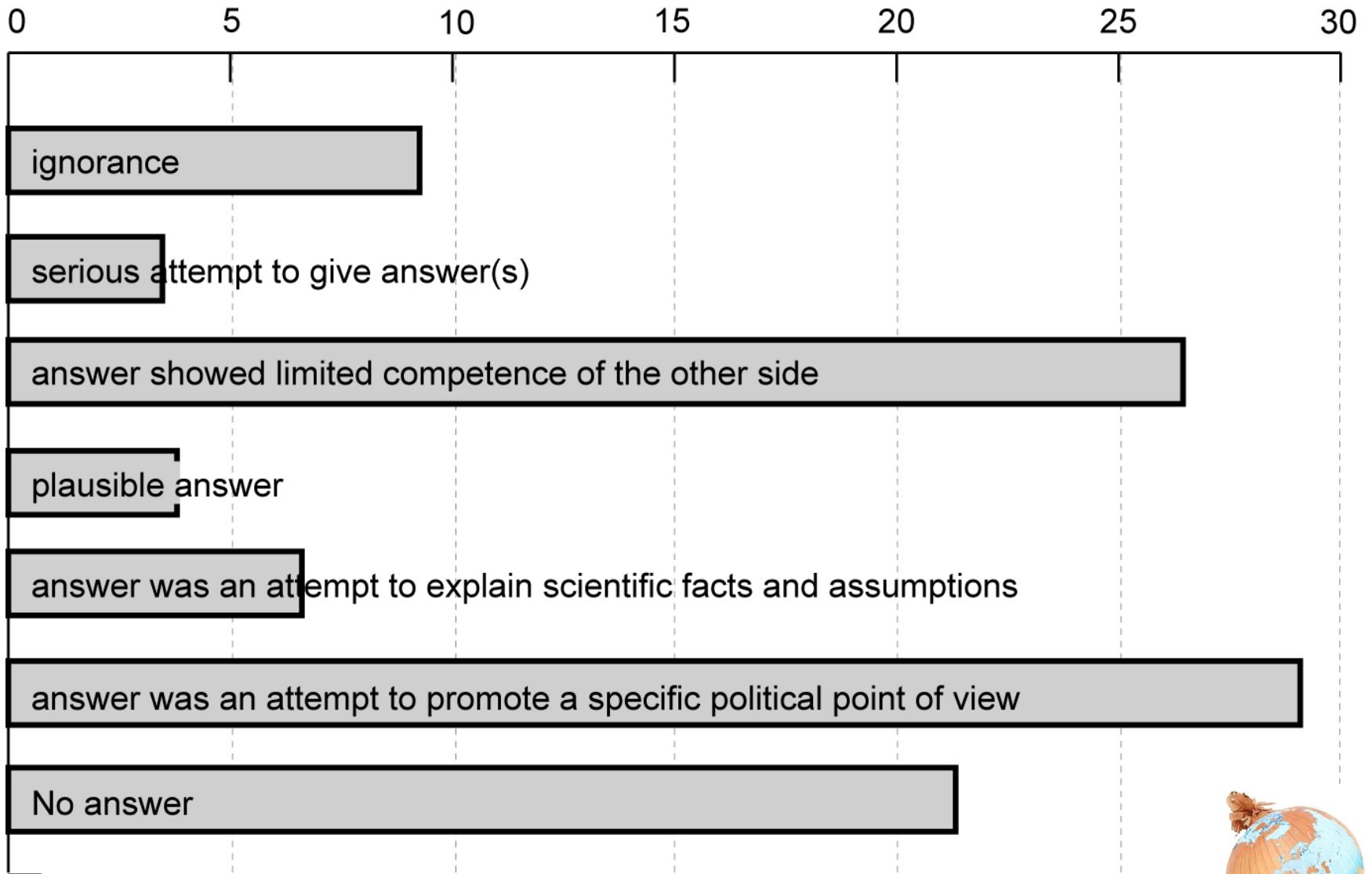
I am a climate skeptic roughly because ...

I am a climate skeptic roughly because ...



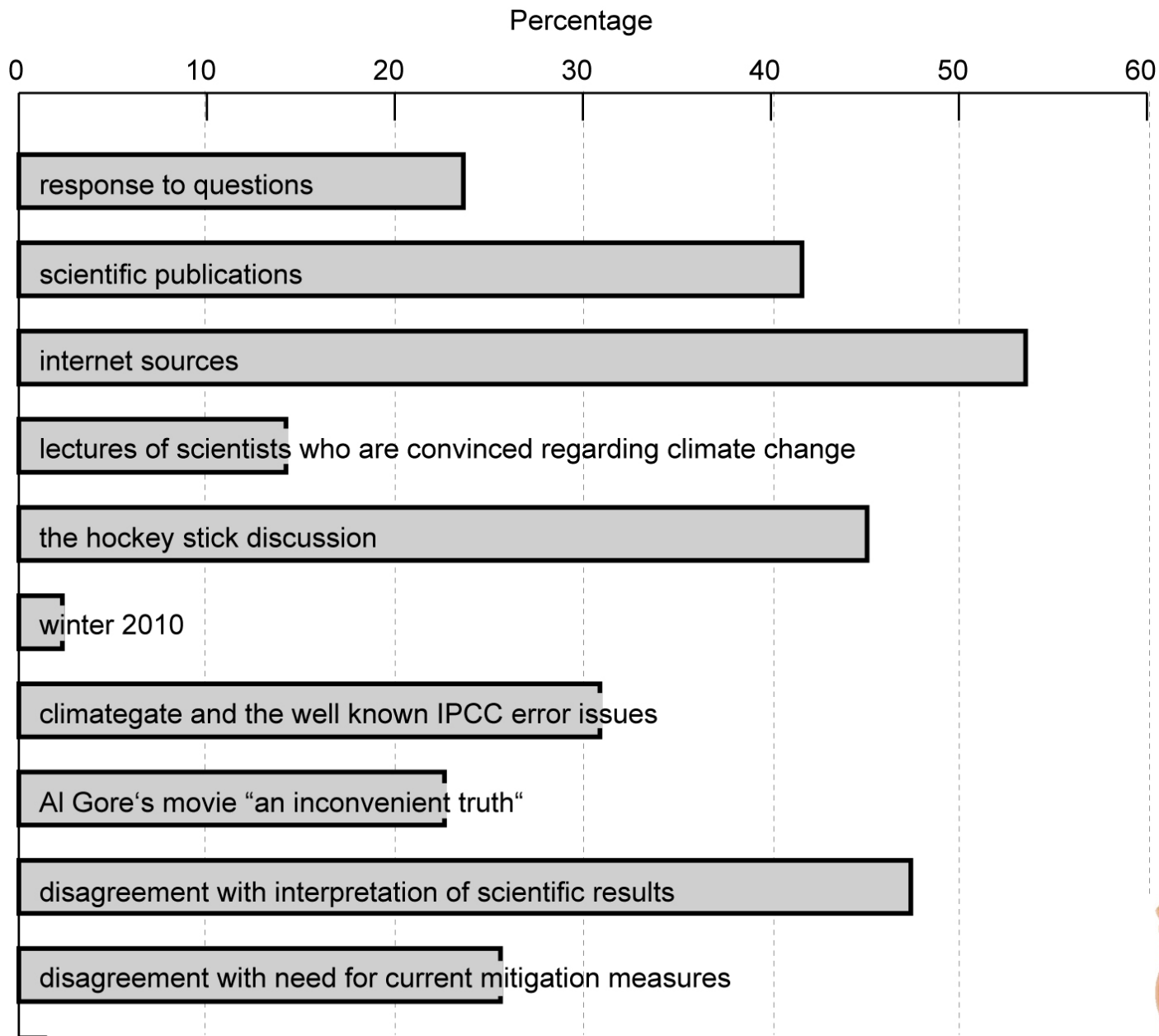


Percentage



Which experiences did you have as you asked your first (critical, questions? (if this applies to you)





How did you get/change to skepticism? (multiple selections are possible)

Postnormal science

Jerry Ravetz, Silvio Funtovicz, 1986 and earlier

State of science, when *facts uncertain, values in dispute, stakes high and decisions urgent*

Postnormality torch,

In this state, science is not done for reasons for curiosity but is asked for as support for preconceived value-based agendas.

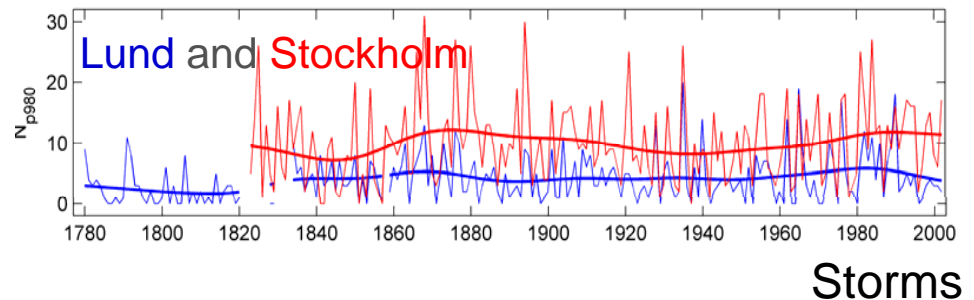
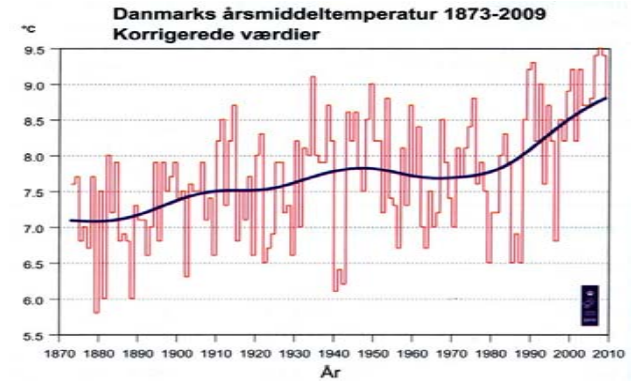
Compares with various environmental cases, such as nuclear power, BSE etc.

Two different construction of „climate change“ – scientific and cultural – which is more powerful?

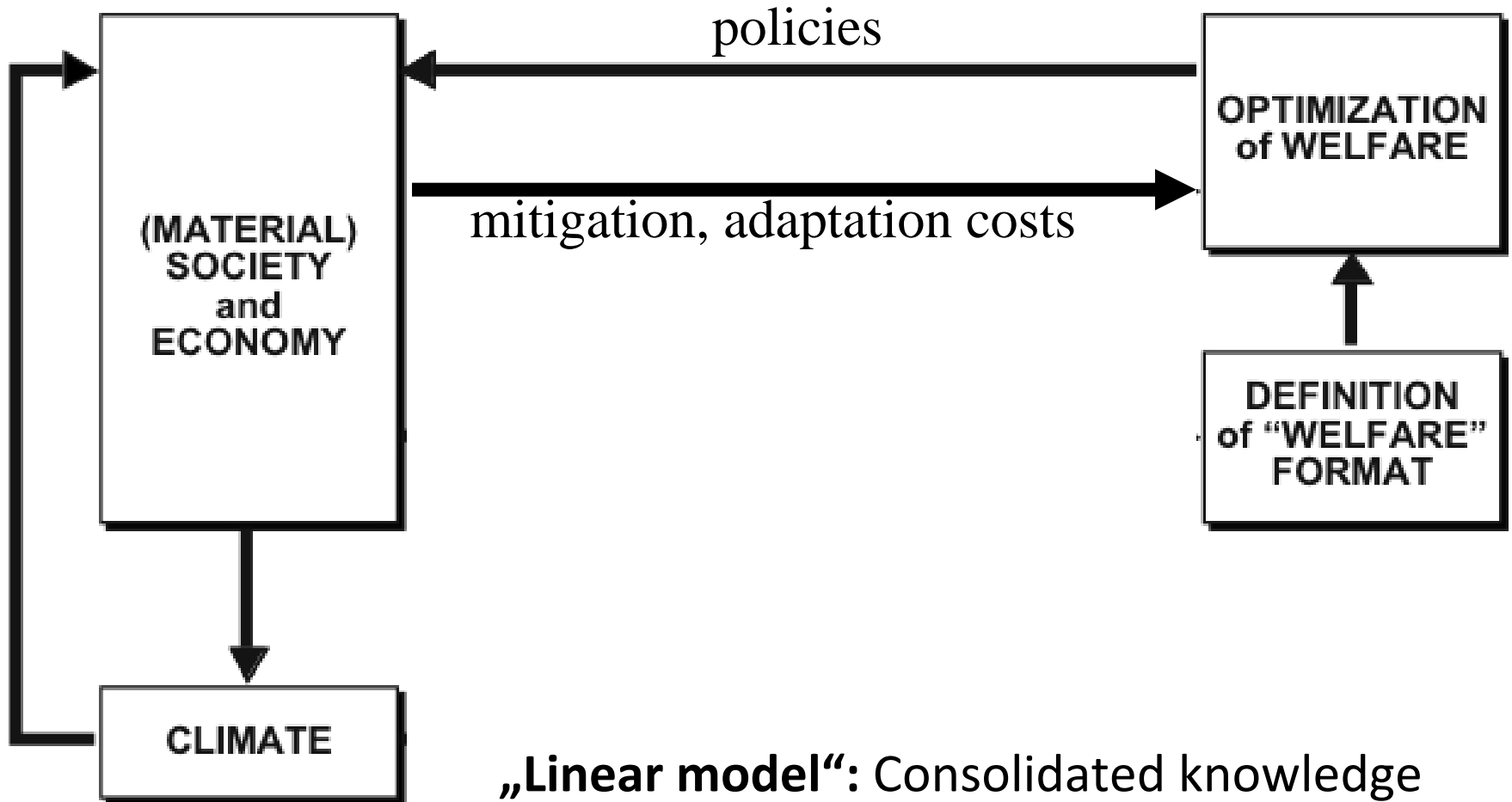


Cultural: „Klimakatastrophe“

Scientific: man-made change is real, can be mitigated to some extent but not completely avoided



Competition of knowledge claims

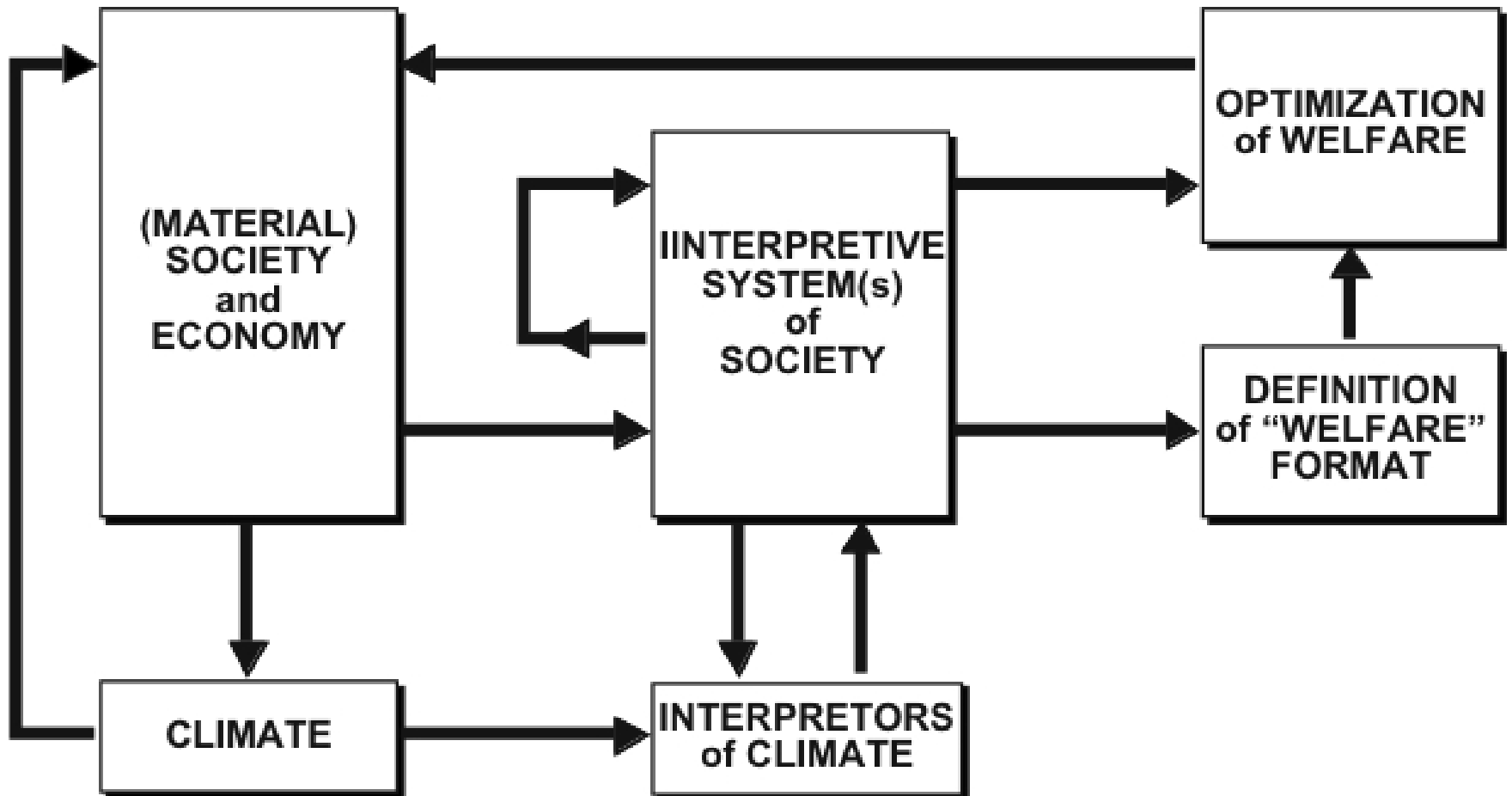


„Linear model“: Consolidated knowledge (consensus) leads to policy. Depoliticization of politics.

Knowledge market

- The science-policy/public interaction is not an issue of the linear model of „knowledge speaks to power“.
- The problem is not that the public is stupid or uneducated.
- Science has failed to respond to legitimate public questions and has instead requested. “Trust us, we are scientists”. (see skeptics survey; also IAC assessment of IPCC.)
- The problem is that the scientific knowledge is confronted on the „explanation market“ with other forms of knowledge (pre-scientific, outdated; traditional, morphed by different interests). Scientific knowledge does not necessarily “win” this competition.
- The social process „science“ is influenced by these other knowledge forms.

Competition of knowledge claims



The crisis of climate science and the IPCC is not about the **key scientific construct** (man-made greenhouse gas emissions change climate towards warmer conditions) but a crisis of the **trust into the societal institution “climate science”**.

Climate science has been unprepared with the challenges of post-normality, in particular to deal with the ongoing **politicization of its utility and actors**, and the scientization (de-politicization) of politics.

Arbeitspapier

Forschungsgruppe EU-Integration
Stiftung Wissenschaft und Politik
Deutsches Institut für
Internationale
Politik und Sicherheit

2 deg goal?

SWP-Arbeitspapiere sind online-Veröffentlichungen der Forschungsgruppen. Sie durchlaufen kein förmliches Gutachterverfahren. Sie dürfen nur mit Zustimmung der jeweiligen Autoren/Herausgeber zitiert werden.

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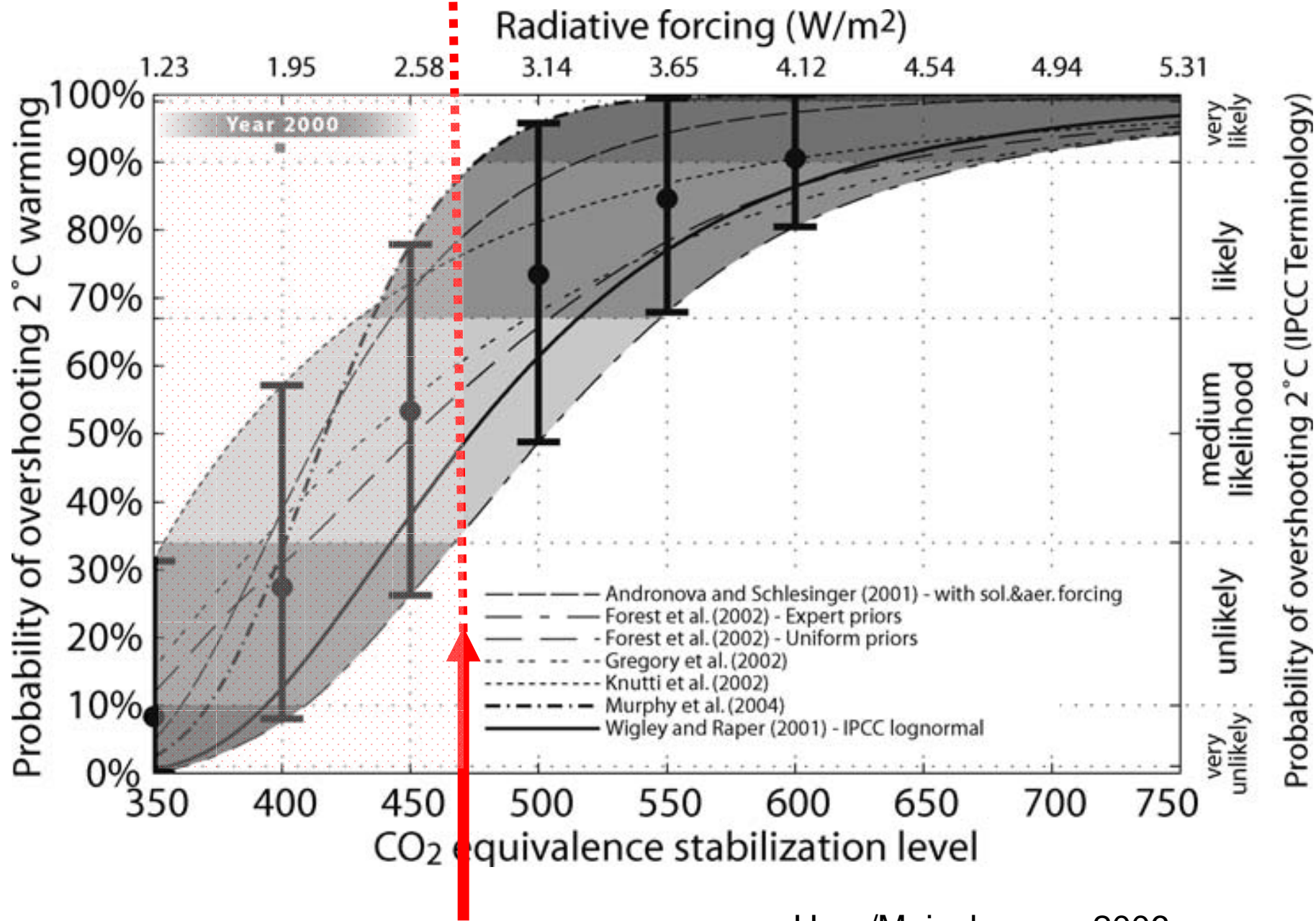
Arbeitspapier der FG 1, 2010/ 02, Mai 2010
SWP Berlin

Klimapolitik zwischen Emissionsvermeidung und Anpassung

Gutachten des Wissenschaftlichen Beirats beim Bundesministerium der Finanzen

Berlin, Januar 2010

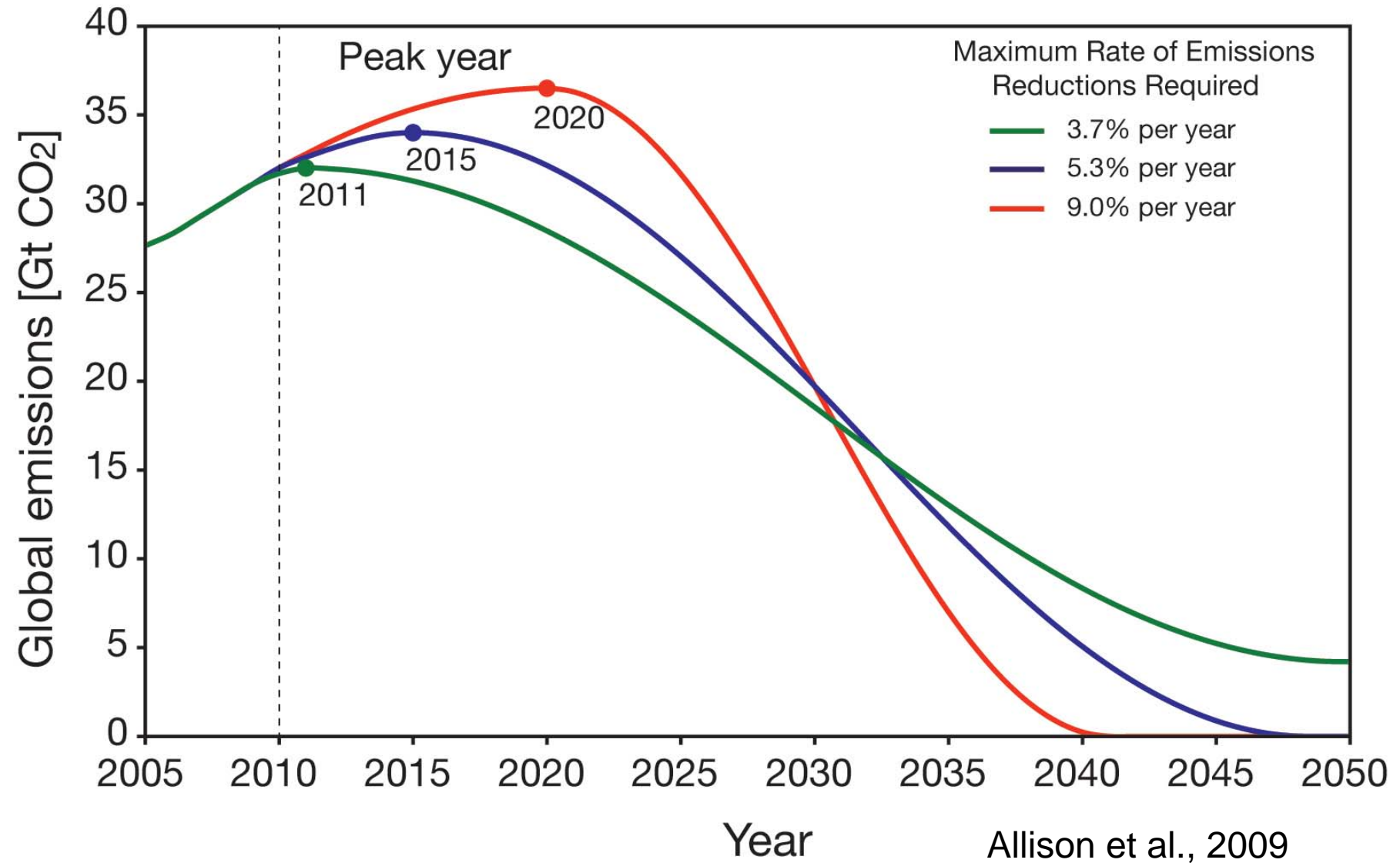
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Hare/Meinshausen 2006

present

2°-goal consistent emissions paths with different peak times



Schellnhuber on 2 deg goal

SPIEGEL: Do you really believe that human civilization will collapse if the temperature rises by more than two degrees Celsius?

Schellnhuber: Of course the world won't end if temperatures go up by 2.01 degrees, let alone end suddenly. From today's scientific perspective, we could possibly live with a warming of two to three degrees.

SPIEGEL: Why then have you, as one of the creators of the two-degree target, imposed such a magical limit to which all countries must slavishly adhere?

Schellnhuber: Politicians like to have clear targets, and a simple number is easier to handle than a complex temperature range. Besides, it was important to introduce a quantitative orientation in the first place, which the 1992 Framework Convention on Climate Change managed to elegantly wangle its way out of. And let's be honest: Even if we aim for the two-degree target, we'll end up somewhat higher. Whenever there's a speed limit, most drivers tend to go a little faster.

Take home messages

- Man made climate change is real – elevated CO2 levels in the atmosphere have caused warming and sea level rise, and will continue to do so in the foreseeable future.
- The state of scientifically legitimate knowledge is described by IPCC.
- IPCC made errors – in terms of impacts described by working group 2, but seemingly also in working group 3 (Tol case).
- Climate science is in a postnormal phase, thus there is an ubiquitous politicization, and science and policy can often no longer be discriminated. At the same time, politics is getting scientized, i.e., de-politicized.
- “ClimateGate” and EU-dogmatism of COP-15 (Copenhagen) have produced a severe backlash in public perception.
- The realism of 2 degree goal is questionable; it was put forward not for scientific but political reasons – by scientists.
- **Man made climate change is real and needs societal attention.**

Relevant papers

- von Storch, H., A. Bunde and N. Stehr, 2011: **The Physical Sciences and Climate Politics** In J.S. Dyzek, D. Schlosberg, and R. B. Norgaard (eds): *The Oxford Handbook of Climate Change and Society*. Oxford University Press. Oxford UK. (in press)
- von Storch, H., 2010: **Protagonists on the Market of Climate Change Knowledge**. In Max Boykoff (ed.): *Politics of Climate Change*. Rutledge, London New York, ISBN 978-1-85743-496-5, 303 pp, 62-76
- Bray, D., and H. von Storch, 2010: **CliSci2008: A Survey of the Perspectives of Climate Scientists Concerning Climate Science and Climate Change**, GKSS Report 2010/9, 121 pp.
- von Storch, H., and D. Bray, 2010: **Against politicization of science**. Comment on S. Keller: Scientization: Putting global climate change on the scientific agenda since 1970 and the role of the IPCC, *Poiesis&Praxis*, DOI 10.1007/s10202-010-0083-5, in press
- von Storch, H., und N. Stehr, 2010: **Thoughts on climate research and policy**. *Newsletter of Europäischen Akademie Bad Neuenahr-Ahrweiler GmbH* 99, S. 1-2
- von Storch, H., und N. Stehr, 2010: **Klimaforschung und Klimapolitik – Rollenverteilung und Nachhaltigkeit** . *Naturwissenschaftliche Rundschau* 63, 301-307