

« The choice of abatement paths thus involves balancing the economic risks of rapid abatement now (that premature capital stock retirement will later be proved unnecessary) against the corresponding risk of delay (that more rapid reduction will then be required, necessitating premature retirement of future capital stock) »

IPCC

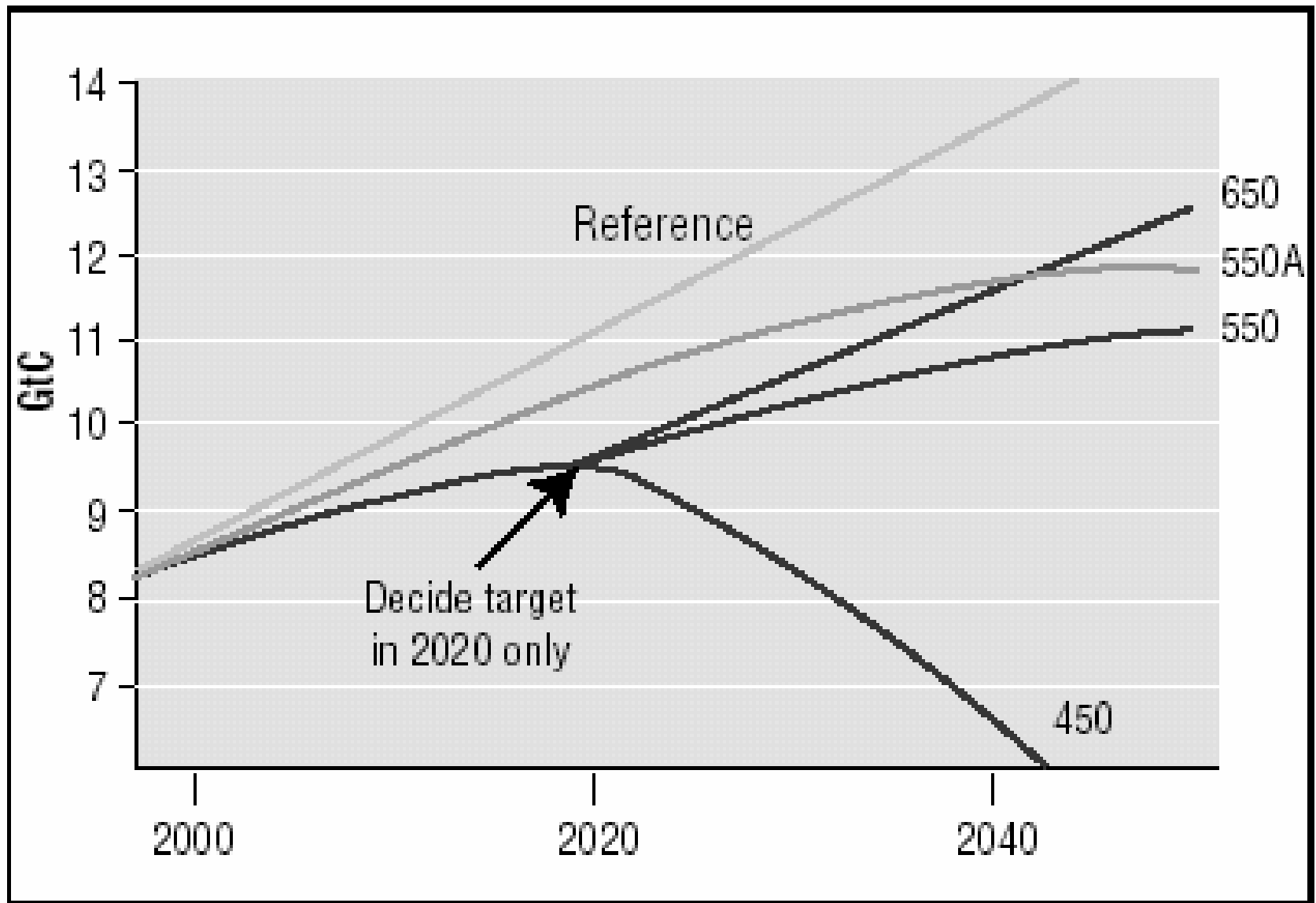


Figure TS.10a: Optimal carbon dioxide emissions strategy, using a cost-effectiveness approach.

source: IPCC/WGIII/TS
p.67

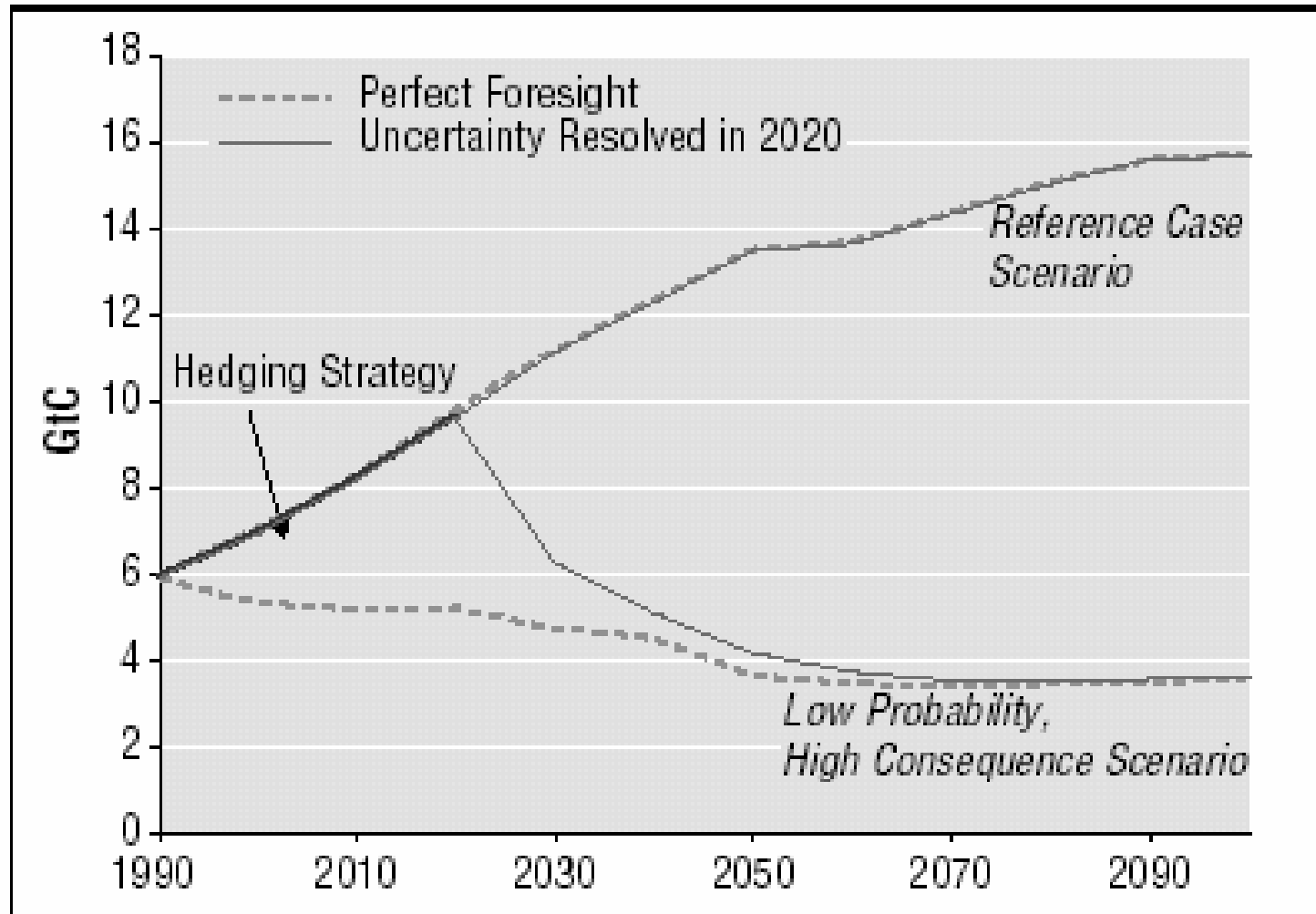
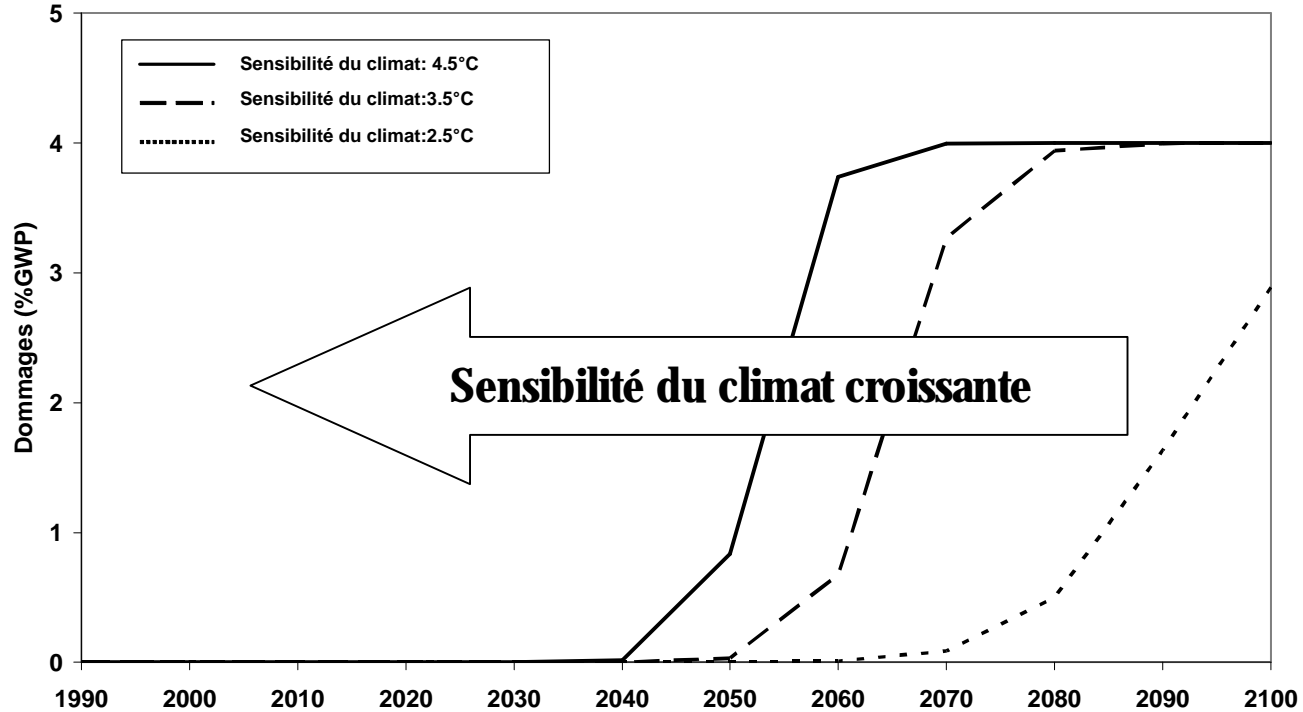
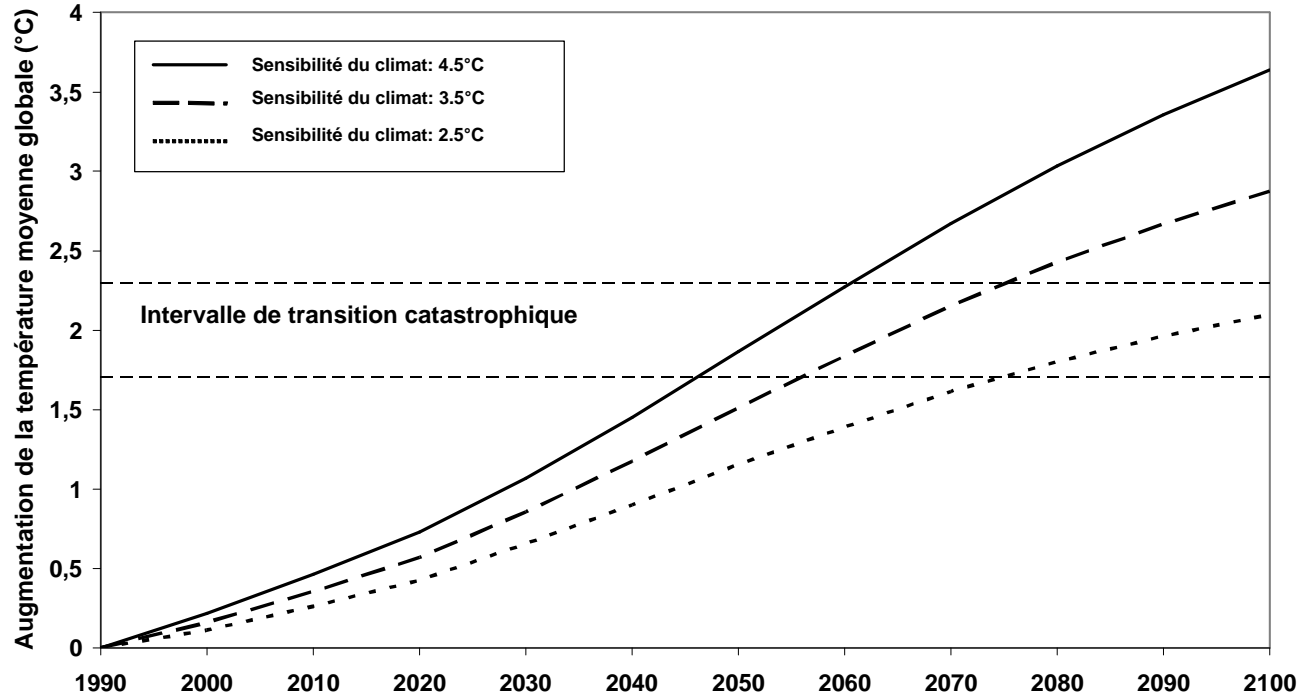


Figure TS.10b: Optimal hedging strategy for low probability, high consequence scenario using a cost-benefits optimization approach.

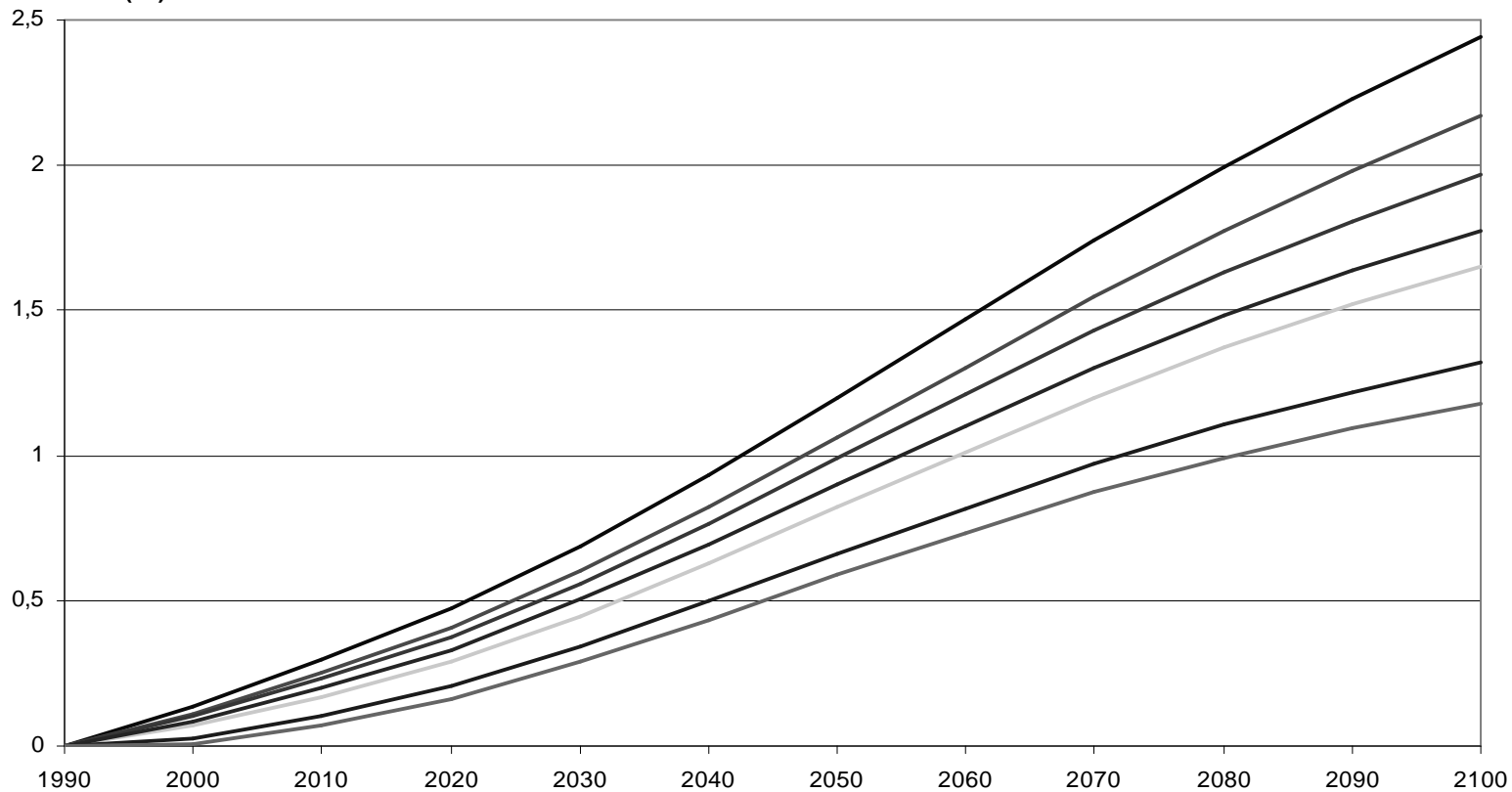
- **“Along the economically efficient emission path, the long-run global average temperature rises sharply. After 500 years, it is projected to increase 6.2 °C over the 1900 global climate. While we have only the foggiest idea of what this would imply in terms of ecological, economic, and social outcomes, it would make most thoughtful people even economists nervous to induce such a large environmental change. Given the potential for unintended and potentially disastrous consequences, it would be sensible to consider alternative approaches to global warming policies?” (Nordhaus)**



Global mean temperature increase

base year: 1990, scenario AIM (SRES, 2001)

temperature
increase (°C)

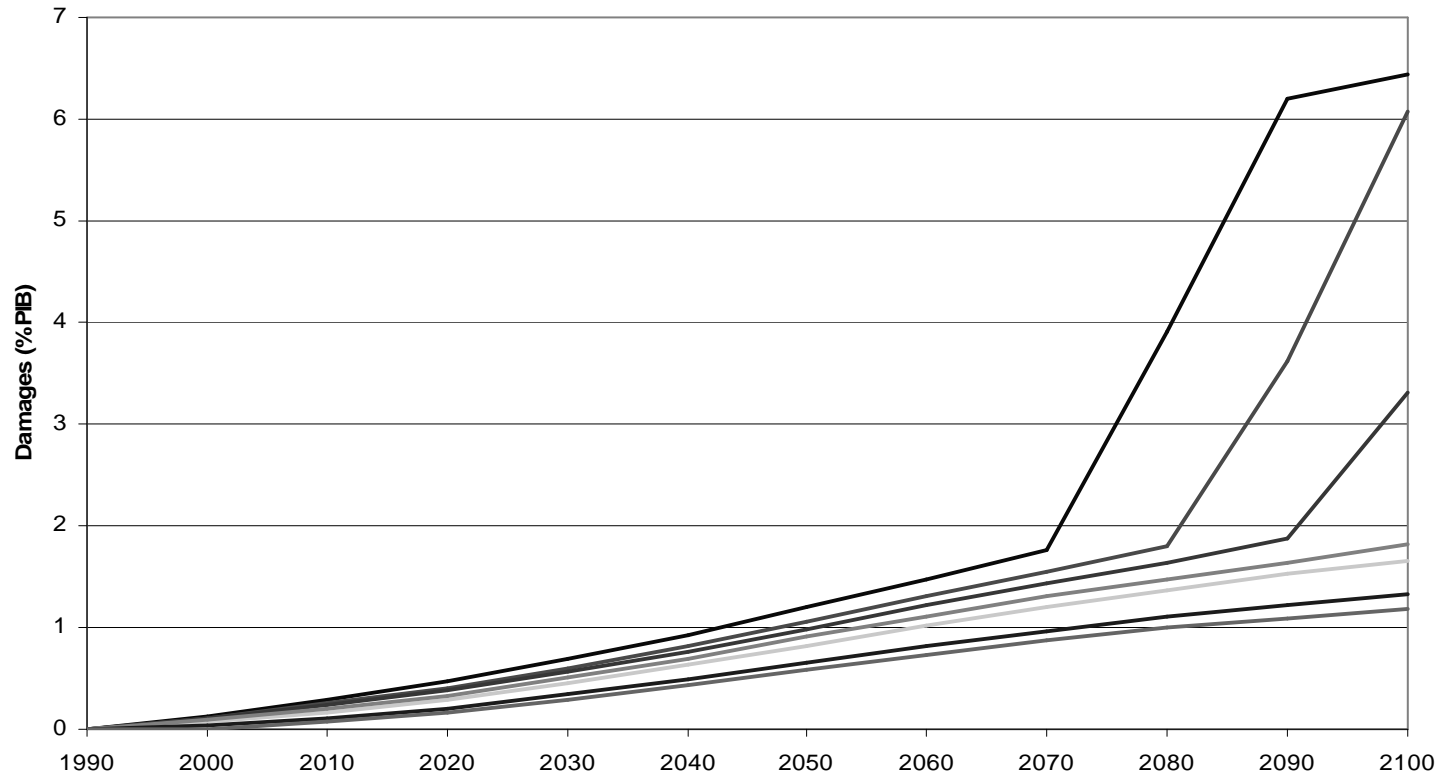


IPCC GCMs

- GFDL_R15_a
- CSIRO Mk2
- HadCM3
- HadCM2
- ECHAM4/OPYC
- CSM 1.0
- DOE PCM

time

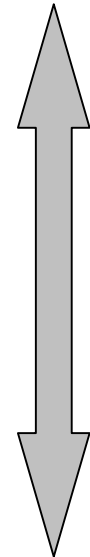
Climate Change Damages



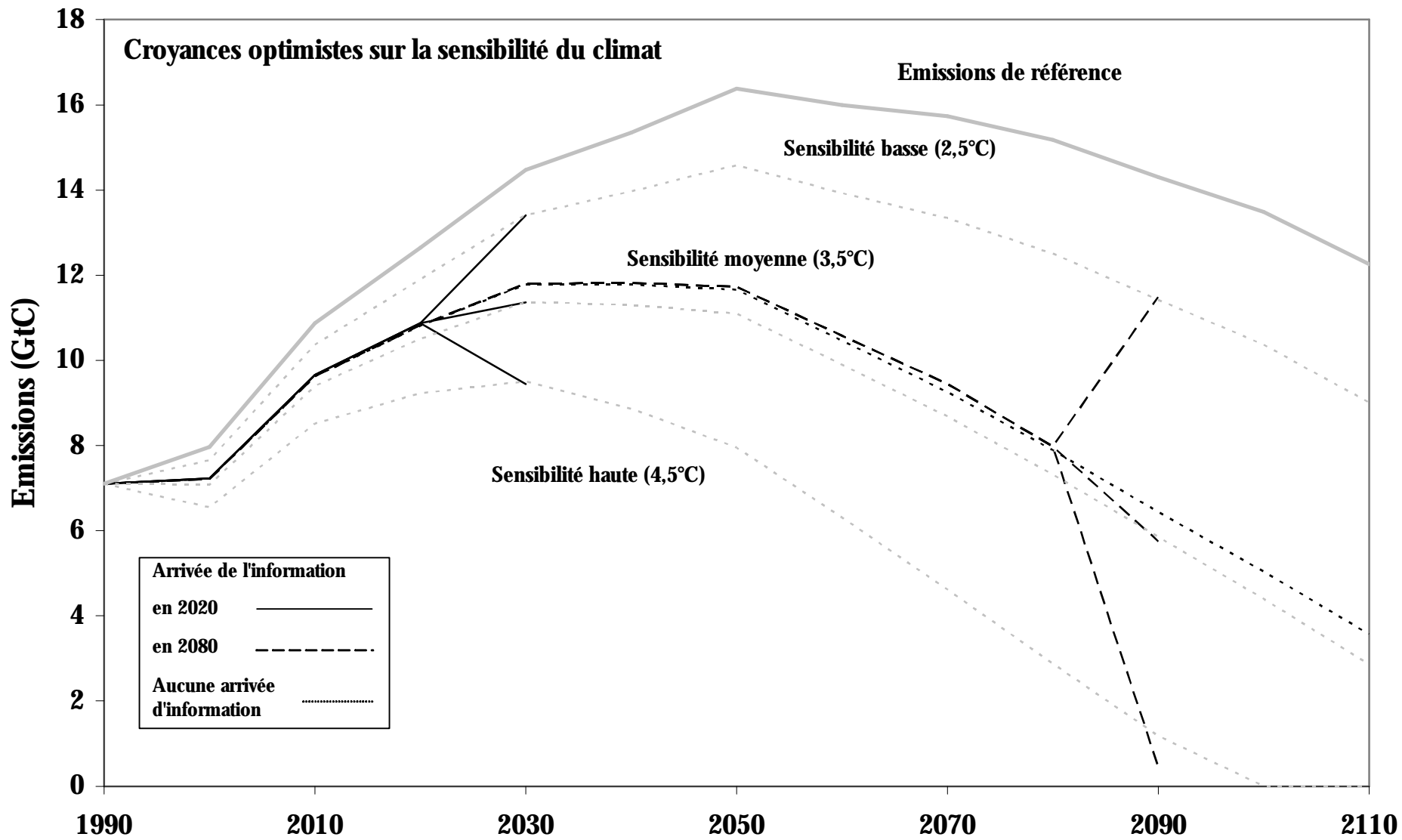
IPCC GCMs

- GFDL_R15_a
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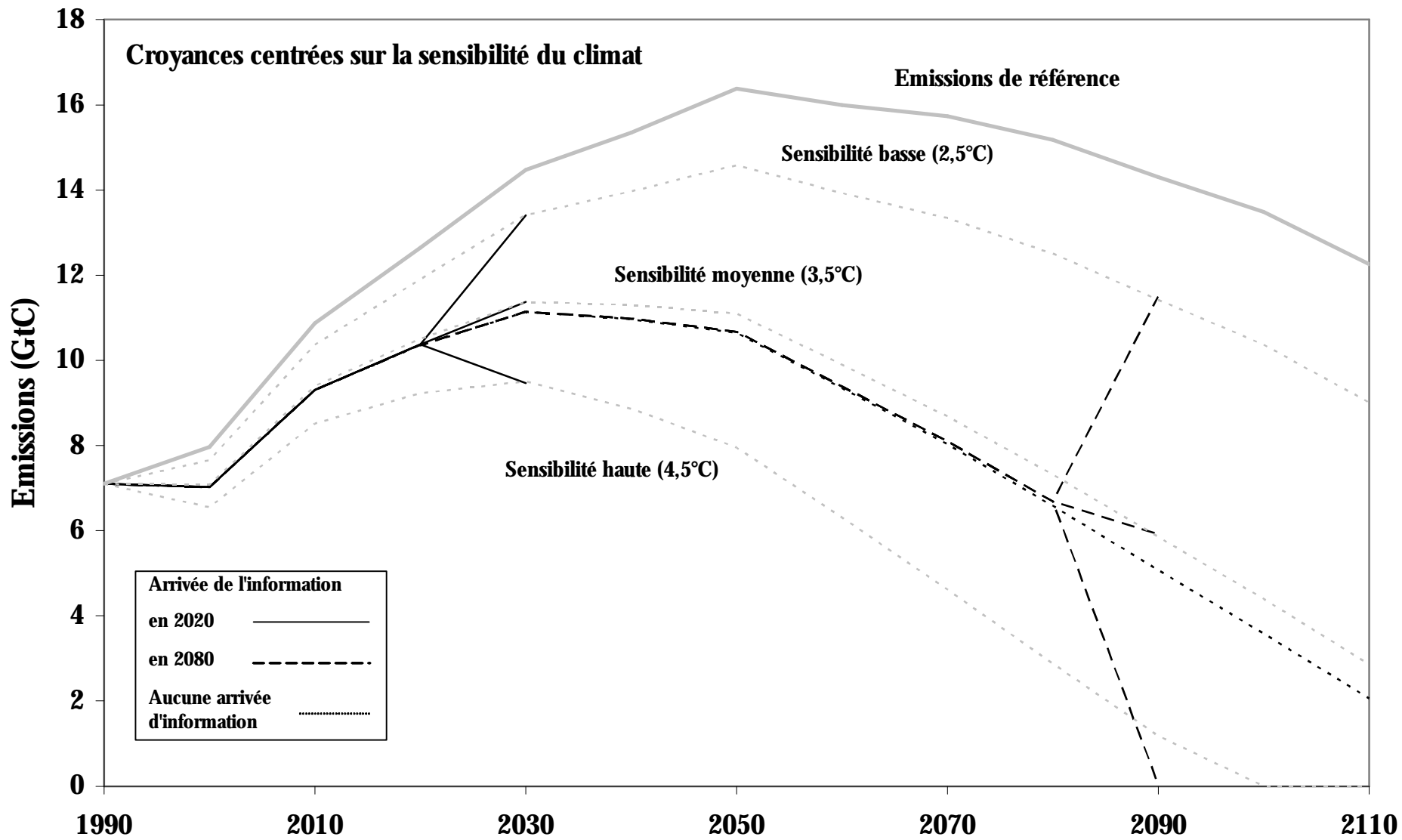
RATIO= 5,5



time



Le rôle des croyances sur la sensibilité climatique



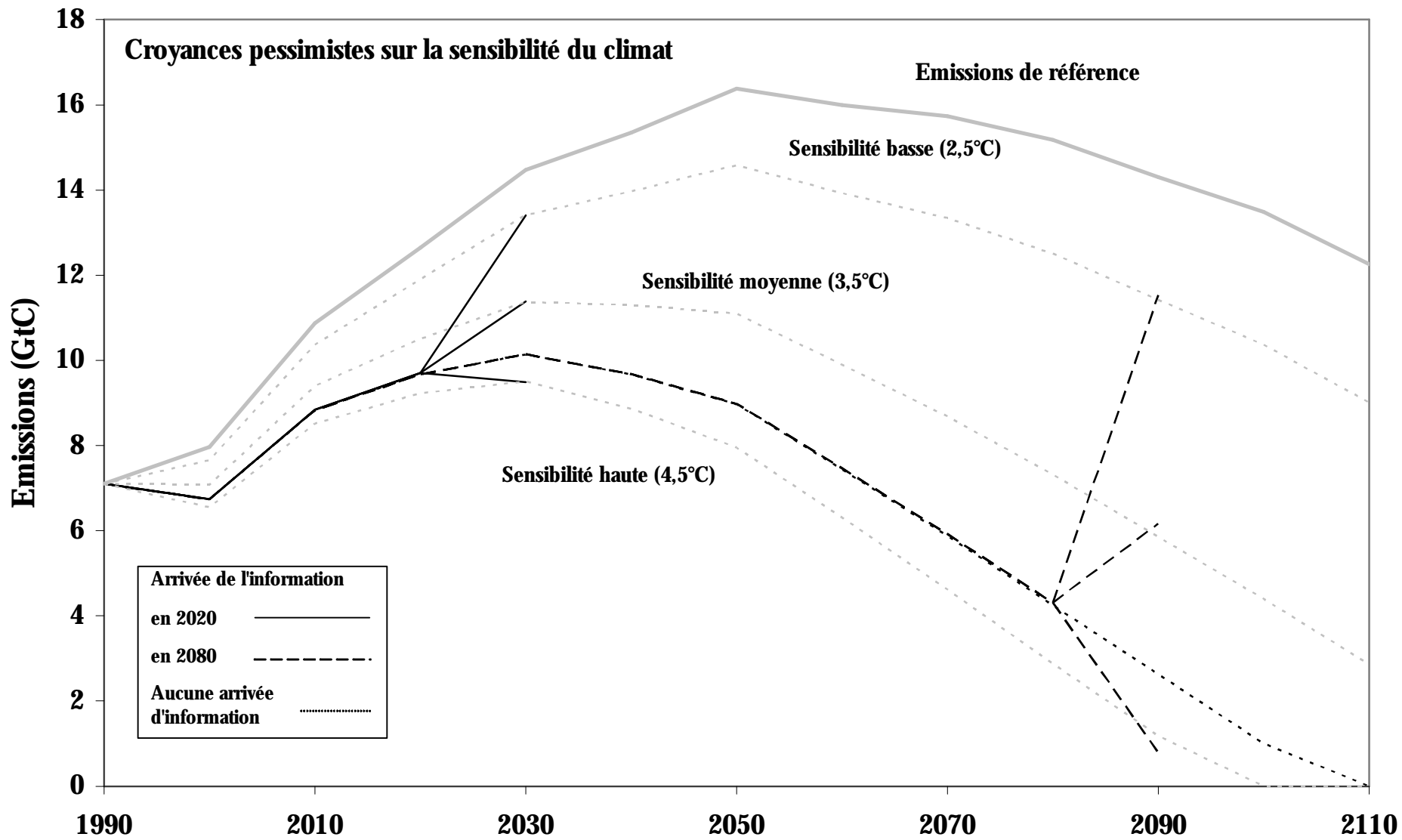
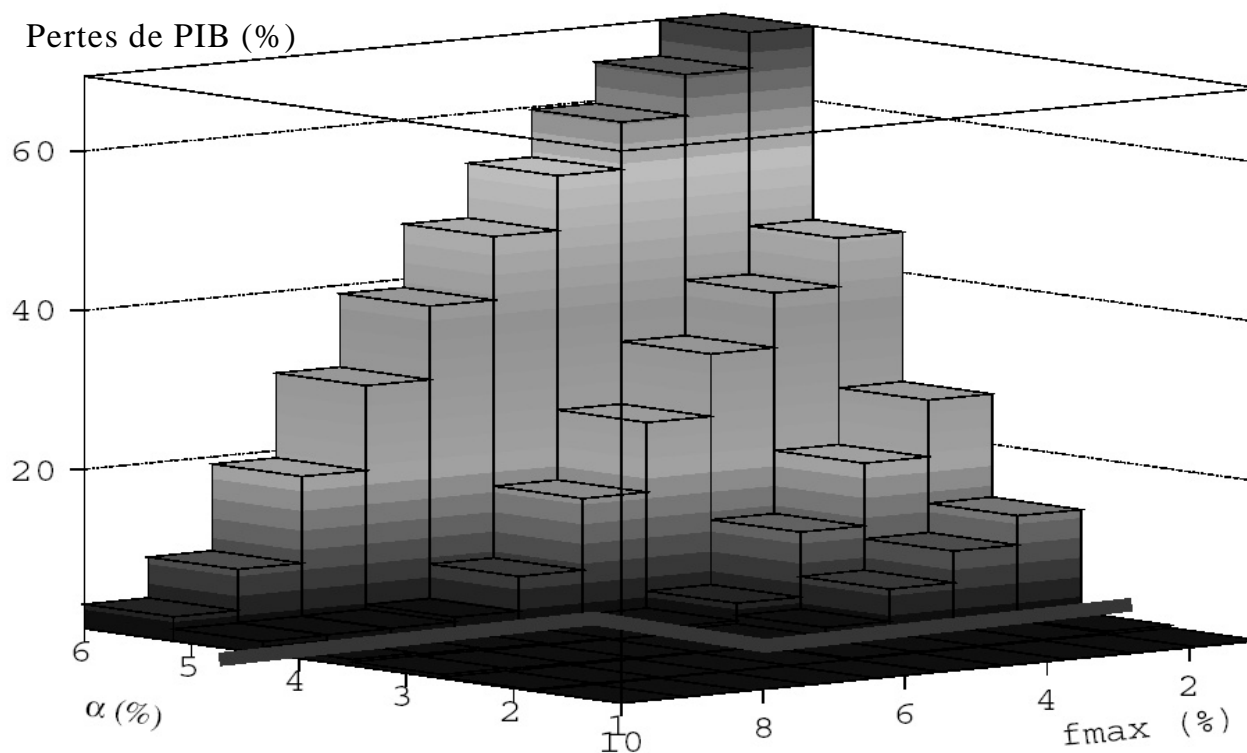


Illustration of the sources of thresholds in damages due to Large Weather extremes



Mean GDP losses due to extreme events, as a function of the reconstruction capacity (f_{max} , that represents the maximum share of total investment that can be devoted to reconstruction over the short-term) and the distribution of extremes (when $\alpha=2$ both the frequency and mean intensity of extremes are multiplied by 2). The red line gives the set of parameters for which GDP losses are lower than 1%