

TODAY'S GLOBAL CHALLENGES

ICT FOR A GLOBAL SUSTAINABLE FUTURE

CLIMATE CHANGE

*How ICT CAN DURABLY CONTRIBUTE TO THE WELLBEING
OF ALL CITIZENS AROUND THE WORLD*

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European Commission - Brussels

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Economic objectives

objectives

ICT

AL

ENVIRONMENTAL OBJECTIVES

Flow of
OF ALL COUNTRIES AROUND THE WORLD

objectives



GLOBAL CHALLENGES ENVIRONMENTAL SUSTAINABILITY

- **Perception**
- **Diagnoses**
- **Recommendations**
- **Policy actions**
- **Enforcement**
- **Feedback and re-evaluation**

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GLOBAL CHALLENGES ENVIRONMENTAL SUSTAINABILITY

- **Perception**

- **Short-term observations versus long term repercussions**
- **Uneven distribution of impact**
- **Blaming others guilty/responsible**
- **Different sense of urgency**
- **Different levels of propensity to adapt or mitigate**



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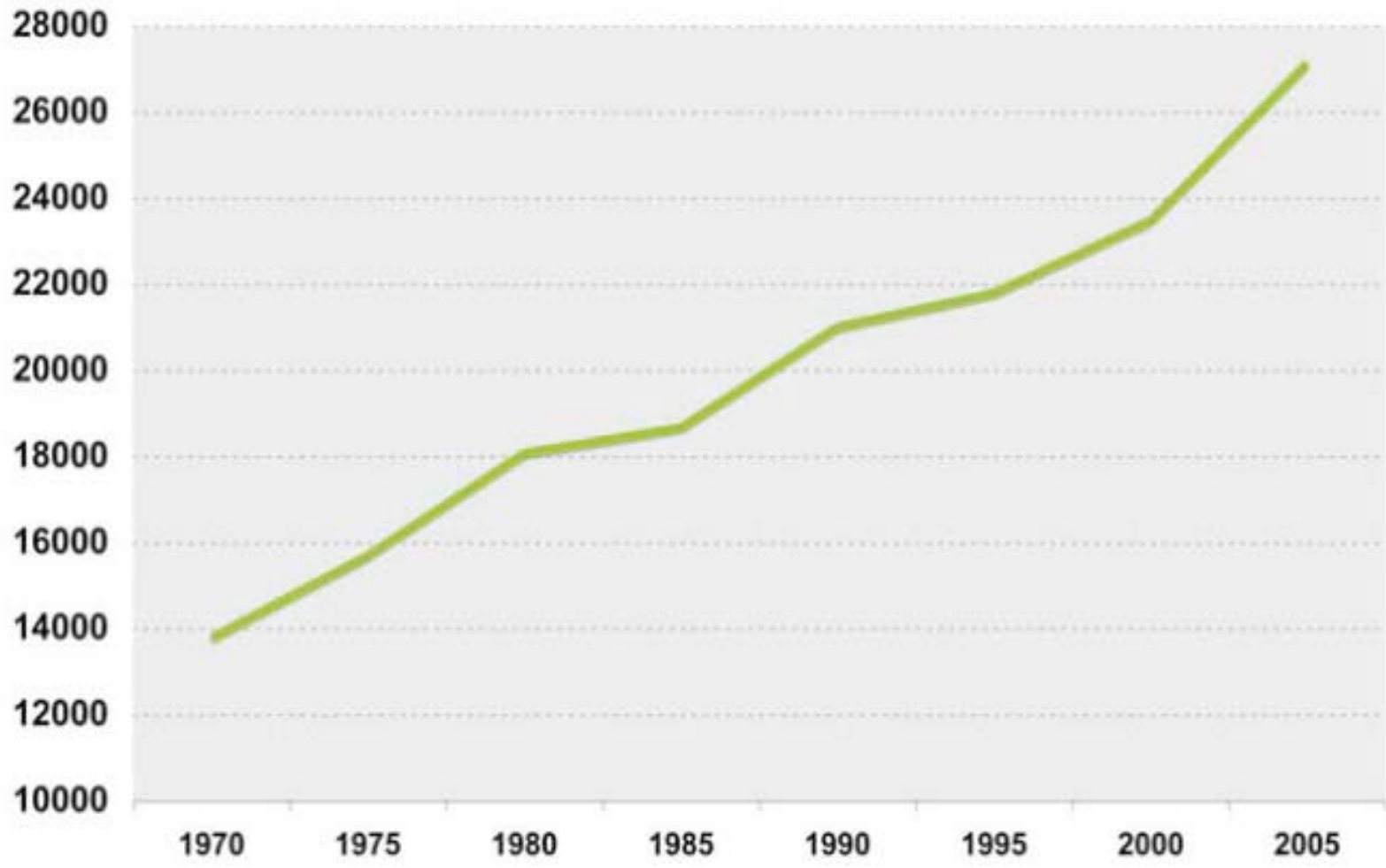


FIGURE 8: WORLD CO2 EMISSIONS - OECD DATA - 2008

GLOBAL CHALLENGES ENVIRONMENTAL SUSTAINABILITY

- **Diagnoses**

- **Natural or anthropogenic roots of the climate change**
- **Collecting enormous number of observations and creating huge data bases**
- **Distinguishing between various factors of change**
- **Elaborating explanatory models**



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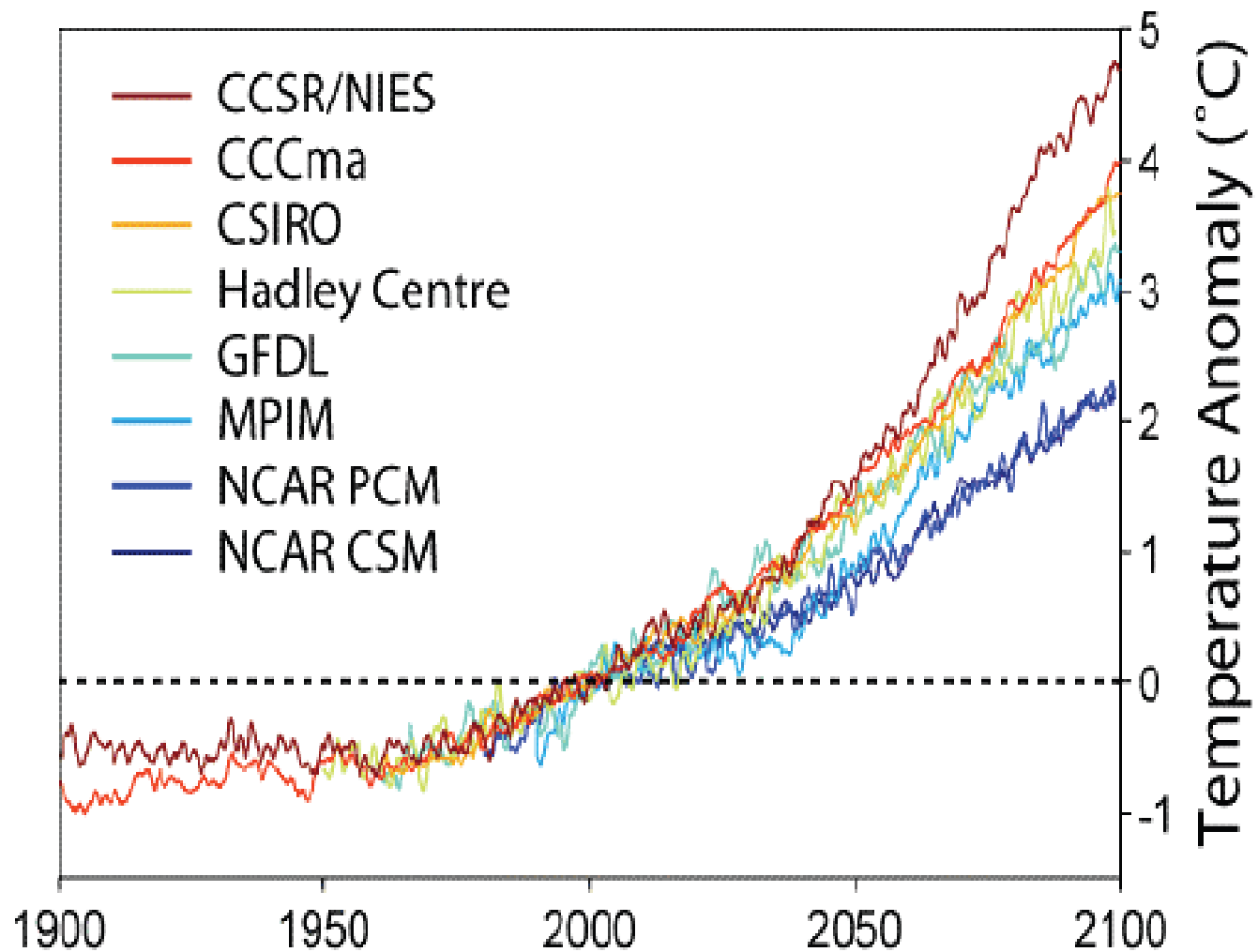
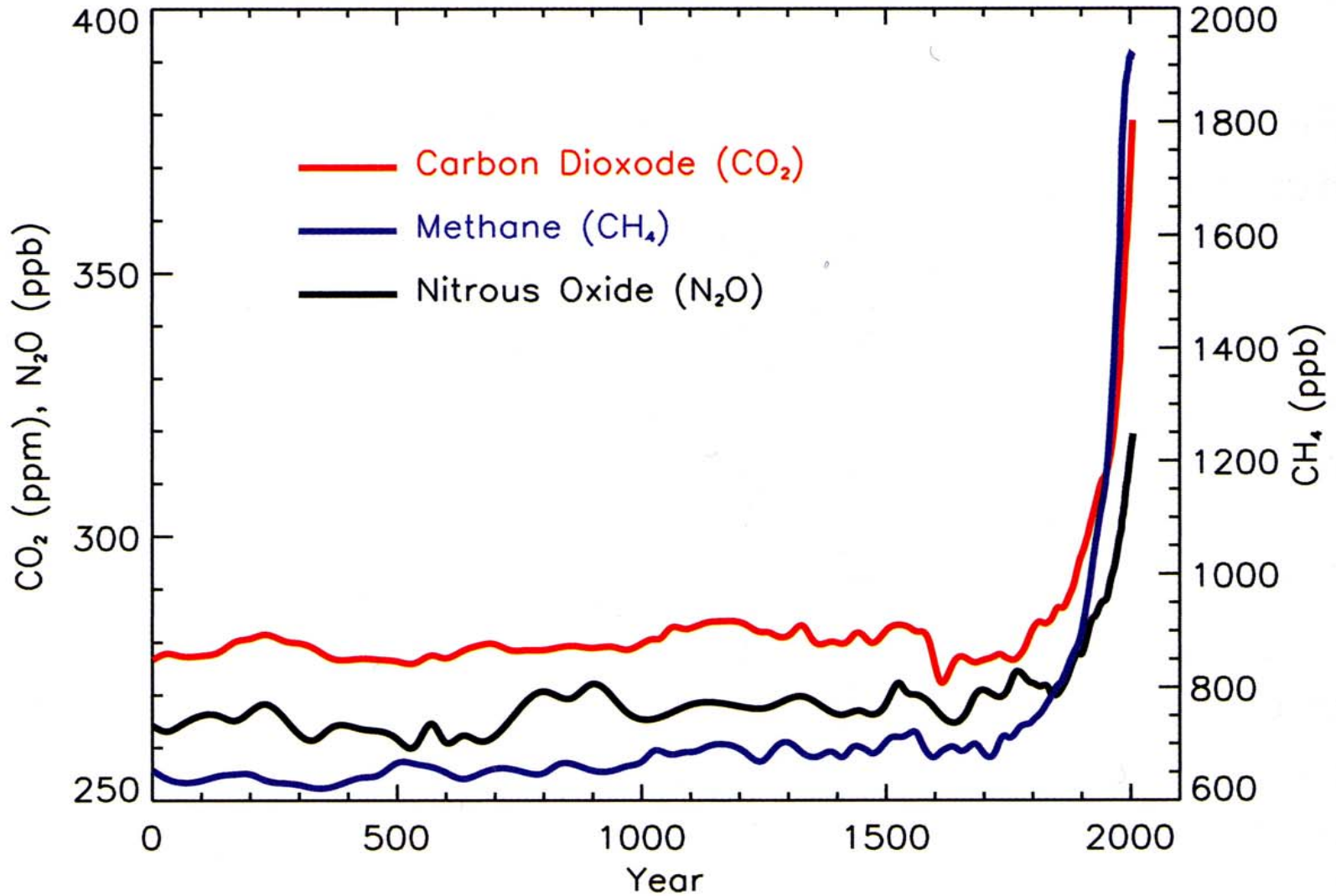
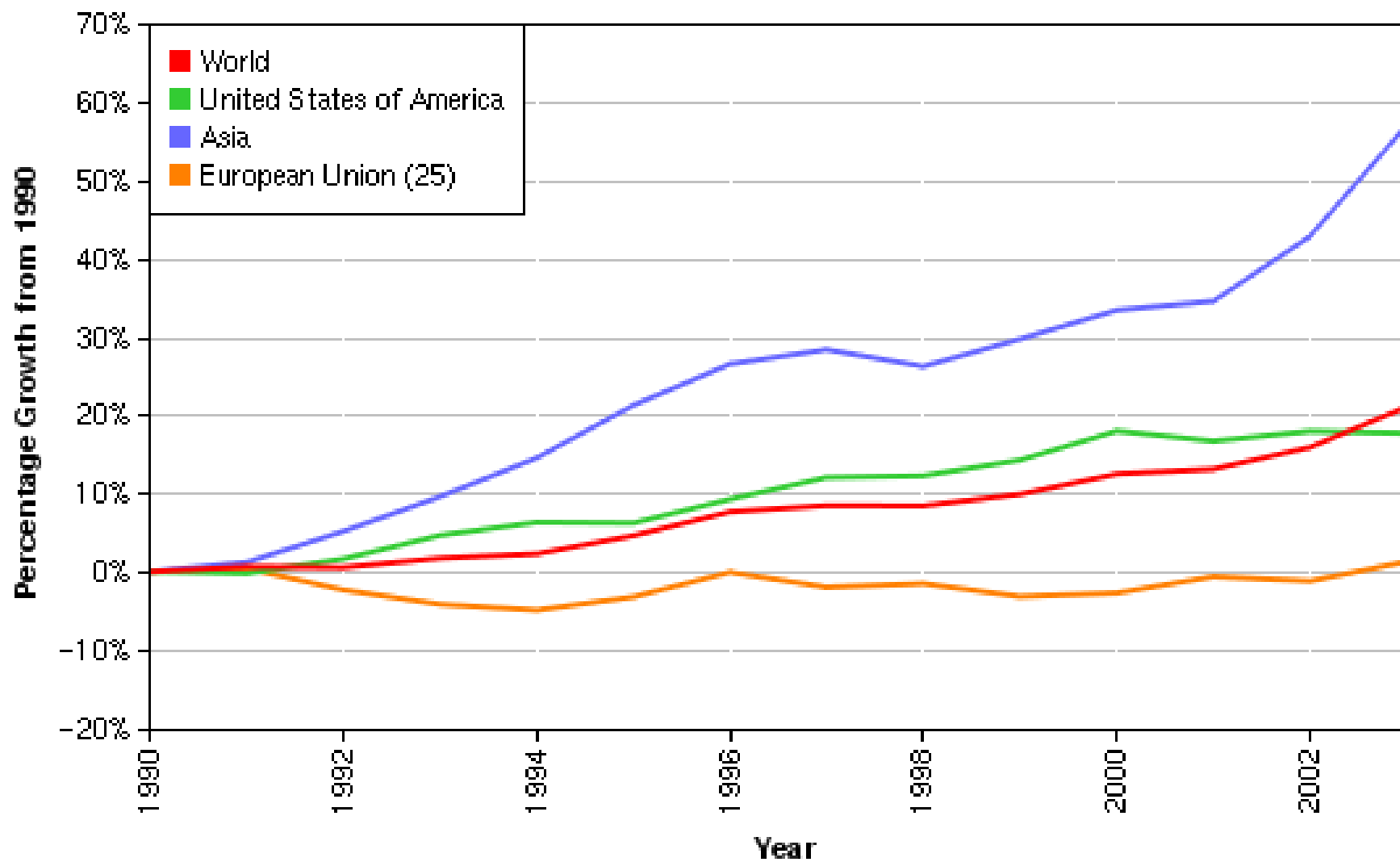


FIGURE 17: GLOBAL WARMING PROJECTIONS (IPCC A2 SCENARIO) - ROBERT A. ROHDE

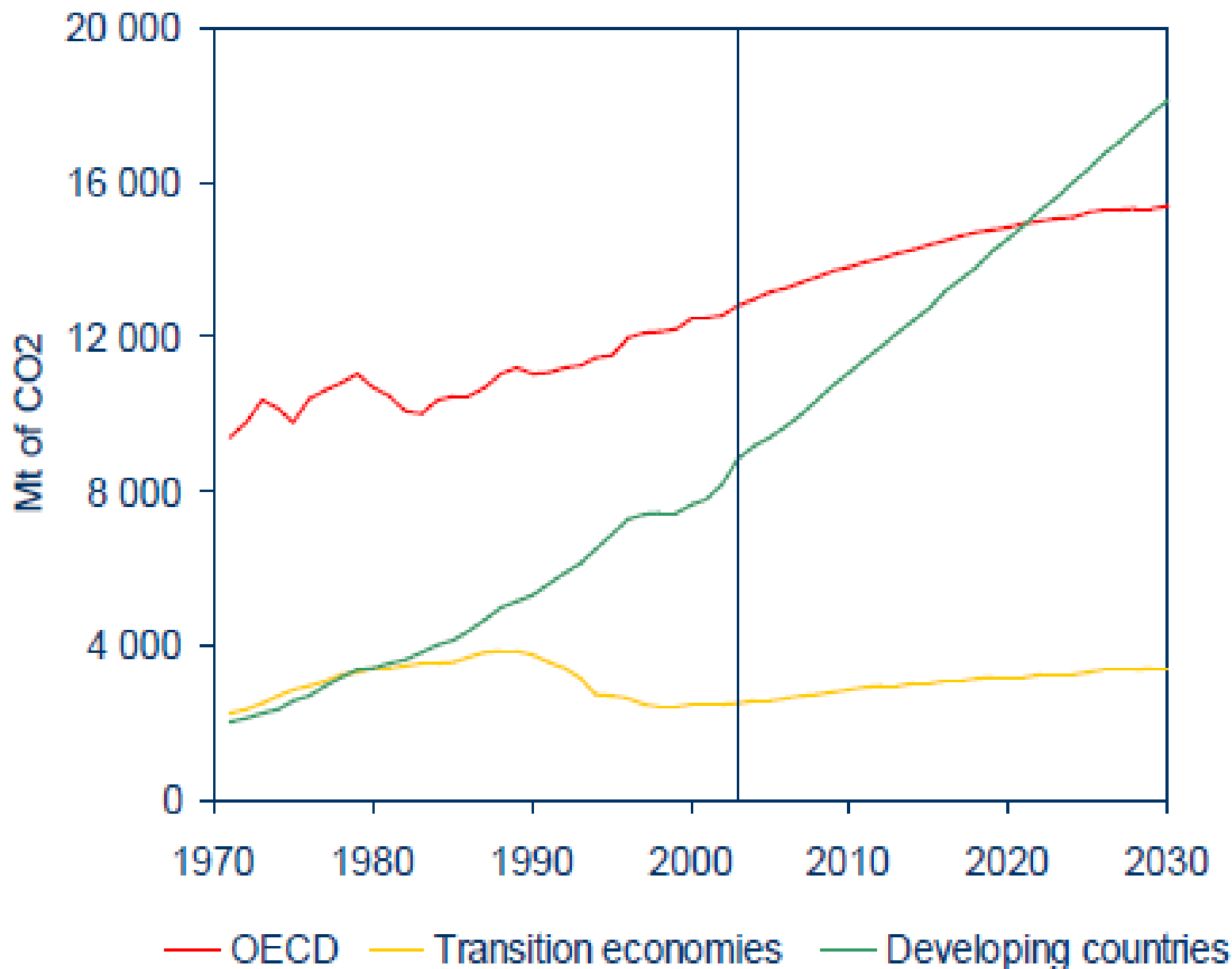
Concentrations of Greenhouse Gases from 0 to 2005



National CO2 Emissions, 1990-2003



World Energy-Related CO₂ Emissions



GLOBAL CHALLENGES ENVIRONMENTAL SUSTAINABILITY

- **Recommendations**

- **Credibility of the scientific models as the foundation for applicability of recommendations**

- **Who makes recommendations and who should apply them**

- **Outcome of scientific diagnoses or reduced to what is practically possible**

- **Half-measures may appear hardly effective**





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GLOBAL CHALLENGES

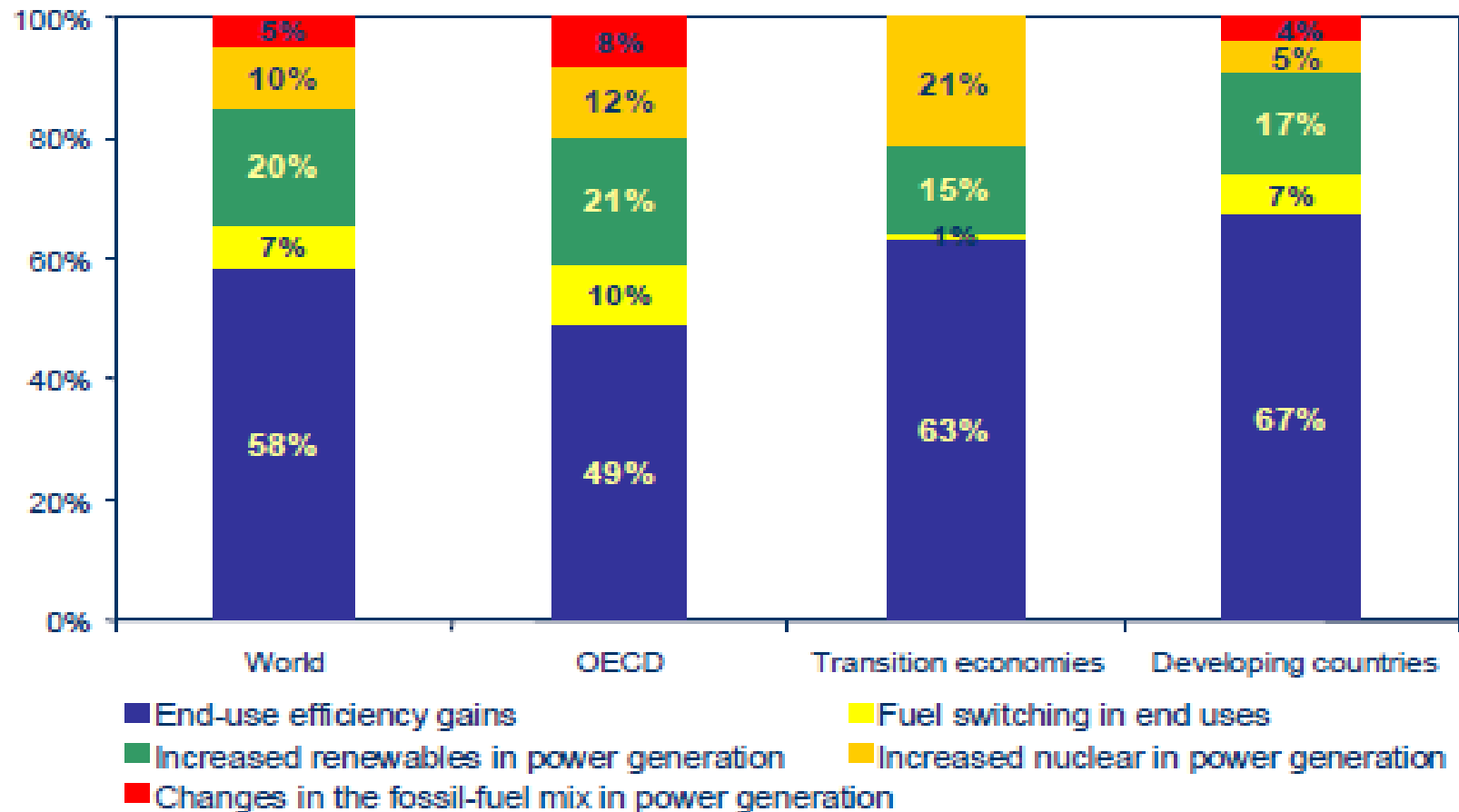
ENVIRONMENTAL SUSTAINABILITY

- **Policy actions**

- **Short term political cycle and long term actions needed**
- **Practicability and financial feasibility**
- **Allocations of burdens**
- **Danger of doing too little, too late and by few**

How ICT CAN DURABLY CONTRIBUTE TO THE WELLBEING
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Contributory Factors in CO₂ Reduction 2003-2030



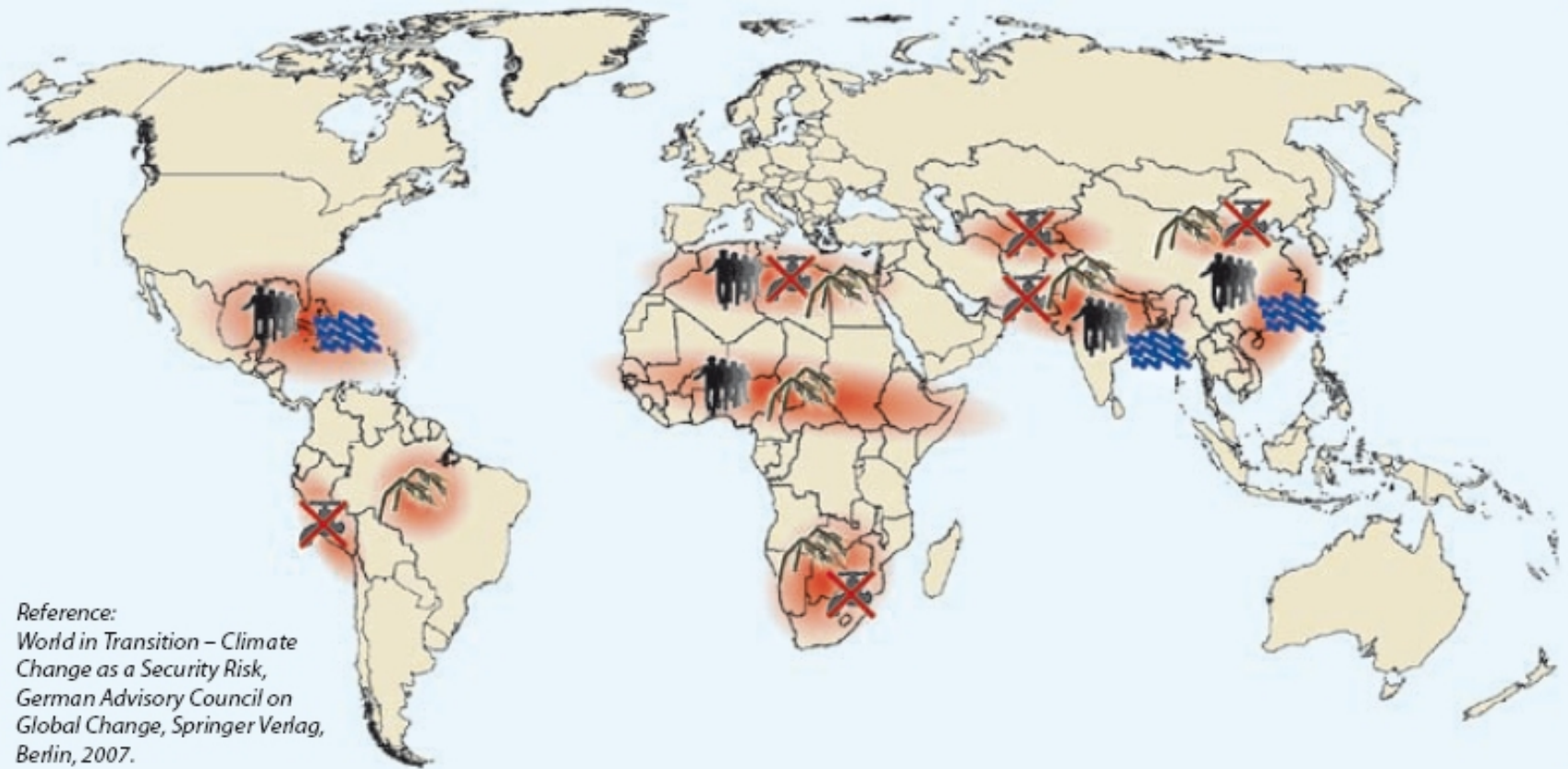
GLOBAL CHALLENGES ENVIRONMENTAL SUSTAINABILITY

- **Enforcement**

- **Challenge of internalising of external costs**
- **Free rider versus late comer problem**
- **Complex rules imply complicated implementation**
- **Challenge of global, regional national and local governance**
- **Challenge of ensuring implementation by economic operators, consumers, local and national governments**

GLOBAL CHALLENGES ENVIRONMENTAL SUSTAINABILITY

- **Feedback and re-assessment**
 - **Need for verification of diagnoses**
 - **Case for amending recommendations**
 - **Necessity for critical review of policy actions taken**
 - **Verifying whether implementation is only formal or of real substance**
 - **Side and unwanted/unexpected effects**



Conflict constellations in selected hotspots



Climate induced degradation of freshwater resources



Climate induced decline in food production



Hotspot



Climate induced increase in storm and flood disasters



Environmentally induced migration

EUROPE'S RESPONSE SO FAR

- **Leading role in UNFCCC negotiations**
- **Political aims 20/20/20**
- **Adoption of Climate and Energy Package**
- **Internal efforts – external encouragement**

IS EU CLIMATE STRATEGY EFFECTIVE?

- **Unilateral EU emissions reductions are insufficient but politically extremely important**
- **Testing carbon market based instruments within EU contributes to development of a global carbon market**
- **Promoting higher mandatory standards or promoting investments can speed-up world wide technological change**
- **Creation of financial or other instruments to support poorer regions in reducing emissions of GHG**

IS EU CLIMATE STRATEGY EFFECTIVE?

- **If not followed or reciprocated Europe's actions alone would not be sufficient**
- **The overall immediate, and global solution could be most effective, but what is possible is a gradual, step by step, region by region approach**
- **Better technologies, more funds are indispensable but not sufficient to achieve progress**
- **In a long run actions which are comprehensive, continuous, consistent and coordinated globally can ensure real change**
- **ICT have got role to play**

