

**Conference on Comparing Green Economy and Socio-ecological Movements in  
China and Europe**

18-19 November 2011, Beijing , *Renmin University*

**Paths to sustainability: Opportunities,  
problems, driving forces and  
the importance of environmental movements**

**Josef Baum**

[www.josefbaum.at](http://www.josefbaum.at)

[josef.baum@univie.ac.at](mailto:josef.baum@univie.ac.at)

**University of Vienna - Department for East Asian Studies**

Altes AKH, Spitalgasse 2-4, Hof 2, 1090 Wien,  
T: +43 1-4277-43852 , M: +43 664 1142298

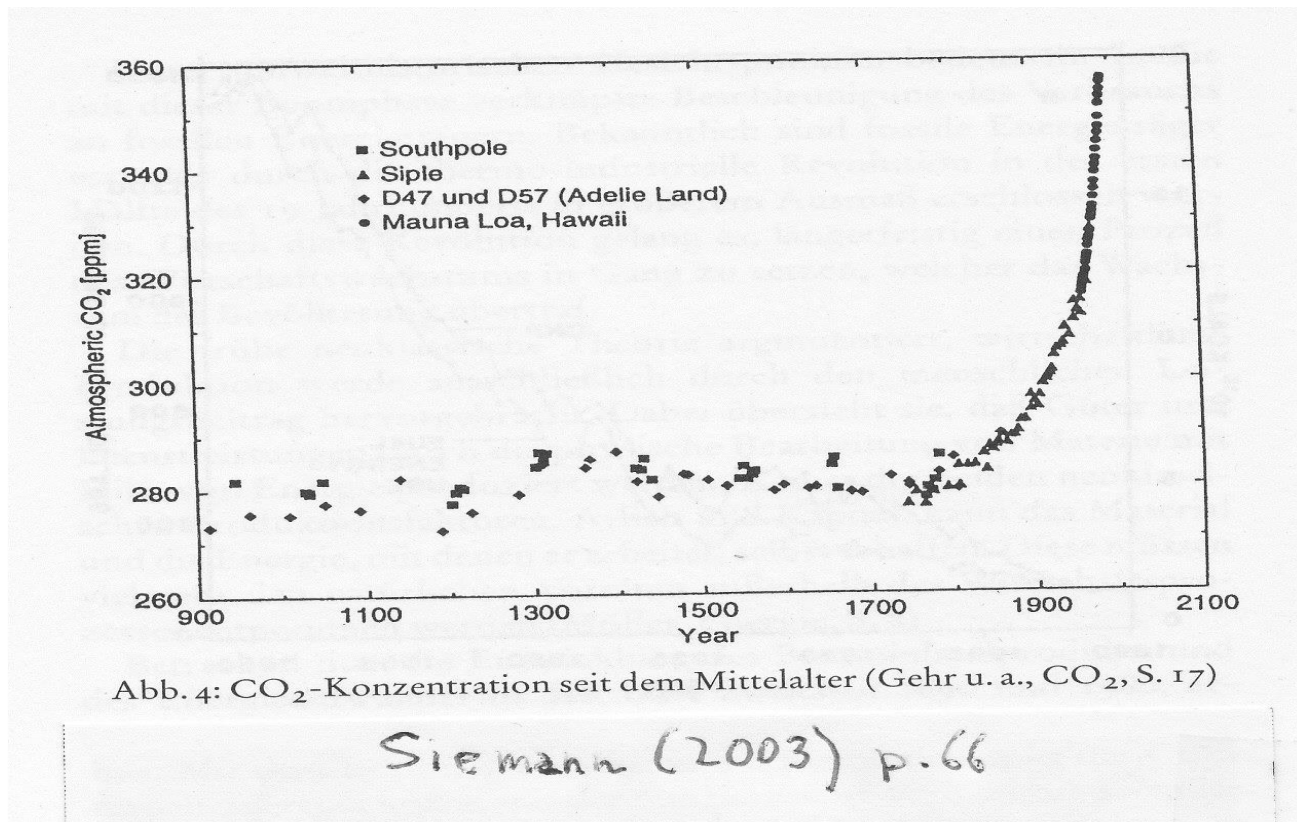
# 20 years of climate policy

- 2012: Rio+20
- Some good practice
- But no turn-around
- FLOPenhagen
- Can we afford another such 20 years?



# ***Accumulation of pollutants e.g. CO<sub>2</sub> – greenhouse gases***

(exponential) processes continue



# **Current harbingers of ecological crises or/and climate change**

- Floods at present in **Thailand** or last year **Pakistan**,
- growing hunger in **East Africa**,
- sweeping summer fires in **Russia**,
- the **Fukushima** accident
- the **price rallies** for **food** and many basic commodities

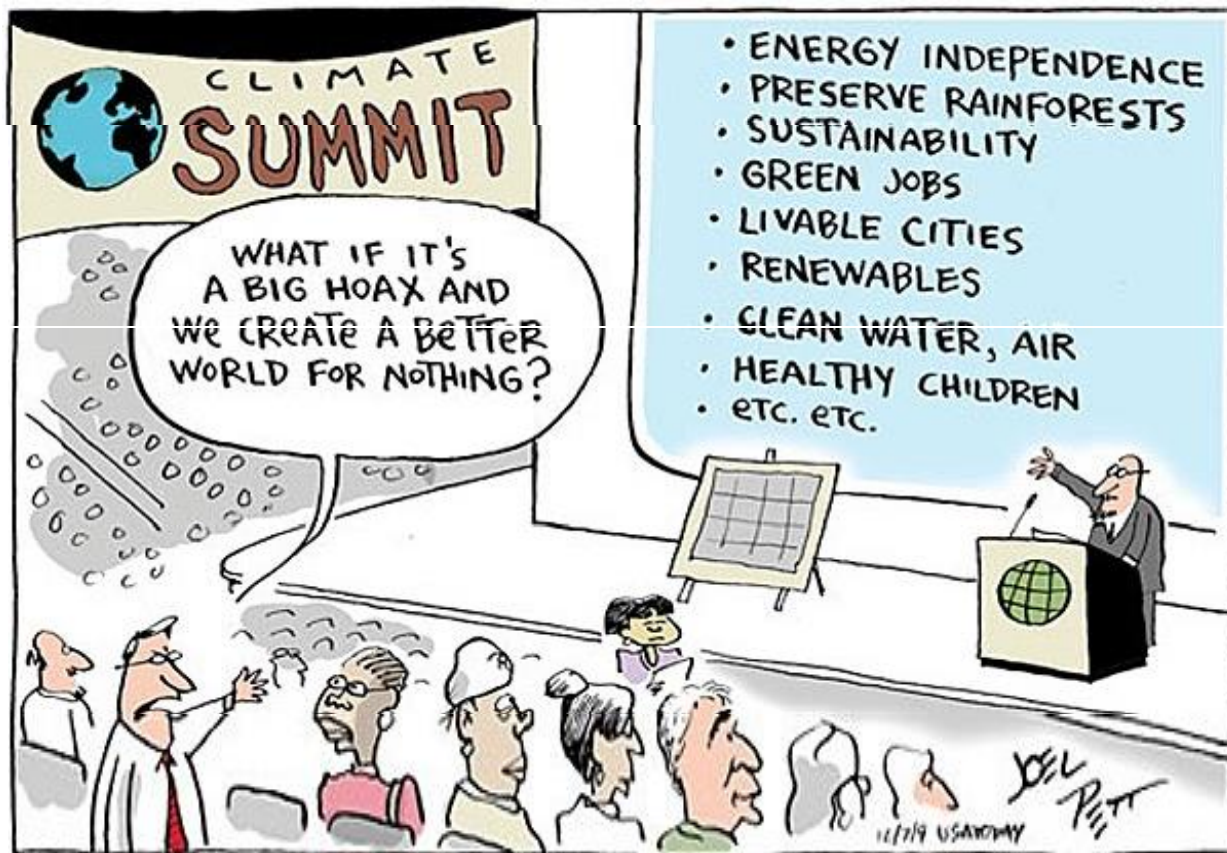
# How to change

Climate change is **man made**, more precisely: strengthened significantly by parts of mankind

This is a good message: **yes, WE CAN change it**

Ethics and responsibility is important, but also:

- Scientific analysis of development
- **Identification of actors of transformation** to sustainability
- Challenges AND **chances**: ./.



# Beyond “safe operating space” towards **“unknown territory”**?

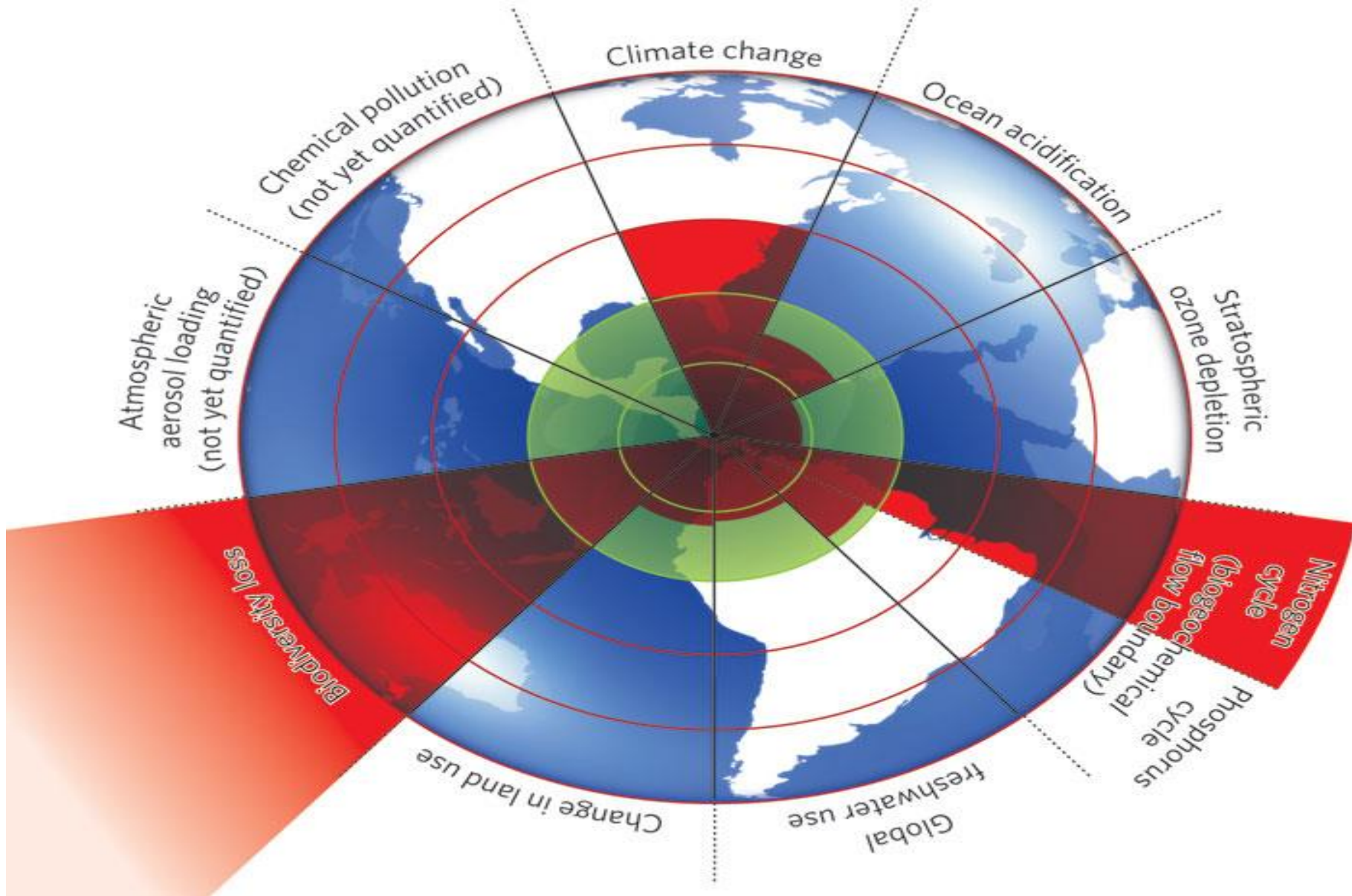
One of the most influential article in the last years:

- A safe operating space for humanity
- Johan Rockström, Will Steffen, Kevin Noone, Åsa Persson, F. Stuart Chapin, III, Eric F. Lambin, Timothy M. Lenton, Marten Scheffer, Carl Folke, Hans Joachim Schellnhuber, Björn Nykvist, Cynthia A. de Wit, Terry Hughes, Sander van der Leeuw, Henning Rodhe, Sverker Sörlin, Peter K. Snyder, Robert Costanza, Uno Svedin, Malin Falkenmark, Louise Karlberg, Robert W. Corell, Victoria J. Fabry, James Hansen, Brian Walker, Diana Liverman, Katherine Richardson, Paul Crutzen & Jonathan A. Foley
- Nature 461, 472-475(24 September 2009)
- The inner green shading represents the proposed safe operating space for nine planetary systems. The red wedges represent an estimate of the current position for each variable. The boundaries in three systems (rate of biodiversity loss, climate change and human interference with the nitrogen cycle), have already been exceeded.

» ./.



# Beyond “safe operating space”



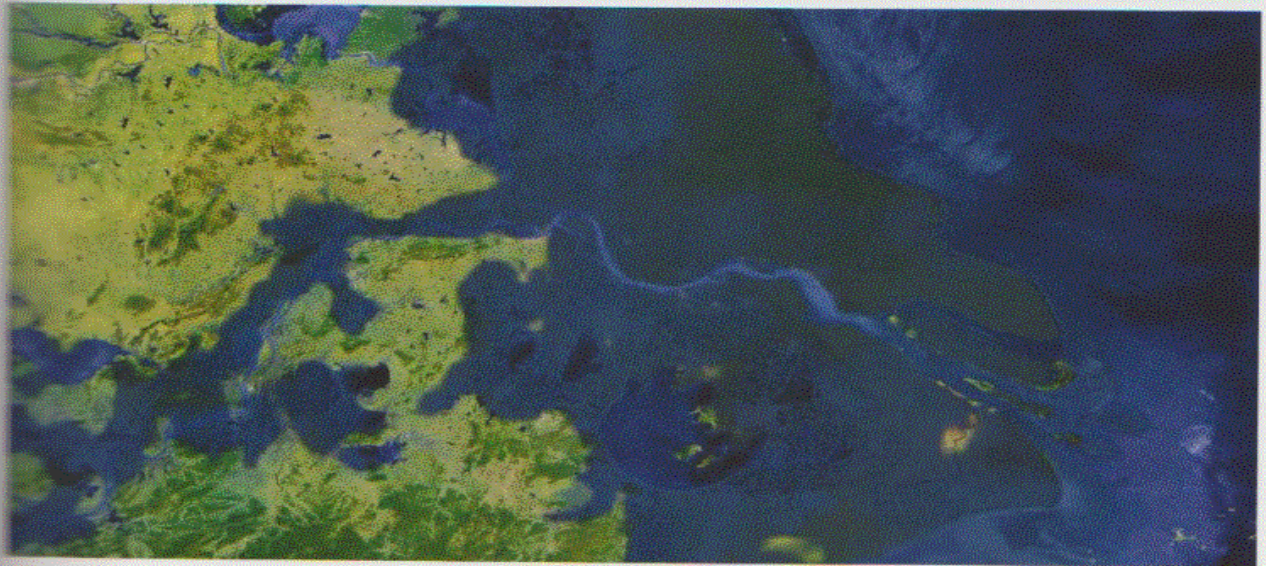


**Effect of  
melting of  
total ice of  
Greenland  
→ Sea  
level rises  
+6m!**

***Shanghai  
region: 40  
million  
people  
would be  
forced to  
move***

***source: Al Gore -  
An Unconvenient  
Truth, 2006, p 204***

In Shanghai and the surrounding area,  
more than 40 million people would be  
forced to move.



# **Energy as central factor**

- **Energy connects climate change via emissions of CO<sub>2</sub> of fossil energy**
- **Energy has been decisive for productivity of labour**

**→ Energy issues can be seen as pivot:**

***E.g. food prices are highly correlated to energy prices, because in food there is incorporated much fossil fuel***

# **Essential new coordinates: DEADlines**

Environmental crises are no new  
phenomena

**But** there are essential news by  
climate change: **DEADlines** by  
irreversibility and self-accelarating

## Shifting parallelograms of power

1. Although the “poor” are hit relatively stronger than the rich (although the poor hardly caused developments **also will strike the “rich”** significantly (worldwide and regional) which will also absolutely have to lose a lot.

2. The unsustainable level of social metabolism (input from nature and “output” to nature) in the developed countries together with the **broad industrialisation** of emerging countries with unprecedented implications on the resource and emission side in a compressed catch-up process



# **Actors of socio-ecological transformation (1)**

Who is the subjects of concrete alternatives and who are the agencies of real paths of transformations? .

Parties and other institutions can be media of change to sustainability. But they are not automatically actors of socio-ecological transformation.

On the other side basically stakeholders are all men

## **Actors of socio-ecological transformation (2)**

Between institutions and all mankind there are environmental movements.

Europe they have been important structures of formulating common interest. And there have been much success.

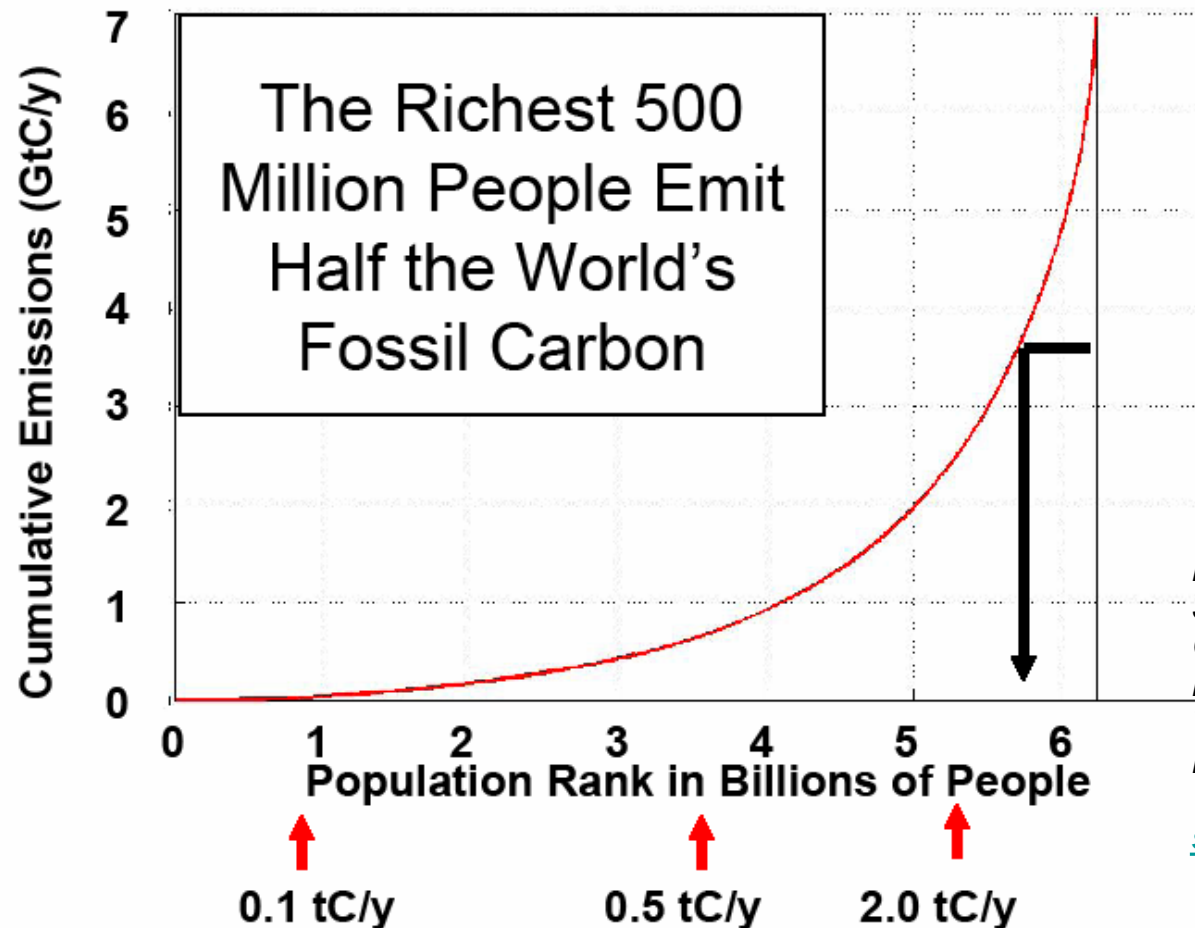


Fundamental issue of **environmental movements**

## **Asymmetric structure of the stakeholders:**

Environmental issues basically are distributional issues. The causation mostly is **asymmetric**. Basically more rich have caused much more pollution. The vulnerability and affecting mostly is inverse: the poor are hit relatively stronger

# Political ecology: climate **crisis** and global distribution



From: Pacala S.W.: *Equitable Solutions to Greenhouse Warming: On the Distribution of Wealth, Emissions and Responsibility Within and Between Nations*. Princeton, at IIASA, November 2007  
<http://www.iiasa.ac.at/iiasa35/docs/speakers/speech/ppts/pacala.pdf>

# Fundamental issues of **environmental movements**

**Causations, impacts, and contributions** for solutions differentiated along classes and other distributional criteria are to be analysed

But: strict deterministic “laws” of development do not reflect dialectics, complexity and systems theory. Interpretation in the sense of **possibilities and probabilities** are more real.

The concepts of **innovation** (connected with uncertainty and risk) and the dynamic Schumpeter-entrepreneur should also be integrated.

# Similarity of **environmental movements** to **labour movements**

- When environmental issues basically are distributional issues (for the present and future) then **environmental movements** are near and similar to the historical forms of organisations of the working class movements with specific organisations like trade unions and parties.
- But there are also differences. Especially because the environmental issues is **much more complicated** environmental movements currently are much more segmented

# Crisis as possibility

The current crisis could (and should) be used to make fundamental necessary changes towards sound economic structures, saving fossil energy and costs for imports by **investments in more energy productive technology and attractive public environmentally friendly transport.**

The banks in Europe can transform their focus from speculation to financing the accelerated turn to sustainability

.

# Innovation and encouraging evidence

Analytic evidence about positive correlation of innovation in the field of resource productivity and economic performance on the company level.

## **Hypothesis:**

**The competition of systems will be decided by the ability to organize aradical improvement of resource productivity in a comprehensive sense**



# “Common but differentiated responsibility”

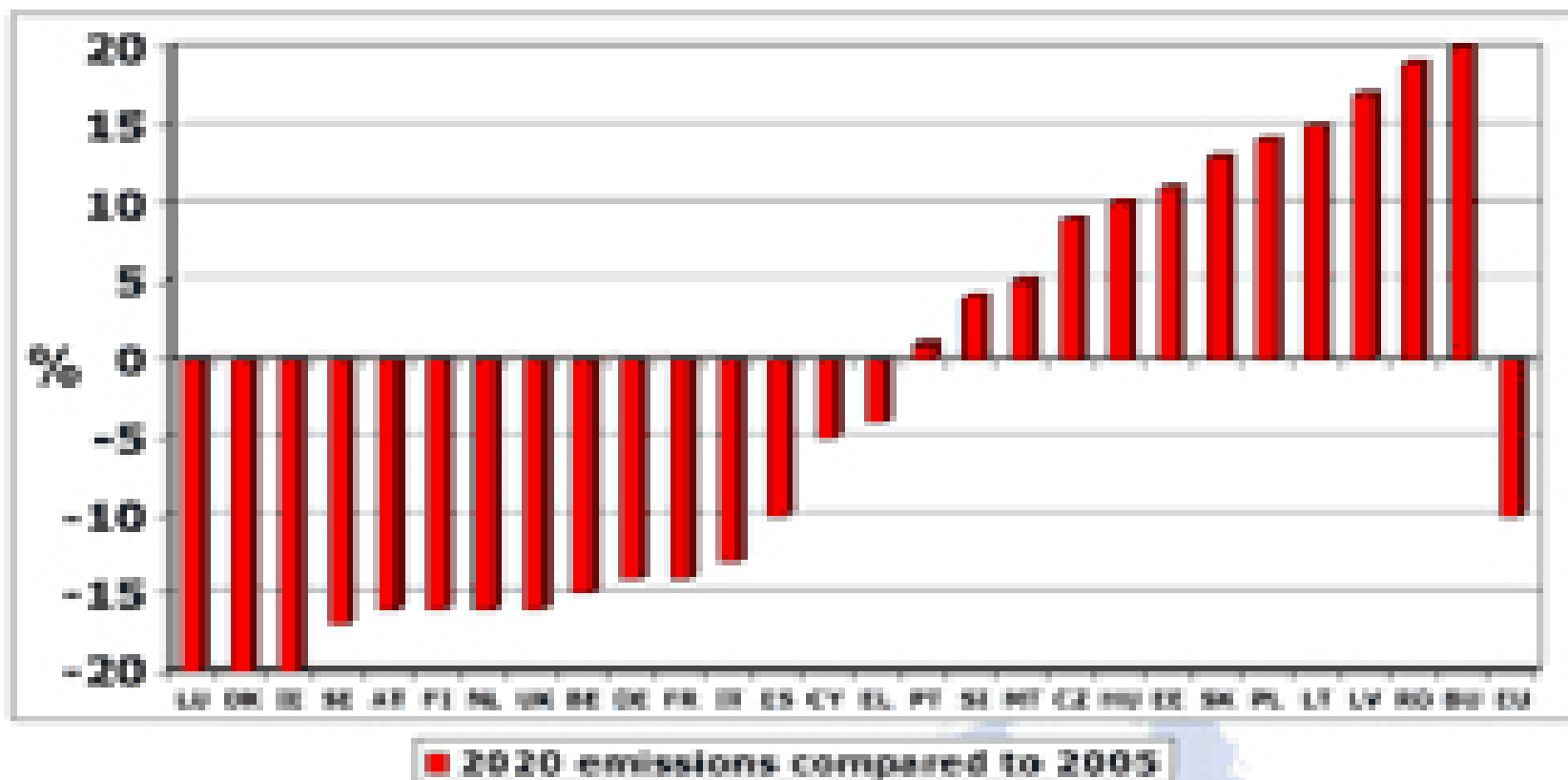
Rio 1992

- Experiences of Copenhagen: Solutions for the fundamental resource and emission problems are only stable by “fair” distribution (on global and various other levels)
- Anyway "**Simultaneous**" **solutions** for many problems – resources, emissions, distribution and development - **are necessary** and possible.
- Hypothesis: **In the 21<sup>st</sup> century there will fair solutions for climate change and other environmental issues or no solutions.**

# Burden sharing for 20/20/20 within the EU (2)



Effort Sharing targets for 2020 compared to 2005 emissions levels



# **Distributional effects of climate change**

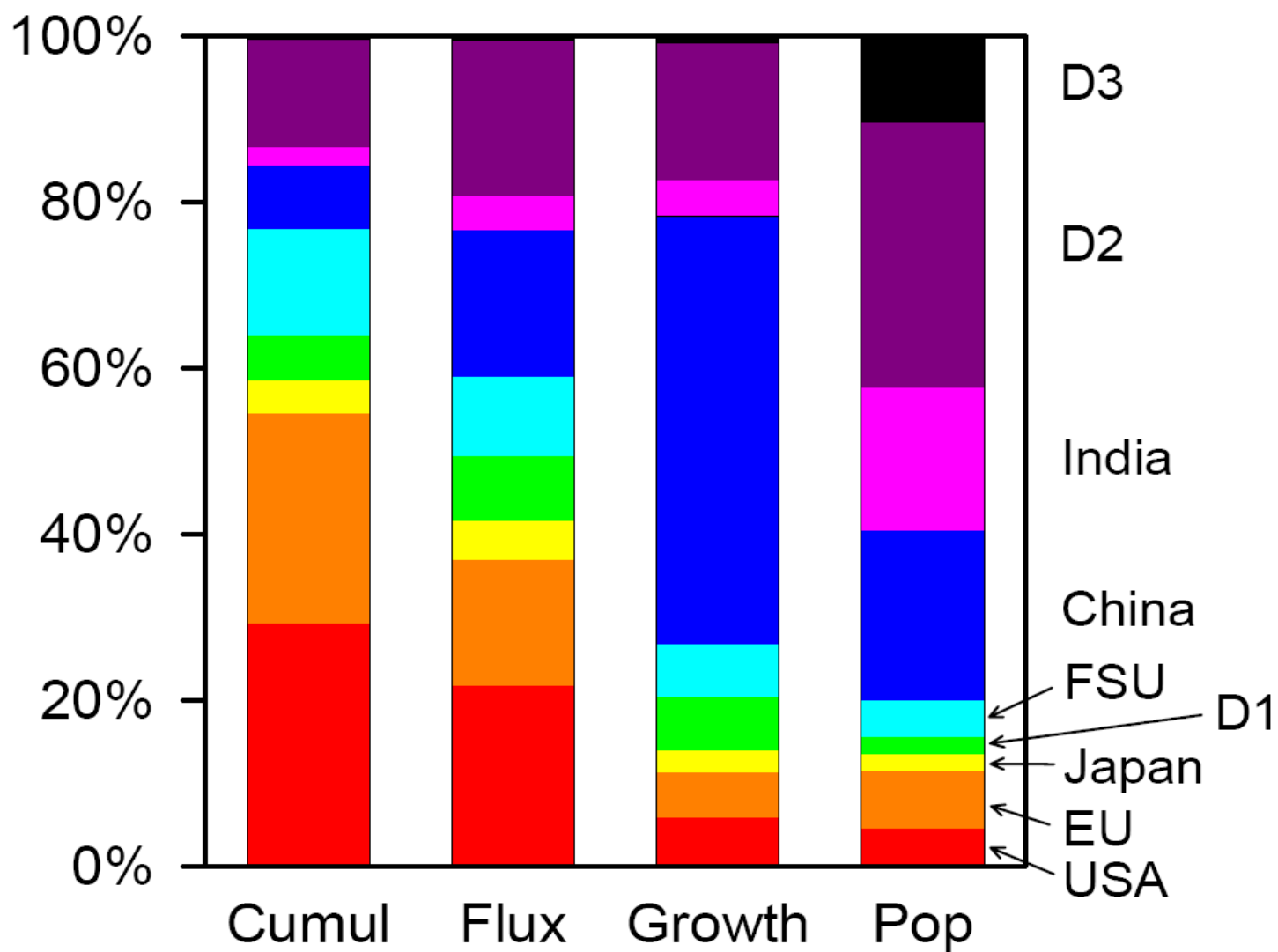
for:

- **Mitigation**
- **Adaptation**
- **Vulnerability-Impacts-Risk**

**Additionally to all other factor of distribution (class, gender...)**

**Very different concepts of justice and fairness: e. g.**

- **Responsibility for historic accumulation**
- **Current flux**
- **Current growth**
- **Share of population   ./.**



# **Only fair solutions are stable solutions**

The socio-ecological approach can be integrated in the old issue of equal rights:

- the concern for stable ecological systems refers to the vertical equality between current and future generations needing sound fundamentals,
  - and the current distribution refers to the horizontal equality between classes, regions and other dimensions.
- 
- Fairness and equality put questions for the historic responsibility of the accumulation of greenhouse gases.

**Not only to change the world but to protect it.**

- The **ecological imperative** of Hans Jonas is:  
Act so that the implications are compatible with the permanence of genuine human life on earth.
- Referring to Feuerbach Marx mentioned that philosophers interpreted the world in different ways but the point is to change it. The addition would be:

**not only to change the world but to protect it.**