Sustainable Production, Consumption and Eco-Efficiency

Presentation at the Panel on Sustainable Consumption and Production SCP

Intergovernmental Preparatory Meeting (IPM) for CSD-19, United Nations, New York, March 3, 2011

Dr. Joachim H. Spangenberg

Vice Chair, SERI Sustainable Europe Research Institute, Cologne

Professeur invite, Université Versailles Saint-Quentin-en-Yvelines

What is SCP?

Essentially sustainable development,
but another way to slice the cake
with focus on producers and consumers.

Governments
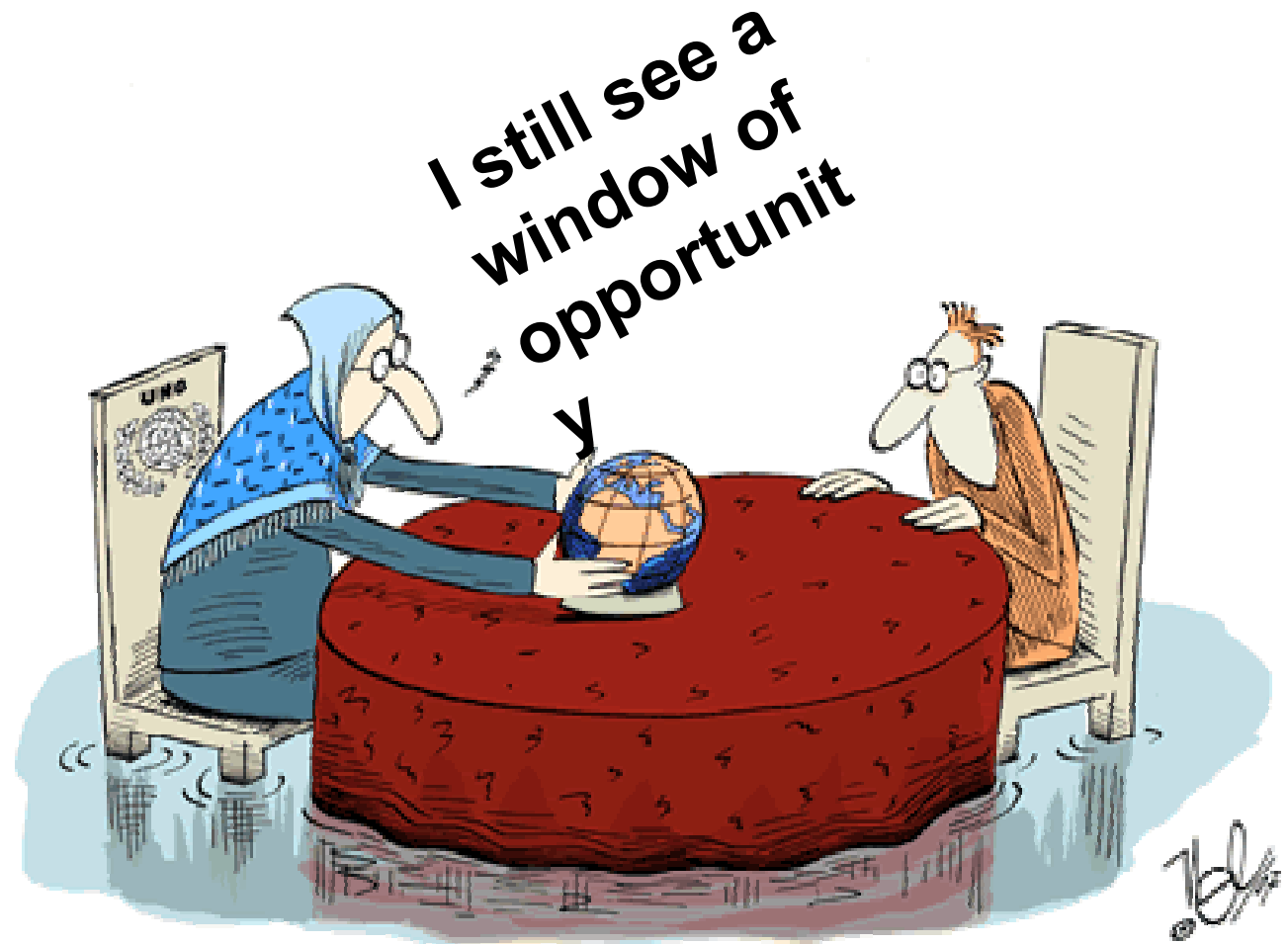are involved as producers, consumers
and regulators

Consequently
Objectives do exist: MDGs, Cancun, Nagoya,...
SCP specific goals have to be derived from them

Objectives already exist
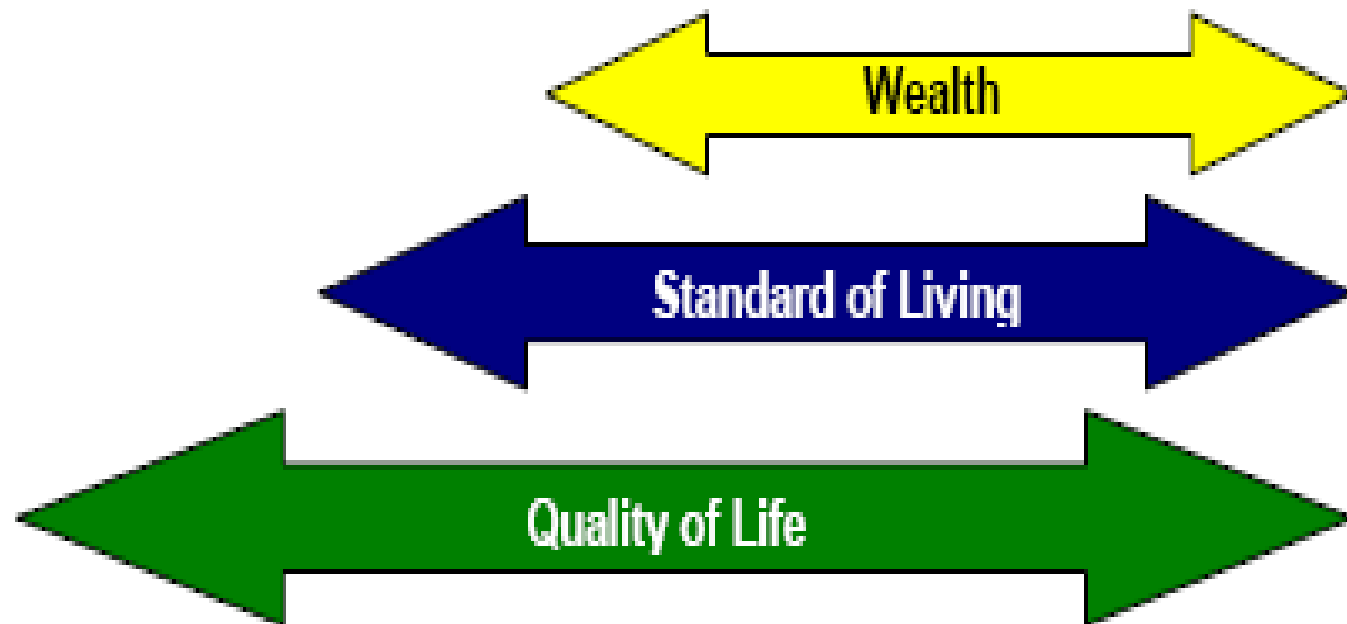
Deriving corres- ponding goals is urgent

I still see a window of opportunity

Climate trend projection

Factors contributing to the quality of life

$$\text{Quality of Life} = \frac{\text{Satisfaction}}{\text{Service}} \times \frac{\text{Services}}{\text{Product}} \times \frac{\text{Products}}{\text{Resource use}} \times \text{Resource consumption}$$

← Wealth →

← Standard of Living →

← Quality of Life →

Sustainable Production

Source: J.H.Spangenberg

Sustainable Production & Consumption

$$\frac{\text{Consumer satisfaction}}{\text{Resources activated}} =$$

$$\frac{\text{Consumer satisfaction}}{\text{Services consumed}} \times \frac{\text{Services consumed}}{\text{Services generated}} \times$$

$$\frac{\text{Services generated}}{\text{Physical input}} \times \frac{\text{Physical input}}{\text{Resources activated}} =$$
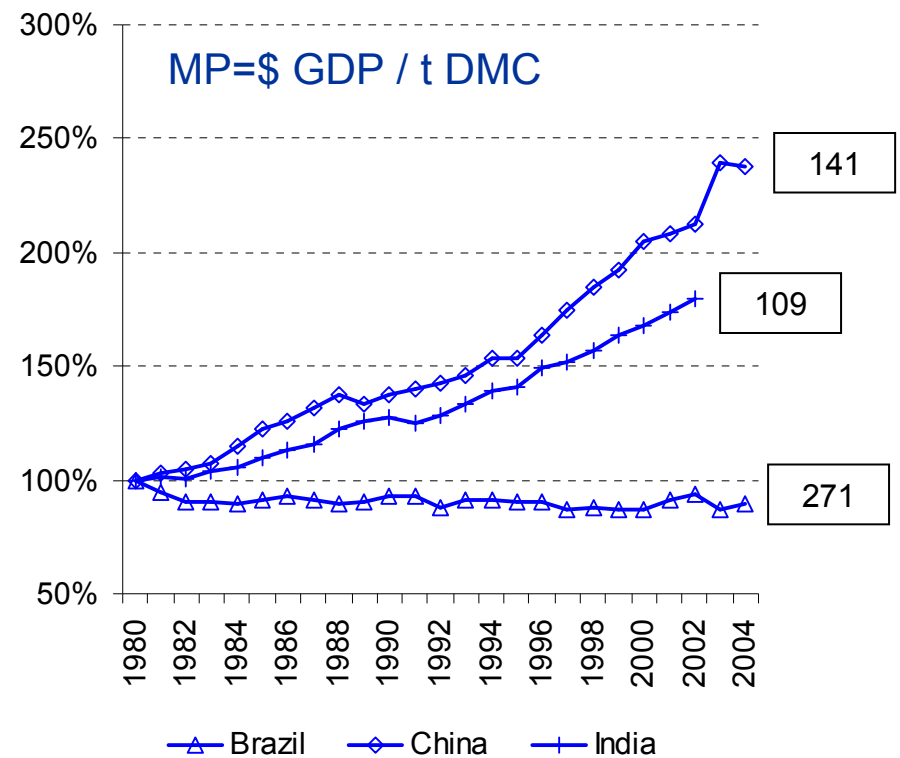
Satisfaction efficiency x **supply efficiency** x production efficiency x provision efficiency

Sustainable Production: increasing material productivity 1980-2005
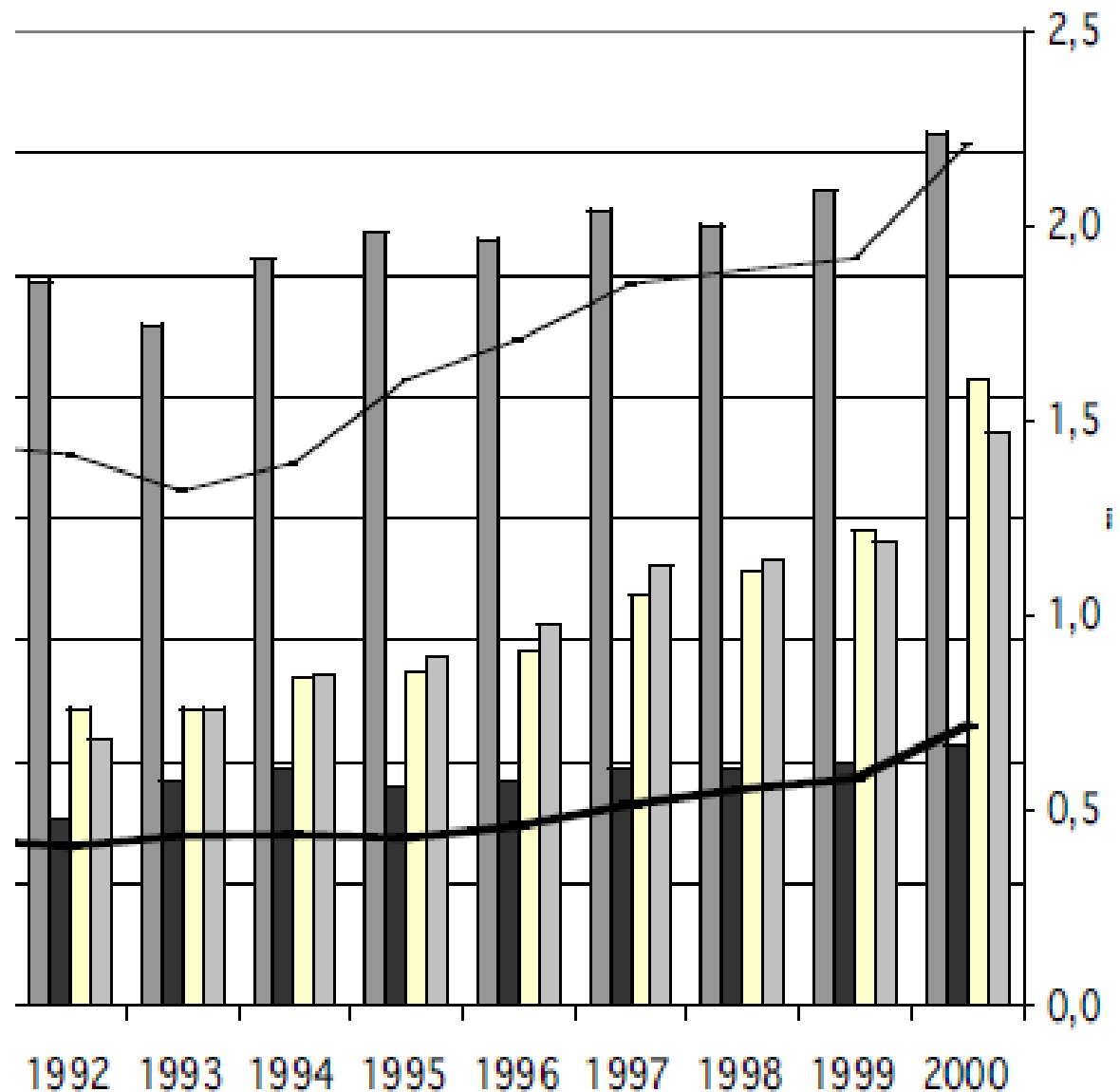
Industrial countries

MP=$ GDP / t DMC

3175
1486
1258

Legend: EU 15 — USA — Japan

Developing countries

MP=$ GDP / t DMC

141
109
271

Legend: Brazil — China — India
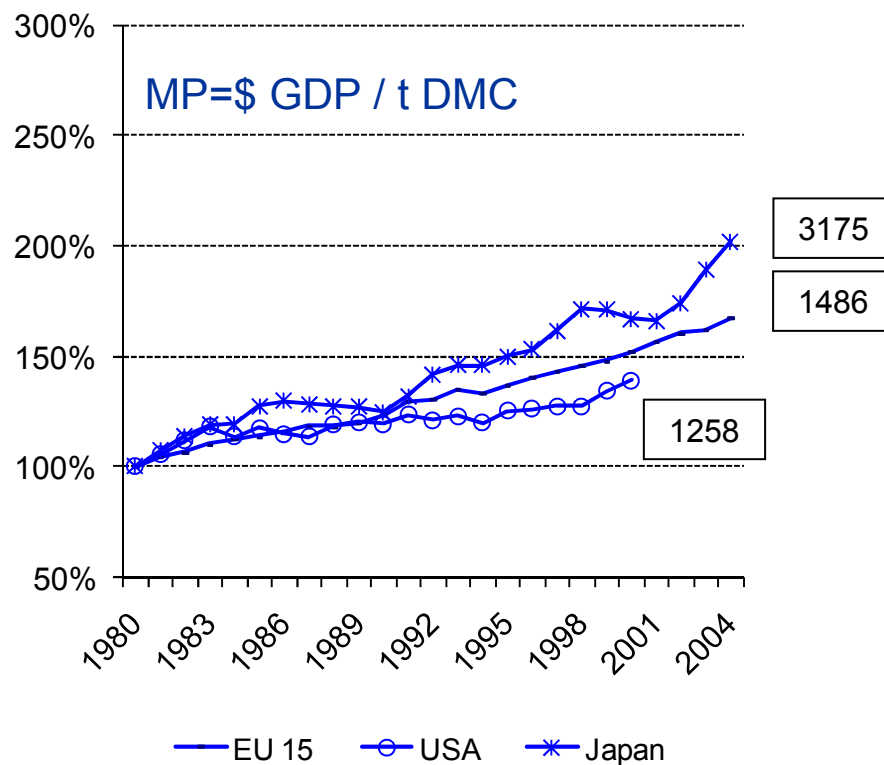
More sustainable production, less sustainable consumption: EU Trade balance trends
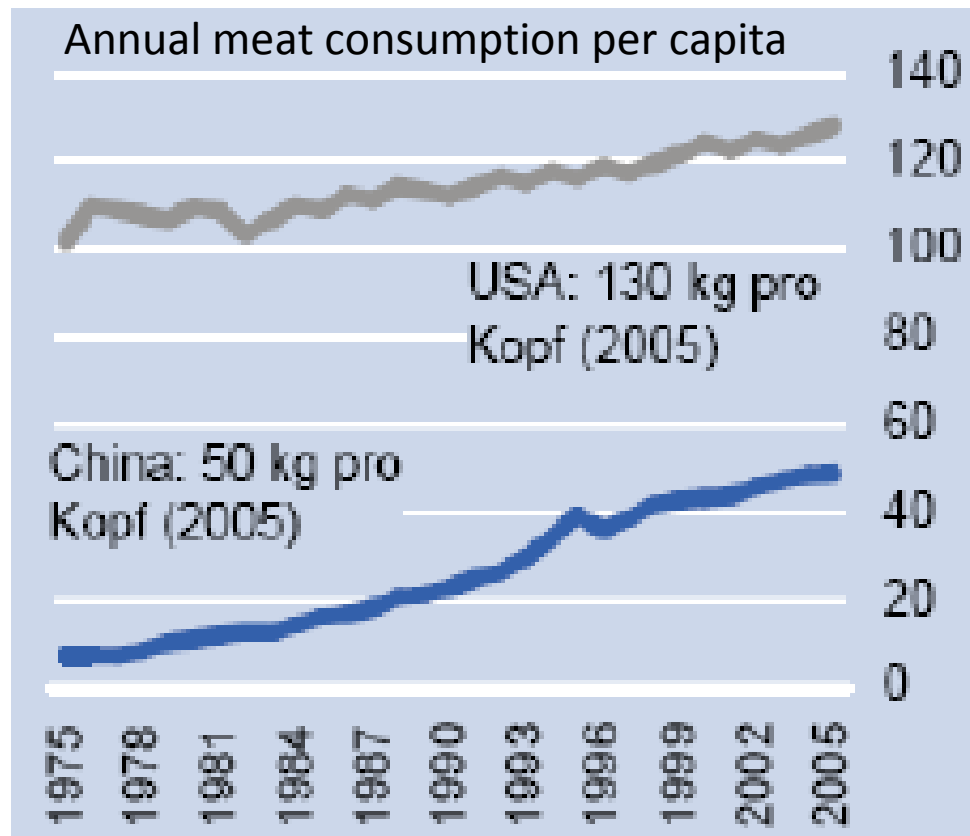

Physical imports (grey) and exports (black) in million t, lines and columns.

Monetary imports (white) and exports (grey) in billion €/ECU, columns

Consumption is the key driver, globally

(not population)

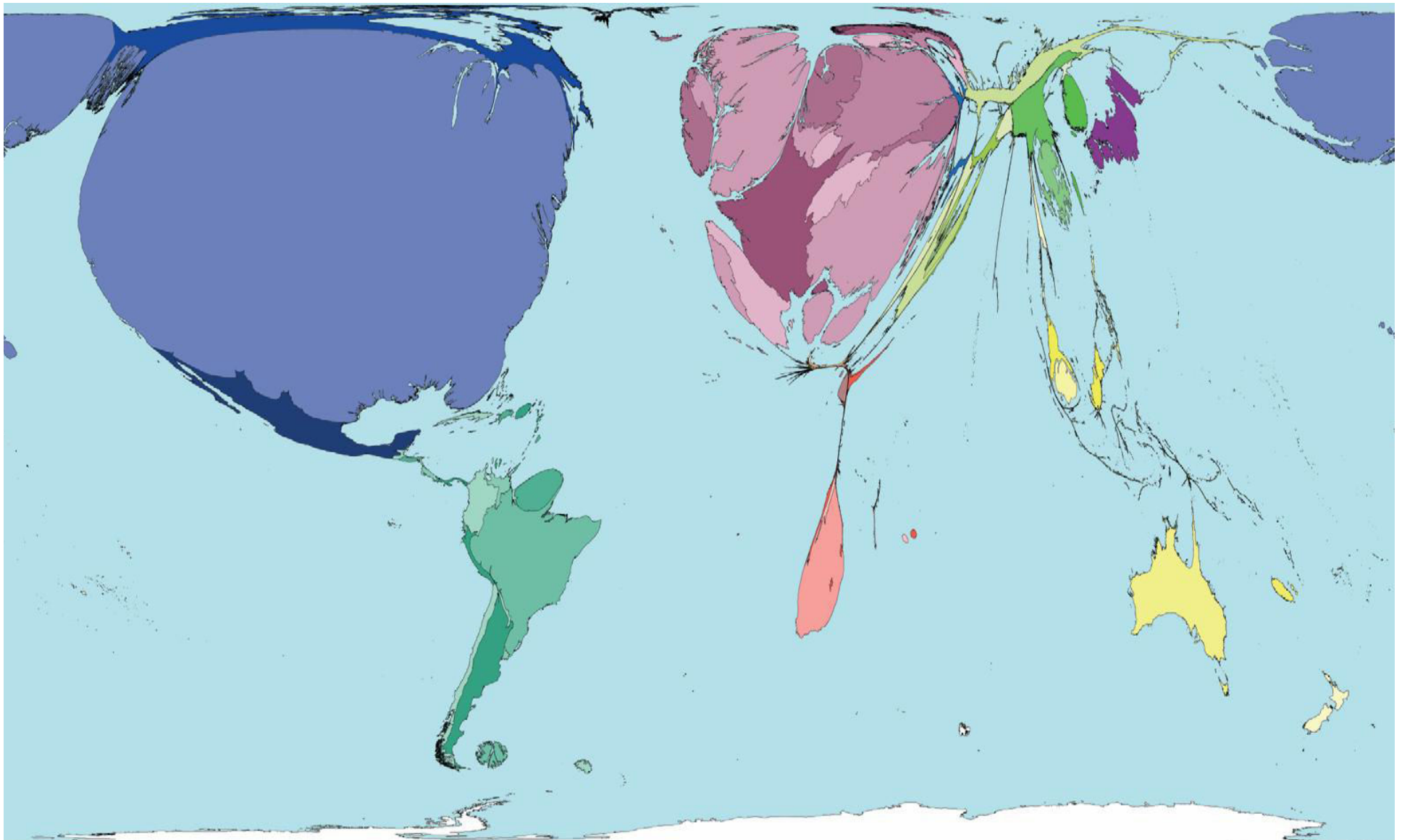Annual meat consumption per capita

USA: 130 kg pro Kopf (2005)

China: 50 kg pro Kopf (2005)

Worldwide car fleet, bn

United States · China · Other developing economies
Other advanced economies · India

FORECAST

Source: IMF

Linea de dignidad:
There is a lower threshold for consumption to be sustainable

Overconsumption: environmentally unsustainable

Env. maximum of permissible ES use

Available ES/cap

Sustainable Lifestyles

=Social minimum of necessary ES use

Poverty and Need: socially unsustainable

Inhabitants with a per capita income above 200 US $ a day (total: 53 million, 2002)

Inhabitants with a per capita income
below 1 US $ a day (total: 3.5 billion)
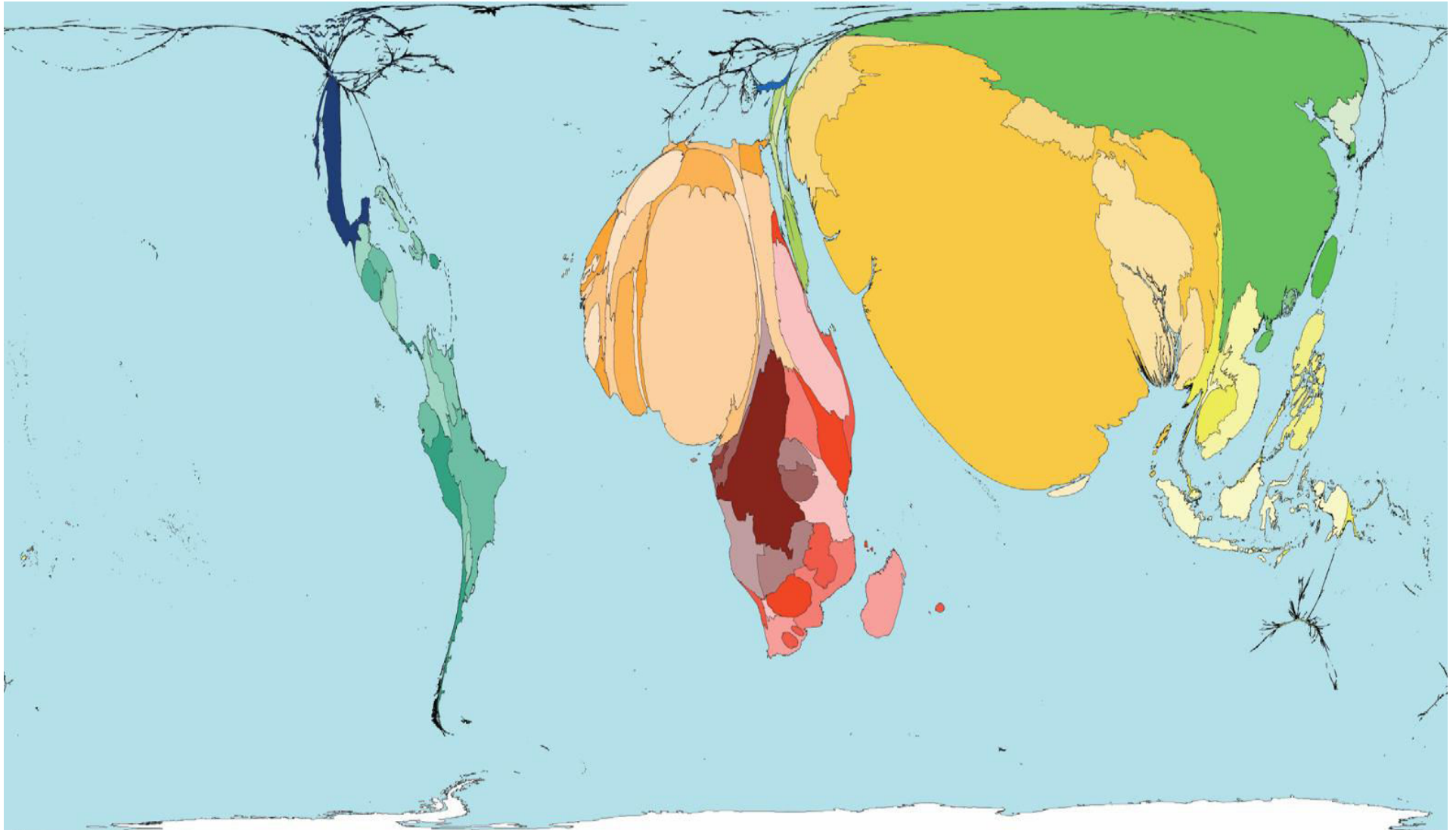
Env. Sustainable Consumption

$$\frac{\text{Consumer satisfaction}}{\text{Services consumed}} \times \frac{\text{Services consumed}}{\text{Services generated}} \times$$

$$\frac{\text{Services generated}}{\text{Physical input}} \times \frac{\text{Physical input}}{\text{Resources activated}} =$$

Satisfaction efficiency x **supply efficiency** x
production efficiency x provision efficiency

Three Conditions of Change

- **Personal affordability:** Knowledge and motivation, the individual willingness to change

- **Social affordability:** Acceptance, even better desirability of changed consumption patterns in the eyes of relevant peer groups

- **Economic affordability:** Access to suitable alternatives, without disproportional excess effort (price, transaction cost)

Sustainable Consumption:

Three priority fields for action

Consumption clusters	Influence of private households	Env... relevance
Clothing	X	
Education/ training		X
Food	**X**	**X**
Health care		X
Construction/housing	**X**	**X**
Hygiene	X	
Cleaning	X	
Recreation	X	
Social life		X
Transport	**X**	**X**

Blue: household priorities. Black: public priorities.
Grey: no priorities

Three Kinds of Tools

available:
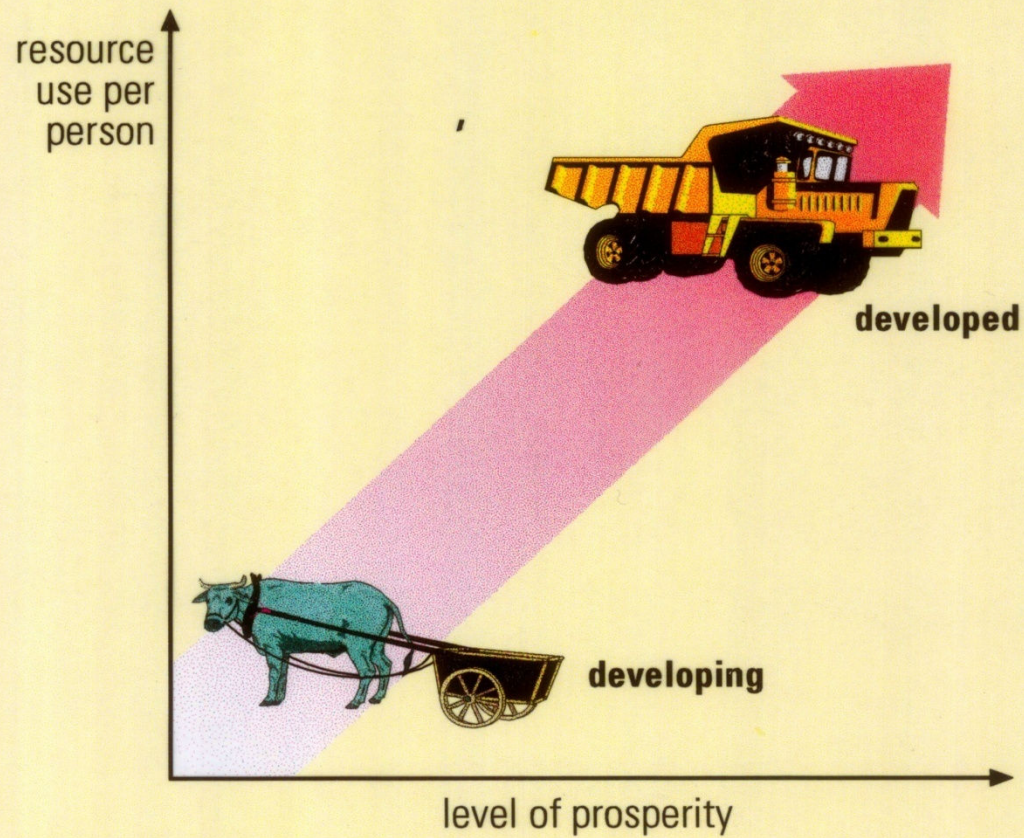legal §, economic €, informational i

suitable:

Tool Affordability	§	€	i
Personal	o	+	++
Social	o	(+)	(+)
Economic	++	+	o

used: i, i (labelling), €, i, i, €, i, i, i, …

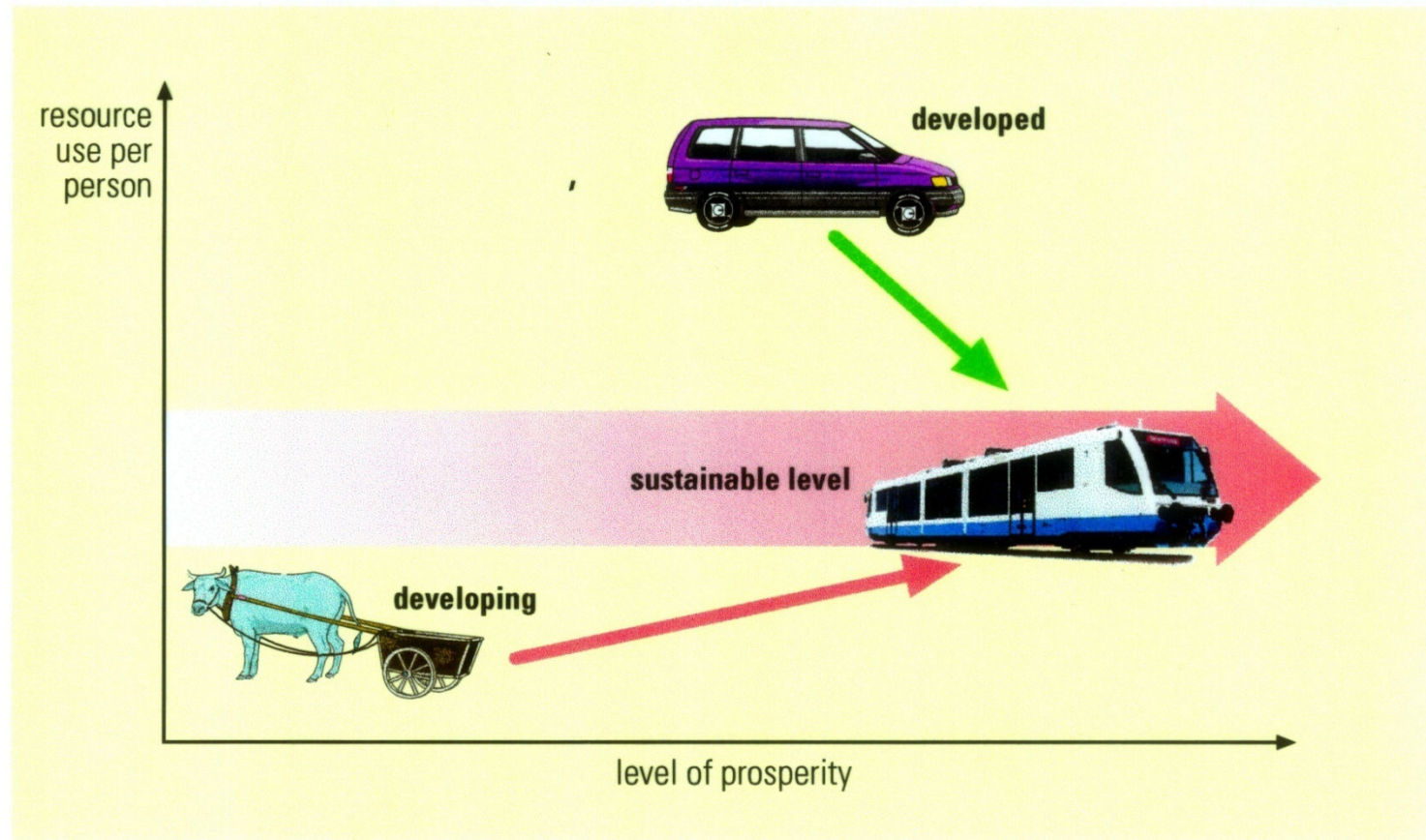*i & l have proven effective but take 10 years for what § achieves in 10 months*

Changing the Model 1

Traditional development model

Changing the Model 2

Sustainable development model

resource use per person

developed

sustainable level

developing

level of prosperity

Exploiting the whole tool box

- Maximum effectiveness combines §, € and i
- Experiment, try new approaches like feed-in tariffs in Germany, top runner rules in Japan, procurement and investment in Luxemburg, green stimulus in South Korea and PR China
- Establish a clearing house for identifying best practice
- Establish an information exchange mechanism including a science-policy interface

Address sustainable consumption

- Provide information *where missing,* (often capabilities, not information is lacking); avoid information overkill, support stakeholder networks (horizontal, not top-down)

- Make sure better products are available and affordable (transaction cost and price, product guaranty regulation, takeback rules,...)

- Support social change/group behaviour, promote sustainable consumption as status, provide leadership by example (highest rank =

Stigmatise unsustainable consumption

Today, too may people

Use money they don't have

To buy things they don't need

To impress people they don't like.

We can do better than that.

➢ Thank you for your attention!
➢ To *download publications* you
are invited to visit the
Sustainable Europe Research Institute at
http:// www.seri.de
And/or download my papers at
http://seri.academia.edu/Joachim HSpangenberg

Dr. Joachim H. Spangenberg
SERI Vice President
Joachim.Spangenberg@gmx.de