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ECO-INFO-SOCIETY: Strategies for an Ecological Information Society

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Thematic group on Intelligent Consumption
Workshop 10 on Sustainable Consumption and Rebound Effects

Structure of presentation

Eco-info-society

- About SERI
- The problem with IT
- Rebound Effect
- Strategies to prevent the rebound effect
- Eco-Info Society
- Indicators for the rebound effect

About SERI

Eco-info-society

- The Sustainable Europe Research Institute
- A pan-European think tank; headquarters in Vienna
- Themes: European Policy, Ecological Economic Policy
  Sustainable Societies, Production and Consumption
  Globalisation
- Consulting: Governments, NGOs, Business
  and trade unions

SERI-Projects

Eco-info-society

- Eco-efficient Regions, www.seri.at/region
- Traffic Congestion in Europe, www.seri.at/congestion
- Eco-Info Society, Sustainable consumption and Rebound www.seri.at/eis
- Sustainability TV, www.sustainability.tv
- Work and environment
- Trade and environment
- Global Material Flows
- Mediation...

Factor 2 worldwide

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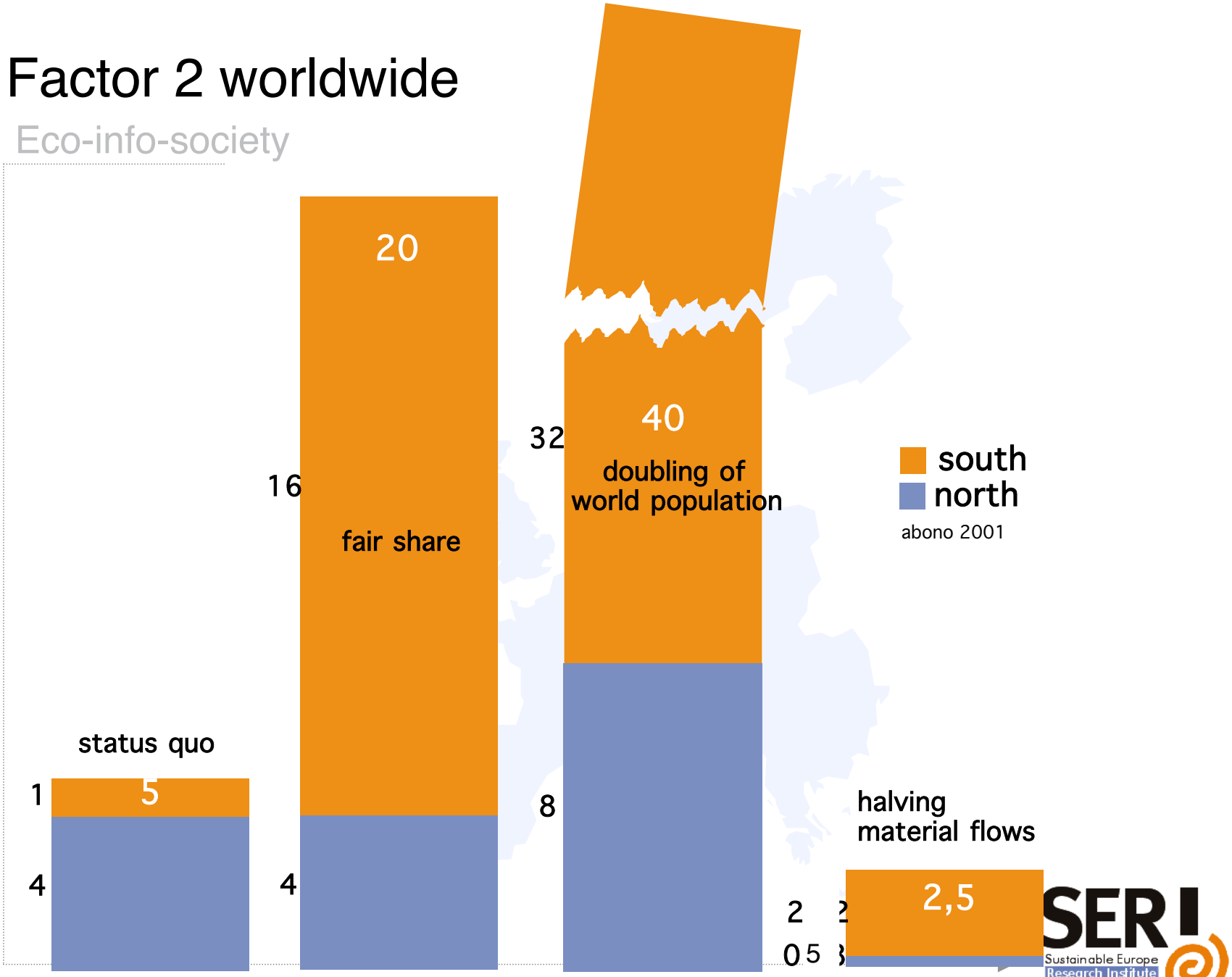

Dr. Francois Schneider, Sustainable Europe Research Institute (SERI)

Development of Communication and Traffic

European Environment Agency

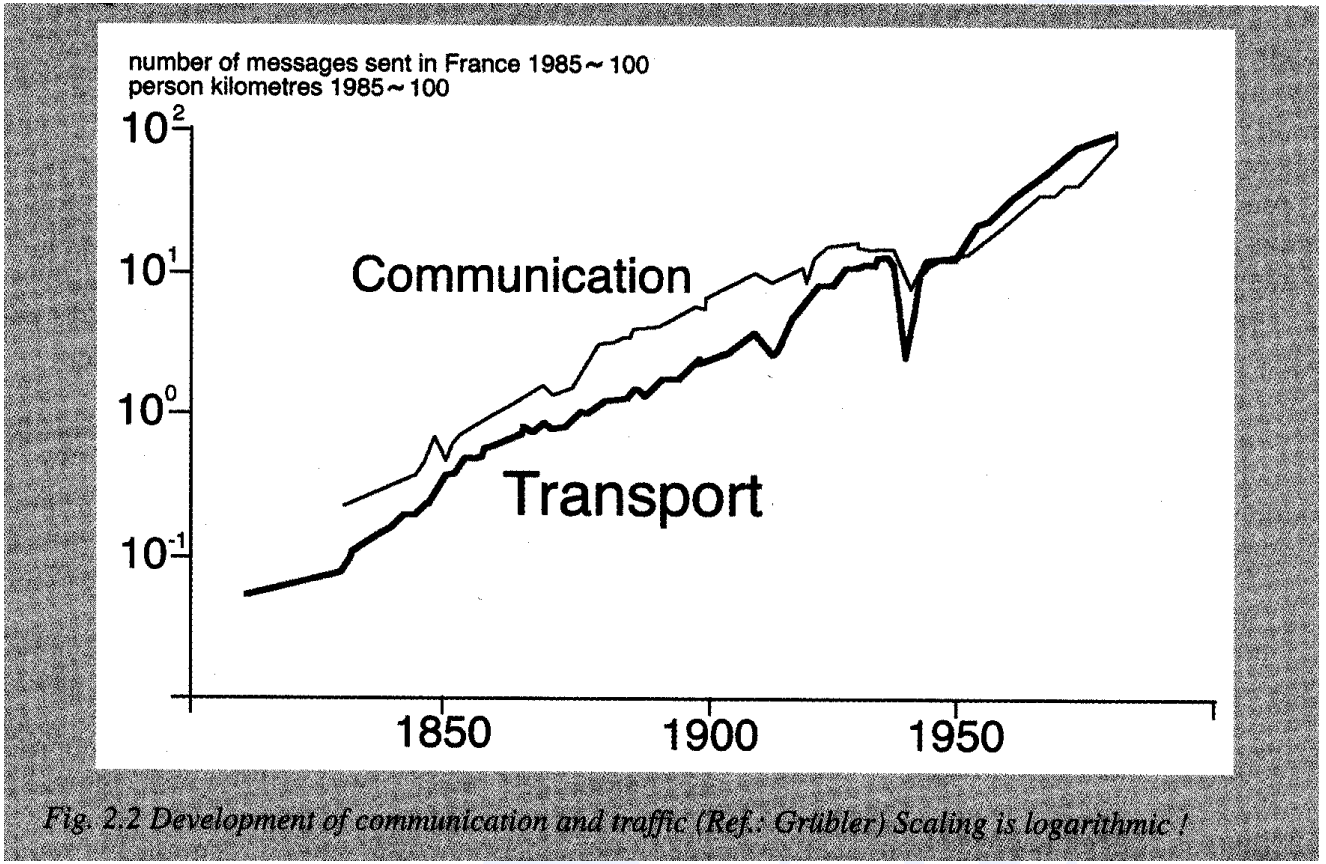

Fig. 2.2 Development of communication and traffic (Ref.: Grübler) Scaling is logarithmic !

Source:	**Lifestyles, Future Technologies and Sustainable Development, Thomas Schauer, FAW - Research Institute for Applied Knowledge Processing**

SERI Sustainable Europe Research Institute

Current Patterns of Consumption and Production

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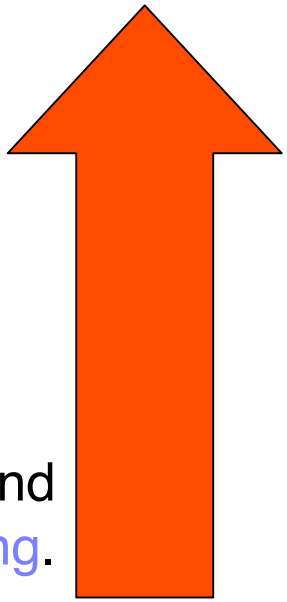
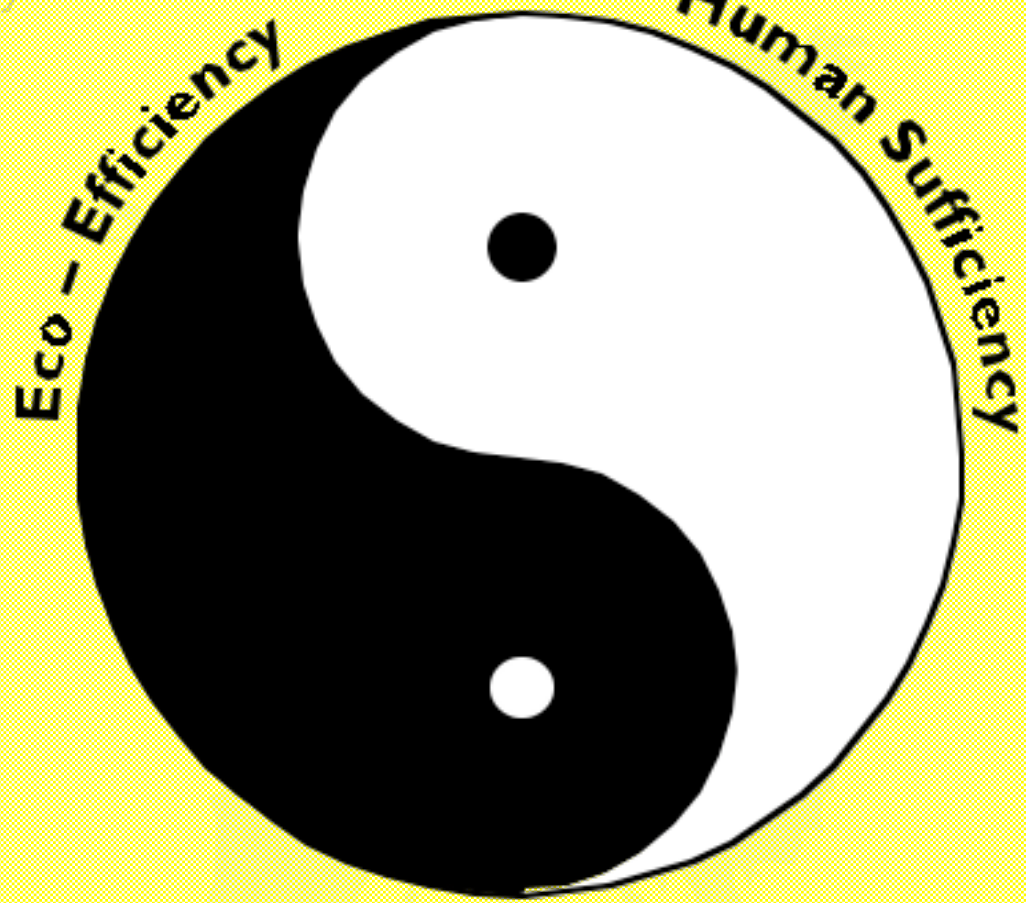
The major discrepancy today

Especially in the information society Dematerialization would offer the opportunity to decrease material consumption due to more Efficiency.



Fact is: The absolute quantities of material and energy consumption are still increasing.


Eco – Efficiency
Human Sufficiency

- What would limit our consumption ?
  - „Our needs“
- But is there really limits to our needs ?
  - „I need to visit this person that i met on the Web“
  - „I need to go shopping in New York for the week-end“
- It seems difficult to answer the question: „what is enough?“ because **our needs are extensible**.

The first step toward sufficiency: be conscious of our limits

- Costs
- Time
- Danger
- Effort
- Health
- Space use
- Weight
- Environmental impact

(...)

Product innovation tend to overcome these limits for each specific product (or service), they become:

- "Cheap"
- "Fast"
- "Safe"
- "Effortless"
- "Healthy"
- "Small"
- "Light"
- "Environmentally benign"

(...)

The problem:

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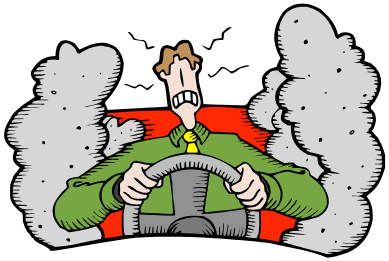
- With the (direct) REBOUND EFFECT, the overall **use** of the improved product **increases**

- Improvements concerns ONE (or a few) aspect while other aspects may become WORSE.

Example of the car:



- The car **saves time** (sometimes) (and **effort)** per person.km:
  - The **rebound effect** linked to time (and effort) increases the total person.km travelled

→ • *The time spent travelling remains similar*

- The car **pollutes more** and **costs more per person.km**, and with the rebound linked to time (and effort):

→ • *Overall costs increase (and overall time loss and effort if we include working hours (!))*

→ • *Overall pollution increases (and overall costs if we include external costs (!))*

Rebound Effects: the case of traffic congestion

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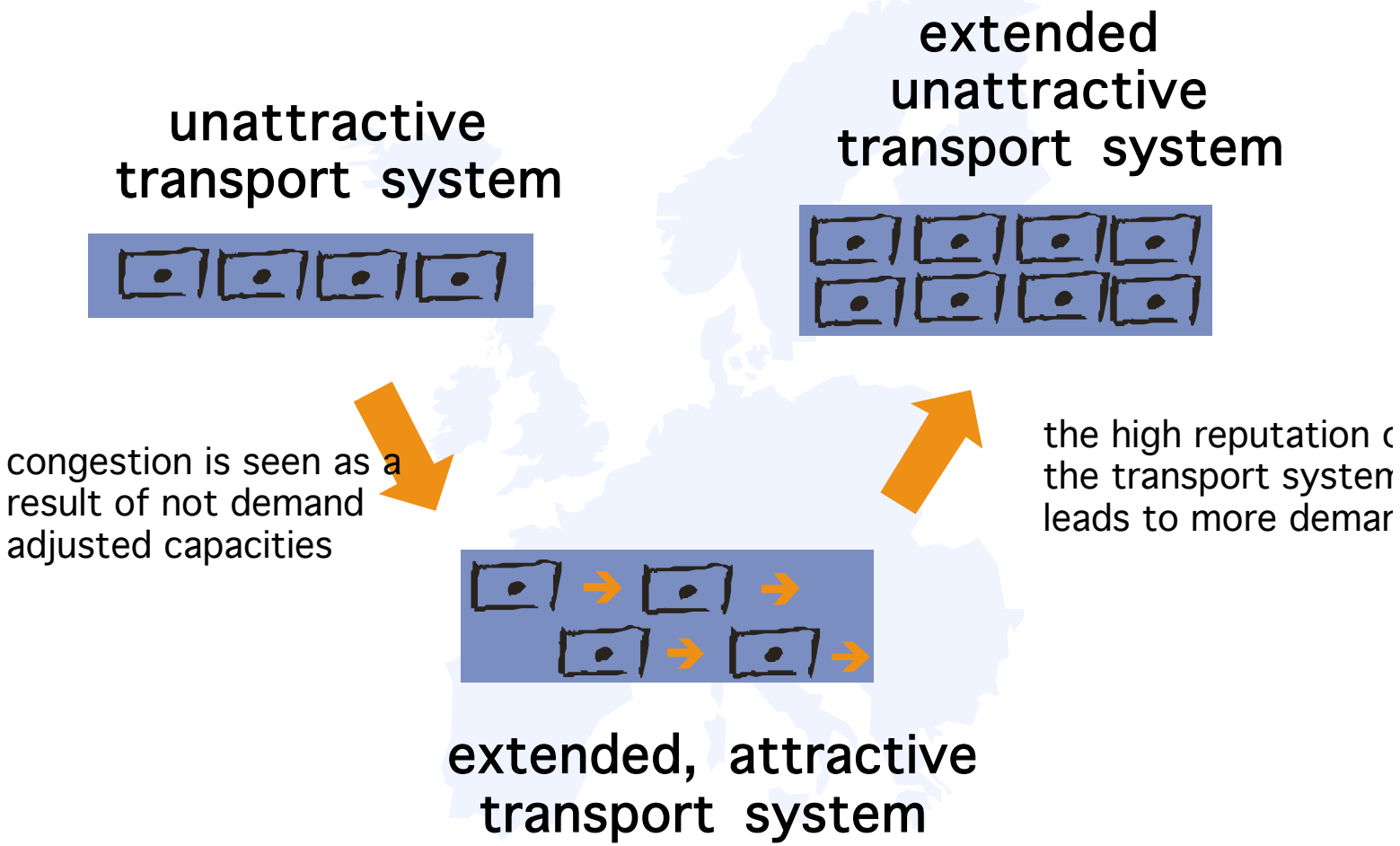

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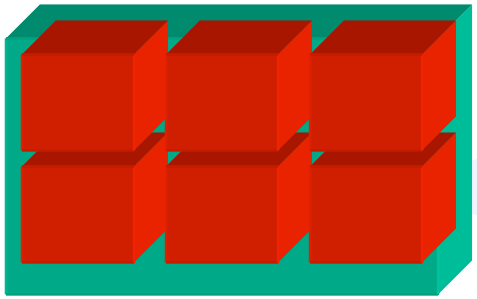
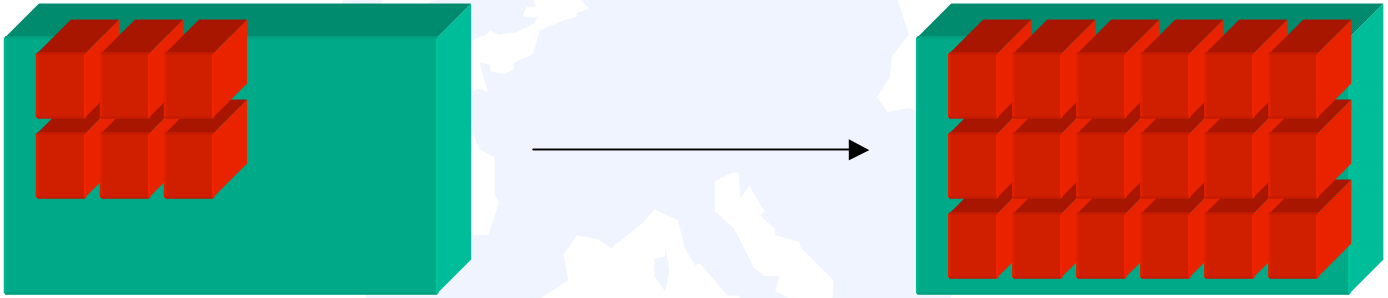


We do not want to consume more
Because our limits are reached

Product innovation



Rebound Effect: the product improvement enables consumption increase

The result: possibly as much (or even more)

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- Costs
- Time
- Danger
- Effort
- non- healthiness
- Space use
- Weight
- Environmental impact

(…)

Definition of the rebound effect

- Rebound effect: *Increase of consumption (and impacts) linked to the reduction of limits to use a technology*.
- These *limits* might be: *Monetary, Temporal, Social, Physical, Linked to efforts, to Safety, Organisational*… These lead to different types of rebound, economical and “non-economic”.
- The *direct* rebound concerns the increase of the same technology
- The *indirect rebound* or *income effect (for economic rebound)* includes increase of consumption of other goods and technologies.
- Other rebound effects include *general equilibrium shifts* and *transformational effects* where effects on social organisation are taken into account.

Special case of Internet:

- The efficiency to send messages is so high that the distance travelled by messages is multiplied by ??? Millions

- In this special case even a *slight* detrimental effect (per “information.km”) could have tremendous consequences

First possibility to avoid the rebound effect

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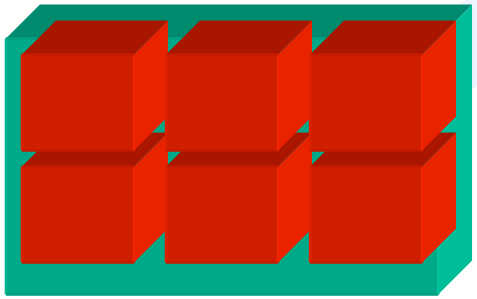
Avoid the so-called „improvement“ of products and services realising that the rebound effect and different consequences do not justify the new acquisition

Because

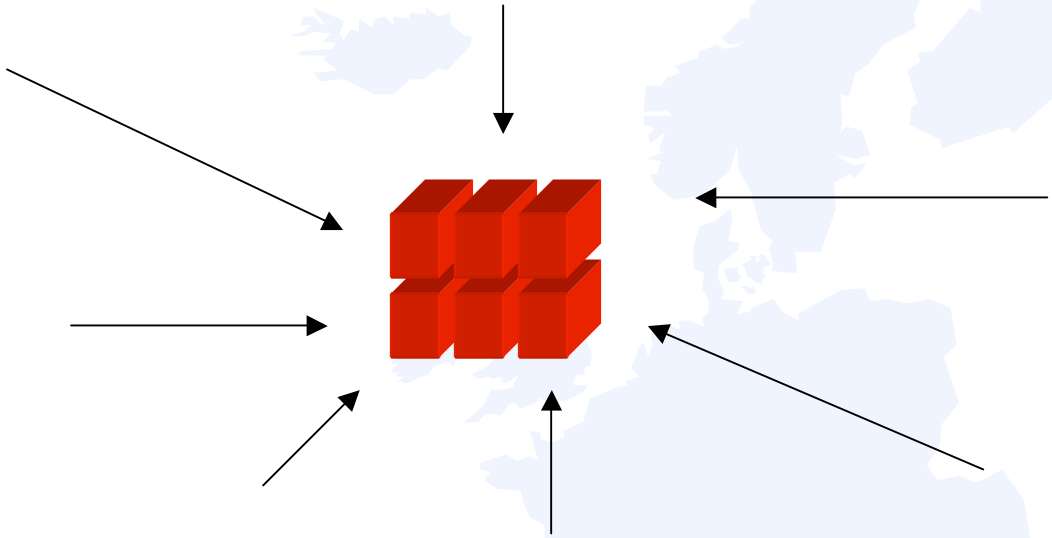


might have less overall impact than

Examples:
bicycle instead of car
Gardening instead of buying food in supermarket
giving ourselves more time

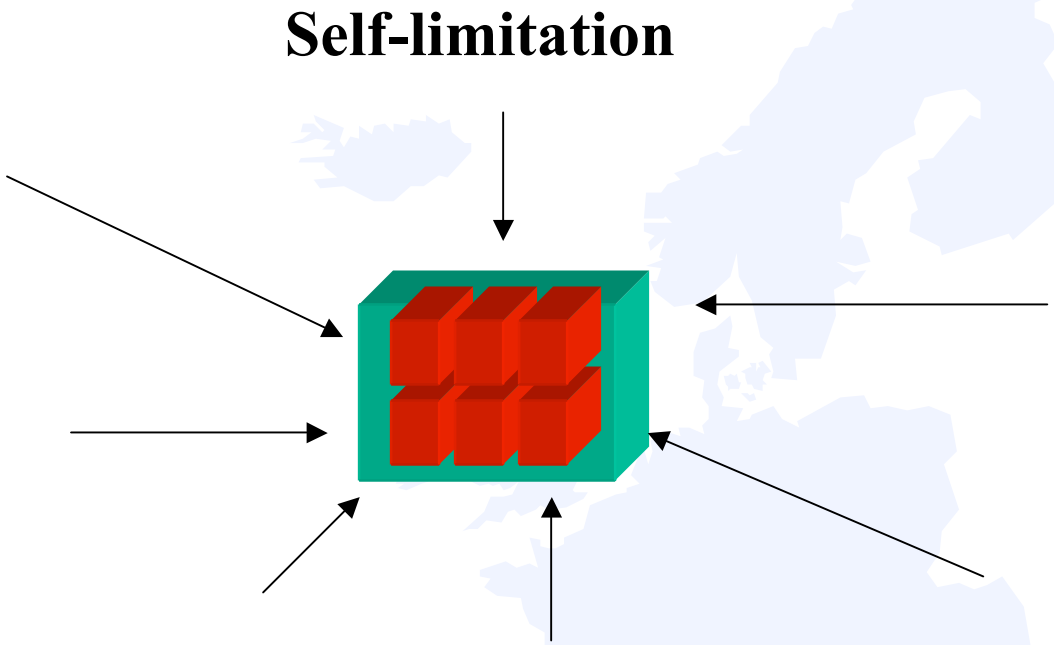
2nd possibility to avoid the rebound effect

Limitation of products and services



Limitation of the web to local access
Limit road capacity

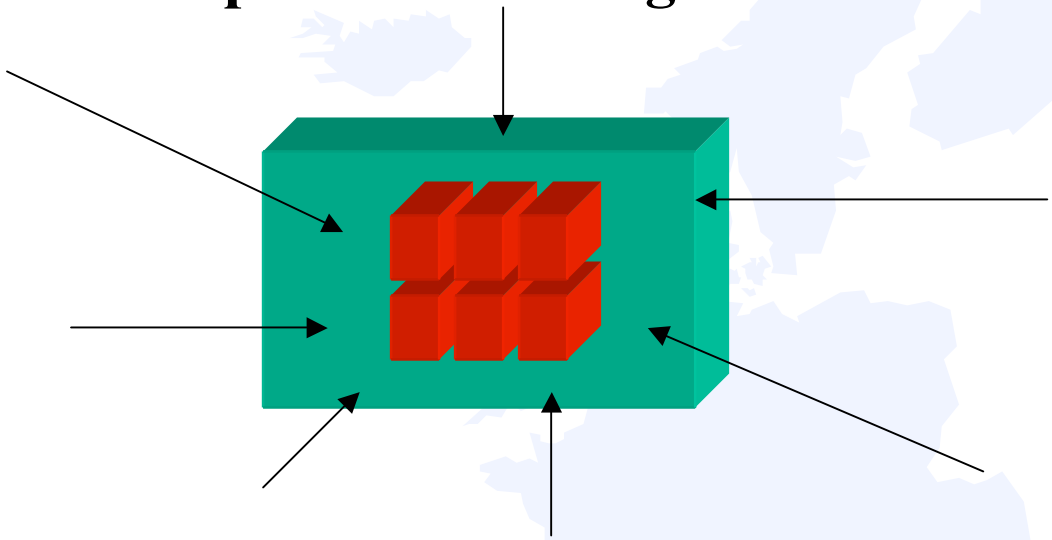
3rd possibility to avoid the rebound effect



Increasing requirements with the efficiency: we should be aware (informed) of the rebound effect and adjust our limits

4th possibility to avoid the rebound effect

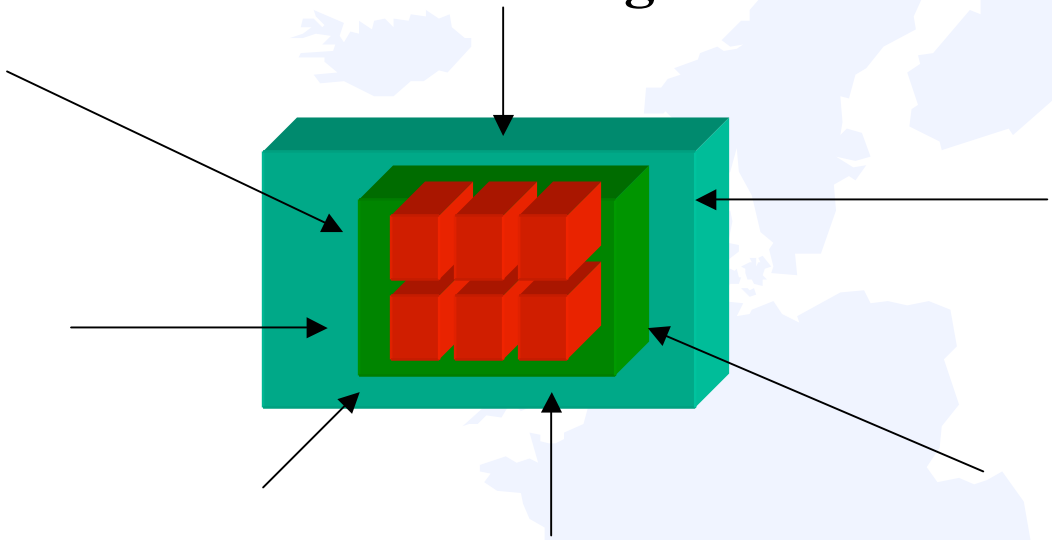
Policy measures:
An upstream limiting factor intervenes



Resource limiting
Input Certificates
Creation of natural reserves

5th possibility to avoid the rebound effect

Policy measures:
An External limiting factor intervenes



Examples:
Ecological Tax Reform
Switch to 35h, 30h per week...

What about lifestyle innovation?

- Instead of products and services improvements and innovation (to increase production) what about lifestyle improvement and innovation to reduce consumption?

- Recent trends show that:
  - lifestyles are not static
  - Change is more acceptable

Information Technology

IT *feels* good:
- Information looks armless
- The life-cycle is hidden
- Miniaturisation is visible

Large uncertaincy remain concerning impacts
We know already that IT creates *paper* and *transport* increas

The ECO-INFO-SOCIETY is a different, greener, more sustainable society that manages the use of Information Technology

An ECO-INFO-SOCIETY
- Secures ecological sustainability
- Takes part in the improvement of the quality of life
- Addresses the egality aspect

For this it:
- Remains to a human size
- Defines some limits to prevent the negative rebound effects

Economic Information Society

Eco-info-society

- Direct local links between producers and consumers
- Smaller units of production (efficiency though economy of scale seems to be an important „fuel“ for rebound)
- Info on cleaner production and sustainable consumption
- Local computer networks for public transport, share of products and services
- Internet conferences
- ...

Environmental Information Society

An ECO-INFO-SOCIETY should not add a new layer of production and consumption like did the industrial and service revolution.

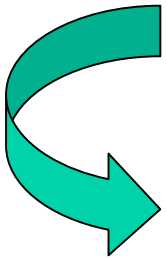
An ECO-INFO-SOCIETY should *reduce* and *replace* existing consumptions

Social Information Society

Eco-info-society

What about **Egality**?

- 60% of the world population has never made a phone call
- 5% are internet users



the „Information Society“ is an influent/affluent **minority**

The ECO-INFO-SOCIETY should address

- the problem of exclusion from technological access,
- the usage of the technology,
- enlarge the participation to decisions within IT,
- communication arrangements between the excluded and the “Information Technology minority”,
- develop Types of IT which can be accessible to a majority.

Indicators for Rebound and for Sustainable consumption

- For each product or service, the different types of rebound should be identified and the direct and indirect effects should be quantified
- Economic rebound:
  - sets on data on the impacts per Euro of materials for different products and services
- Rebound linked to other types of consumption limits
  - Indicators need to be developed (like the energy or material input per hour of activity) for each product and service.
  - NON ECONOMIC INDICATORS MIGHT BE MORE EGALITARIAN
- The data inventories should also include information on the economy-wide and transformational effects at least qualitatively.

- The rebound effects information should be available within impact inventories