



Transitioning to a Low-carbon Society: Thoughts from an SCP Perspective

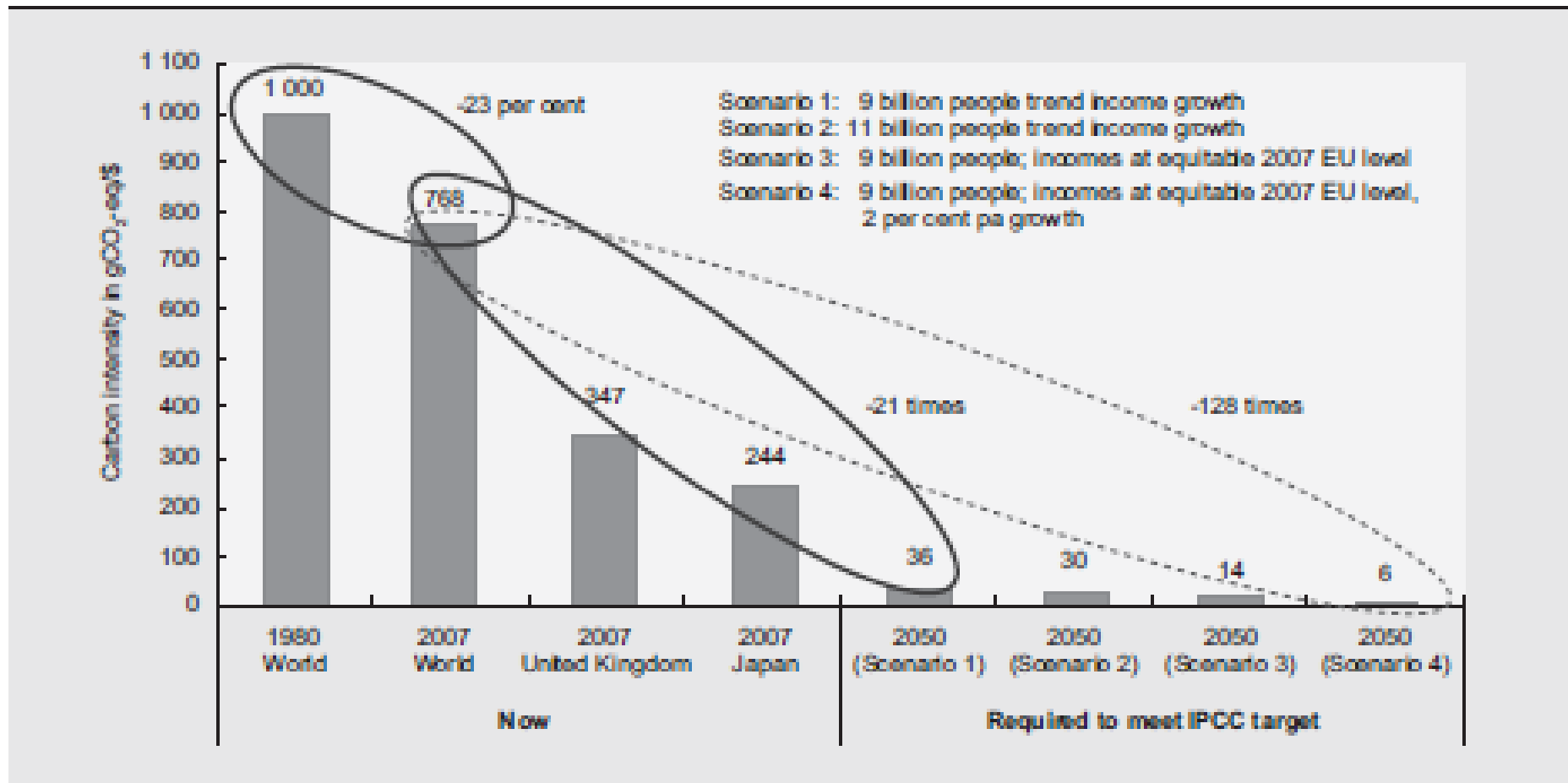
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Objectives

- Highlight some of the findings of IPCC's 5AR, especially related with products and consumption (Chapter 10)
- Discuss the implications of these findings for policy and practice from an SCP perspective

RECENT CARBON INTENSITY OF GDP AND THE LEVEL REQUIRED TO LIMIT GLOBAL WARMING TO 2 DEGREES



Improvements in Carbon Intensity

Source: Hoffman 2011, based on Jackson 2009

Actual, 1980-2007

0.96% per year

Needed, 2007-2050

11% per year (Scenario 4)

6.9% per year (Scenario 1)

IPCC 5AR, Ch 10 (1)

- The technical potential of energy efficiency measures in industry is around 25%
 - Through innovation, additional reductions of up to 20% in energy intensity may potentially be realized before approaching technological limits
- ✓ The technical potential for efficiency exists but will not be realised automatically – urgent need for effective policies
 - ✓ With a growing industrial production of 3.5% per year, a 45% improvement in efficiency would be offset in less than 15 years
 - ✓ Efficiency can buy us some time but not solve the problem

IPCC 5AR, Ch 10 (2)

An absolute reduction in emissions from the industry sector will require deployment of a broad set of mitigation options beyond energy efficiency measures, including:

- emissions efficiency (e.g., fuel and feedstock switching, carbon dioxide capture and storage),
- material use efficiency (e.g., less scrap, new product design),
- recycling and re-use of materials and products,
- product service efficiency (e.g., car sharing, maintaining buildings for longer, longer life for products), and
- demand reductions (e.g., less mobility services, less product demand)

- Not well
addressed by
policy
- Weak econ.
drivers

These options need to be pursued in parallel!

Reminder: Oil is Extremely Cheap (Compared to Human Labour)



One barrel of oil
(159 litres)
Cost: US\$97



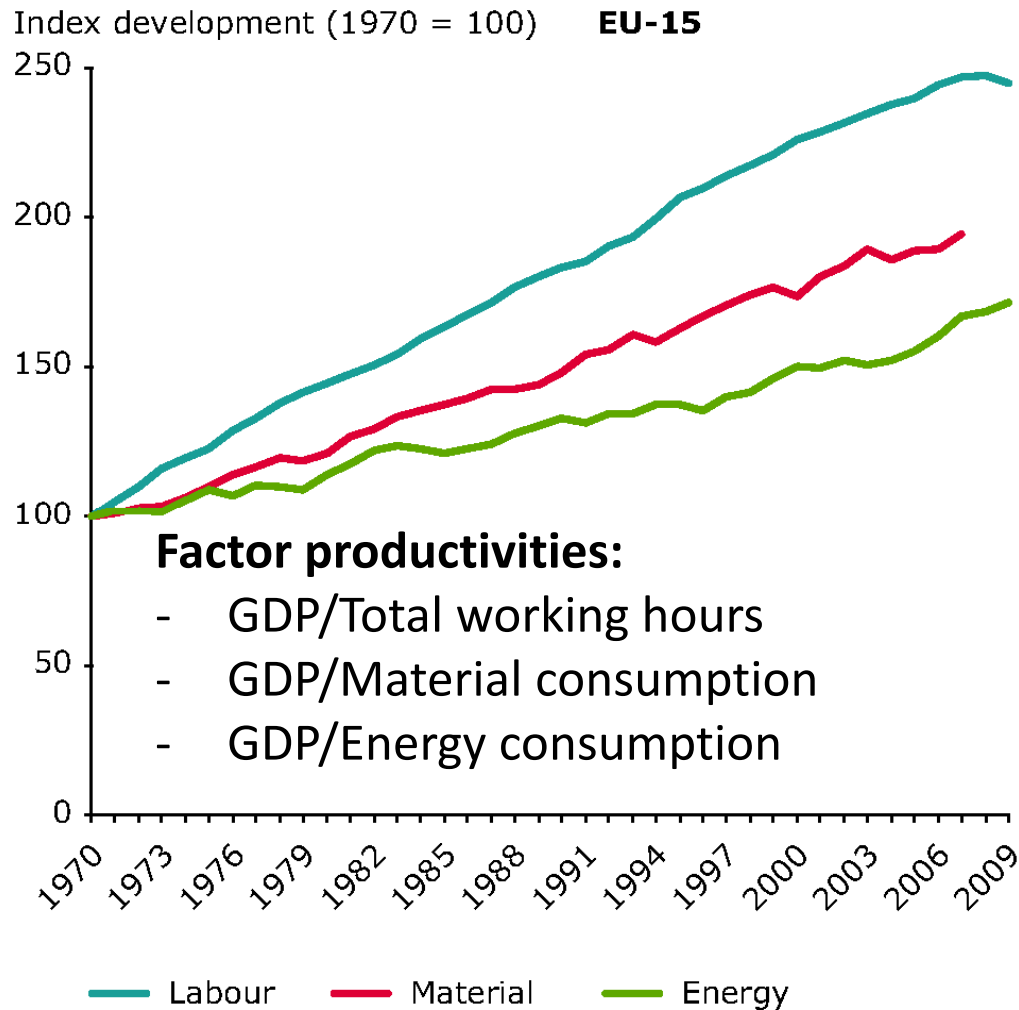
Same amount
of energy



12 labourers working for
one year
Cost: ??????

- **Strong incentives to replace humans with energy consuming machines**

Investment in Energy Efficiency is Lagging Behind



- We are getting better at producing more output with fewer people
- We are less successful in producing output using fewer resources and less energy

Two options:

- Reduce amount of work in the economy
- Drastically change investments from labour saving to reduced resource intensity

Spurring radical change in innovation and investment patterns, examples

From labour-saving to reduction of materials and energy consumption

- A “new industrial revolution” driven by biophysical scarcities rather than labour shortage
 - **CARBON PRICING!!!**
 - Demanded by major investors
 - Already practiced internally by some large corporation, e.g. Exxon assuming \$60/tonne by 2030
- Changes in corporate ownership and governance
 - A new contract between corporations and society – “License to operate”
 - Reduced emphasis on shareholder value
 - Need to demonstrate value for society, including climate protection
 - Information disclosure and reporting requirements
 - Alternative models: co-operatives, social enterprises
 - Reform of patent laws, improved access to technology
- Reforms in the finance sector
 - Mobilisation of democratically controlled funds, such as pension funds
 - Stricter regulation of banks lending
 - Local economies, alternative currencies

Can Consumers Drive the Transition?

Many **proposals on how to achieve SCP** focus on the role of individual consumers and emphasize the need for **consumer education** and **information provision** to consumers.

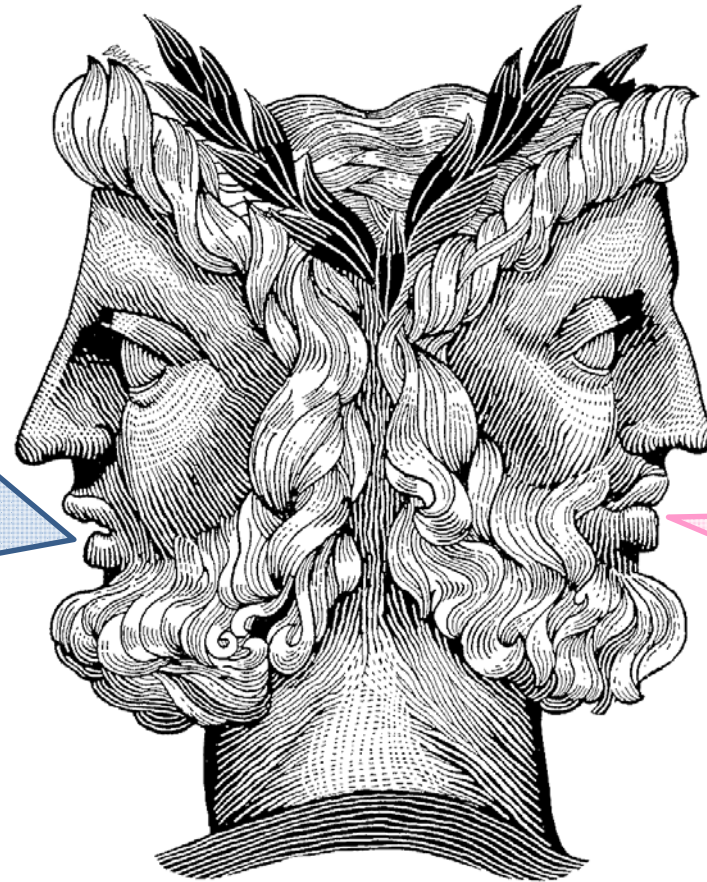
However, **the role of individual consumers is overstated** - a transition to SCP requires **collective decisions** and **policies**.



- Consumers' **choices are limited** to what producers want to offer and what retailers decide to put on their shelves
- Consumer **prices** do not reflect the environmental and social impacts caused by products over their life-cycles and therefore send the wrong signals
- Consumers feel strong **expectations** from society to consume in order to signal social status and group identity
- Many consumer activities are not based on well-reflected individual decisions but can more accurately be seen as **social practices** or **habits**
- “I will if you will” – a **social dilemma** where consumers may be willing to make certain sacrifices but only if others make them as well
- Clever **advertising** is creating unnecessary and exaggerated demand
- Consumers are told by politicians and other leaders to **consume more** in order to **keep the economy going** and avoid unemployment

Consumers are Receiving Conflicting Messages

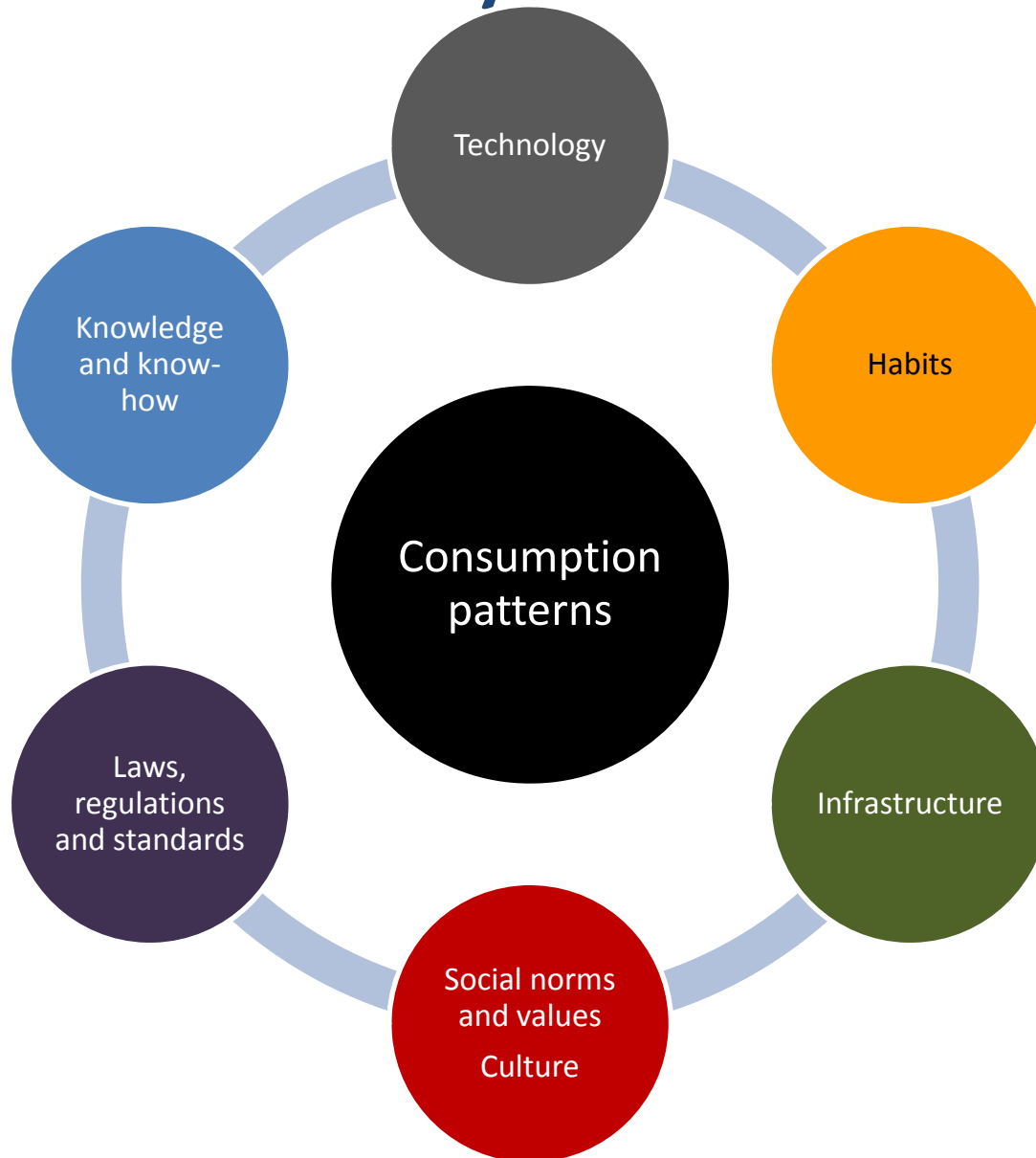
Grow the
Economy



Consume
Sustainably

- Need for a coherent and engaging vision

Consumption Changes Require Systems Transformations



- Consumption patterns are part of complex socio-technical systems
 - Radical change in consumption patterns requires that whole systems be modified
 - Policies must address several system components simultaneously
- Community and city level action
 - Grassroots initiatives
 - Social innovations
 - Strengthening of civil society / social capital
 - Sufficiency/simple living

Summing Up

- The speed of change needs to increase dramatically
- Extraordinary challenges – need to consider unconventional and controversial solutions
- Efficiency gains can buy us time but will not solve the problem
- Changes in product design, business models and behaviour are needed
 - Innovative policy measures, experiments
 - Addressing consumption in a meaningful way
- Emitting GHG should be costly – immediate action needed
 - Stern: “the greatest market failure the world has seen”
- Mobilisation of citizens – pressure on political leaders and the business community to deliver the changes required for a low-carbon transition