



PBL Netherlands Environmental
Assessment Agency

Consumption-Based Accounting

A Tool for Policy

5 July, 2011 | Harry Wilting





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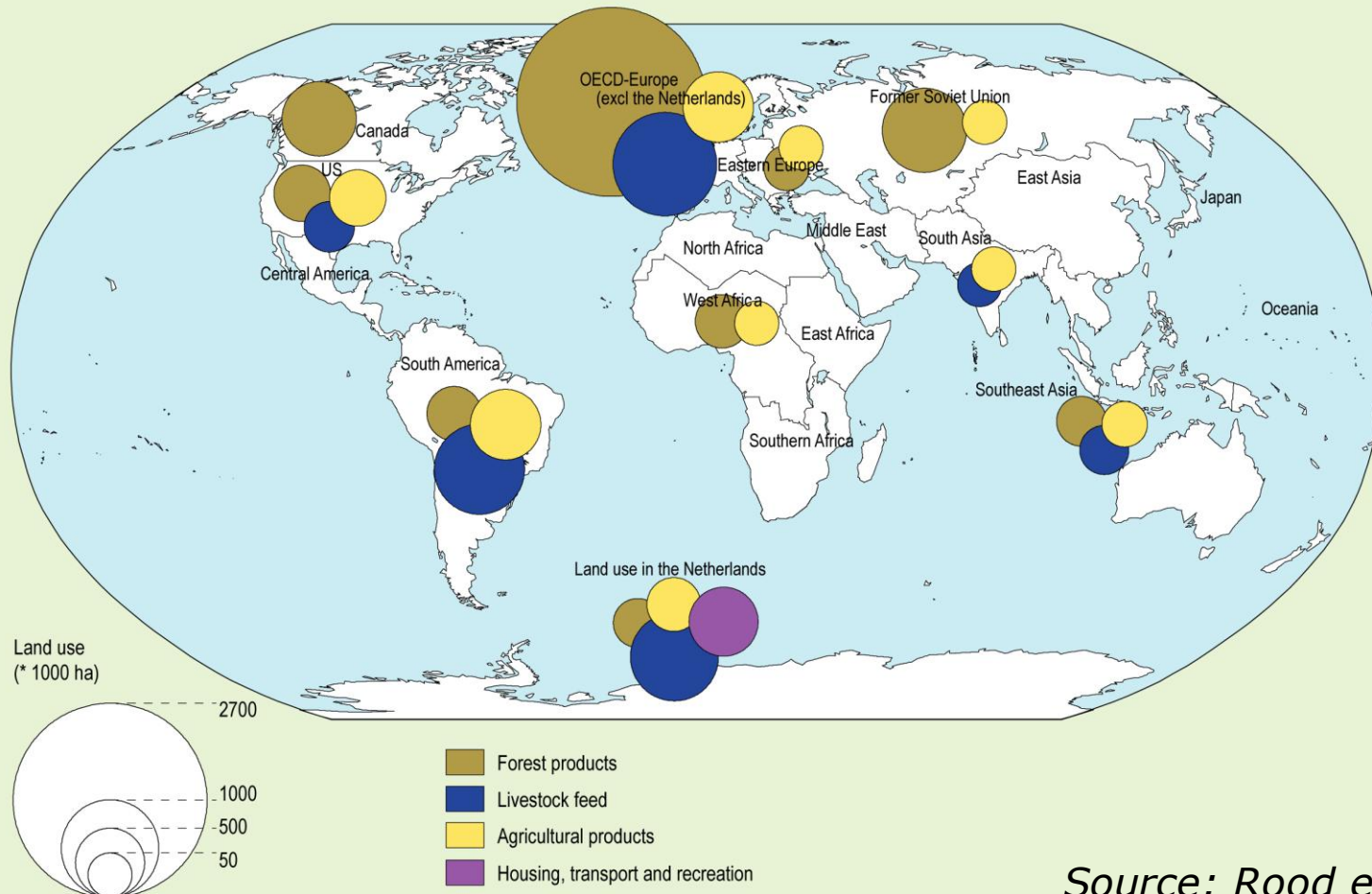
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CBA provides insights in trade-offs between

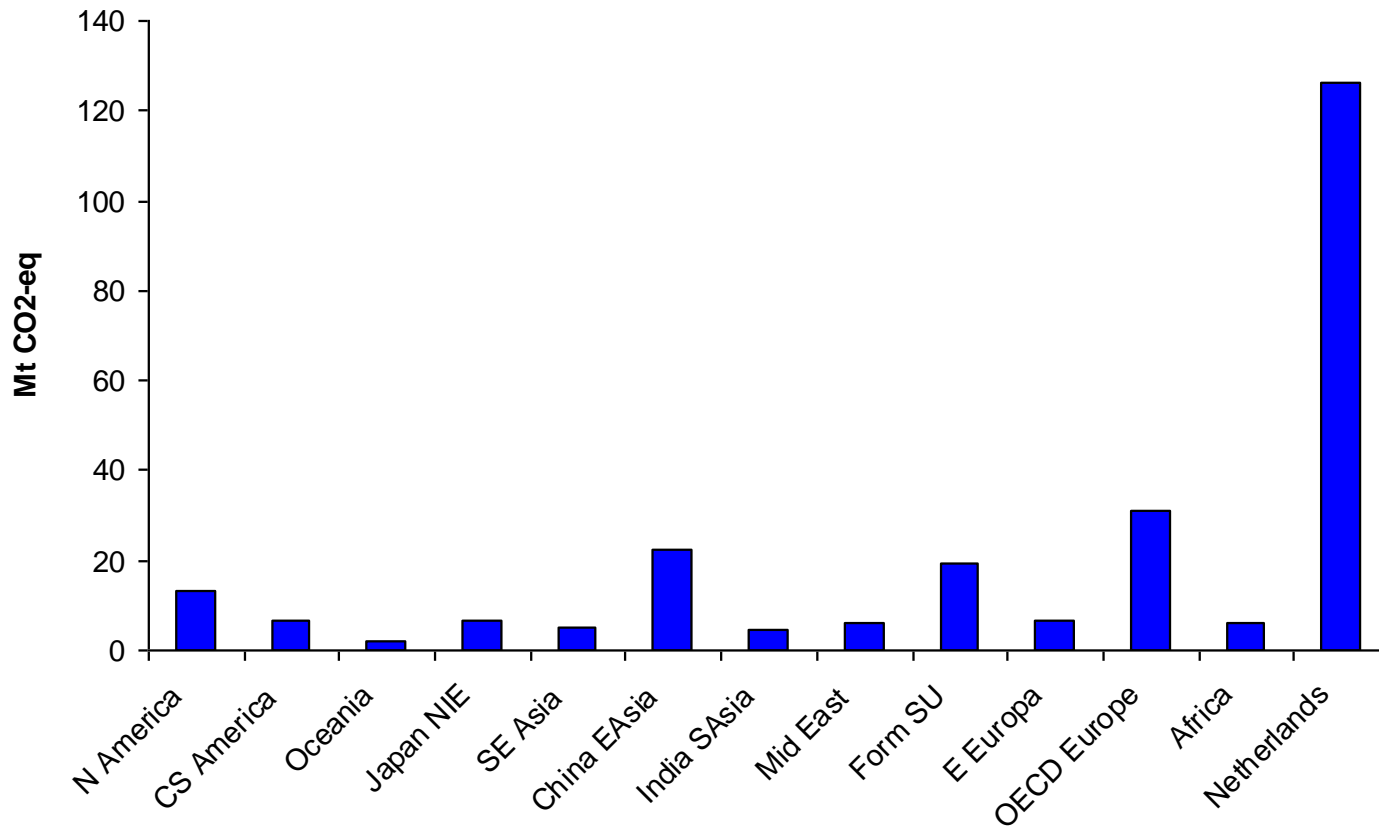
- Life-cycle phases
 - Choices in product design have effects on recyclability
- Locations / regions / countries
 - Different efficiencies between countries
 - Re-location changes transport flows
- Environmental themes or compartments (air, soil, water)
 - Biofuels; shift from carbon emissions to land use
- Sustainability domains
 - Trade-offs between emissions, labour costs or health
- Generations
 - Present choices will have future impacts

Global land use for consumption in the Netherlands, 2000



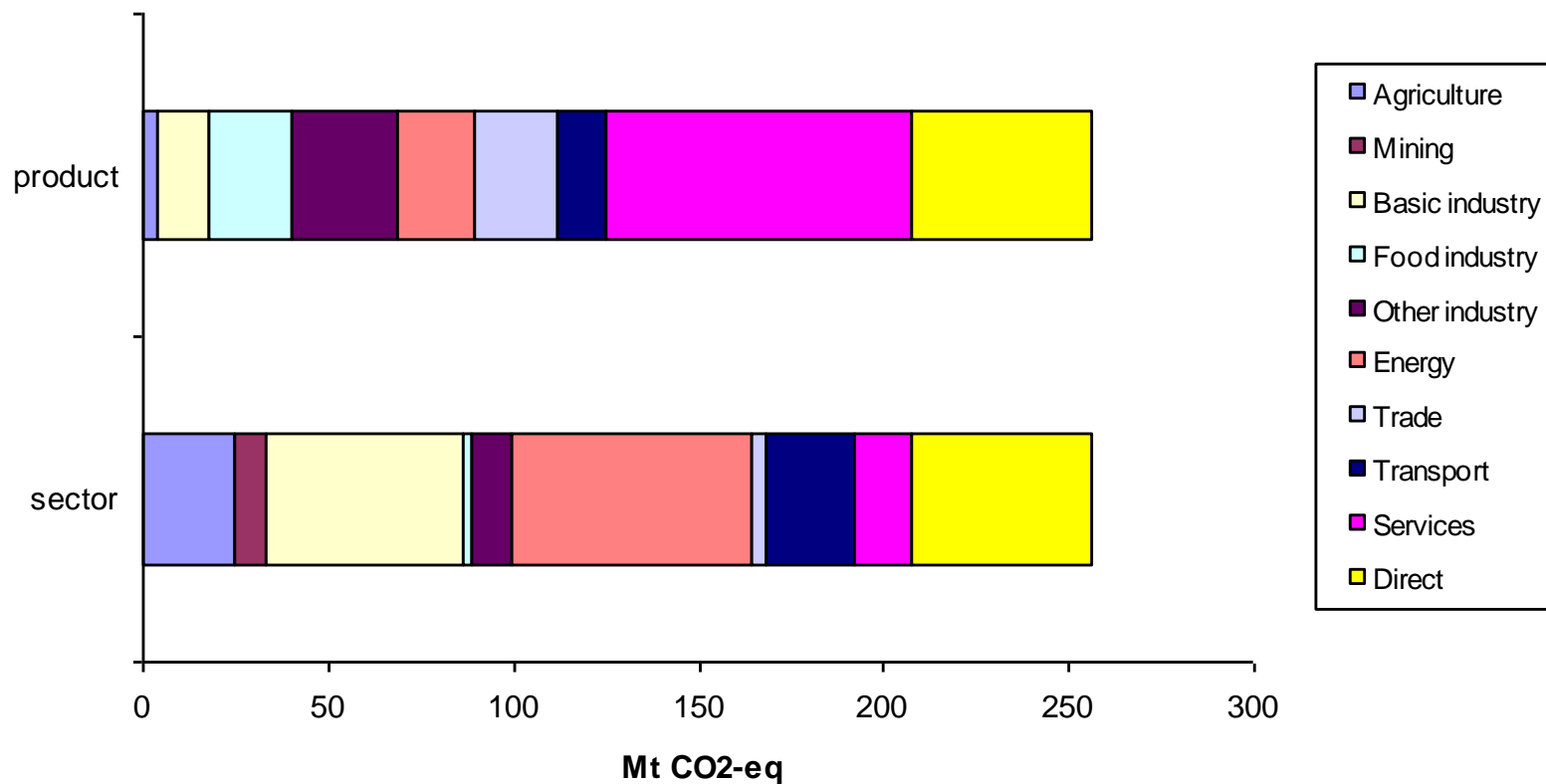
Source: Rood et al. (2004)

Dutch carbon footprint per region, 2001



Source: Wilting (2008)

Dutch CF per product group and sector, 2001



Source: Wilting (2008)

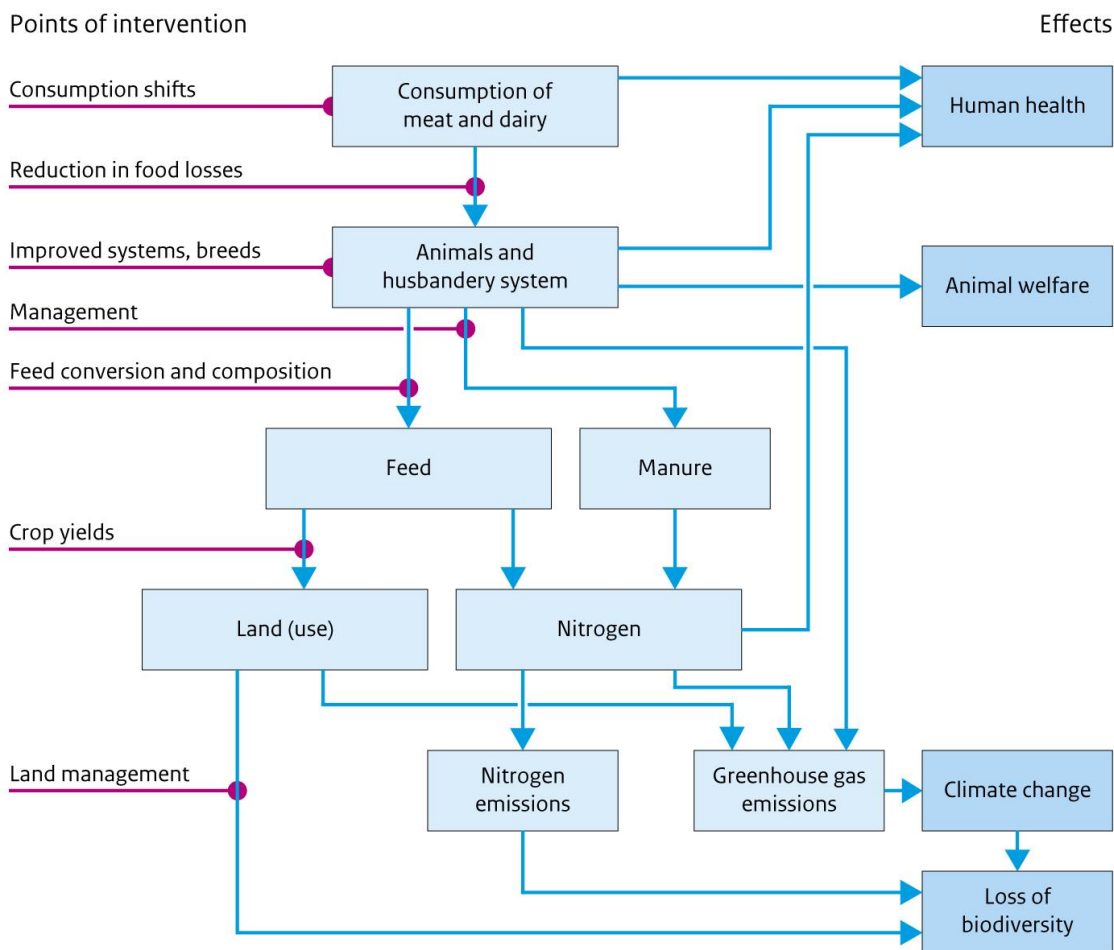


CBA provides (insights in) reduction options

- Supply side, production
 - Technical measures
 - More efficient production
 - Material substitution
 - Shift in location of production

- Demand side, consumption
 - Technical measures
 - Shift in consumption

Causal diagram of effects of meat and dairy consumption and points of intervention



Source: PBL (2011)

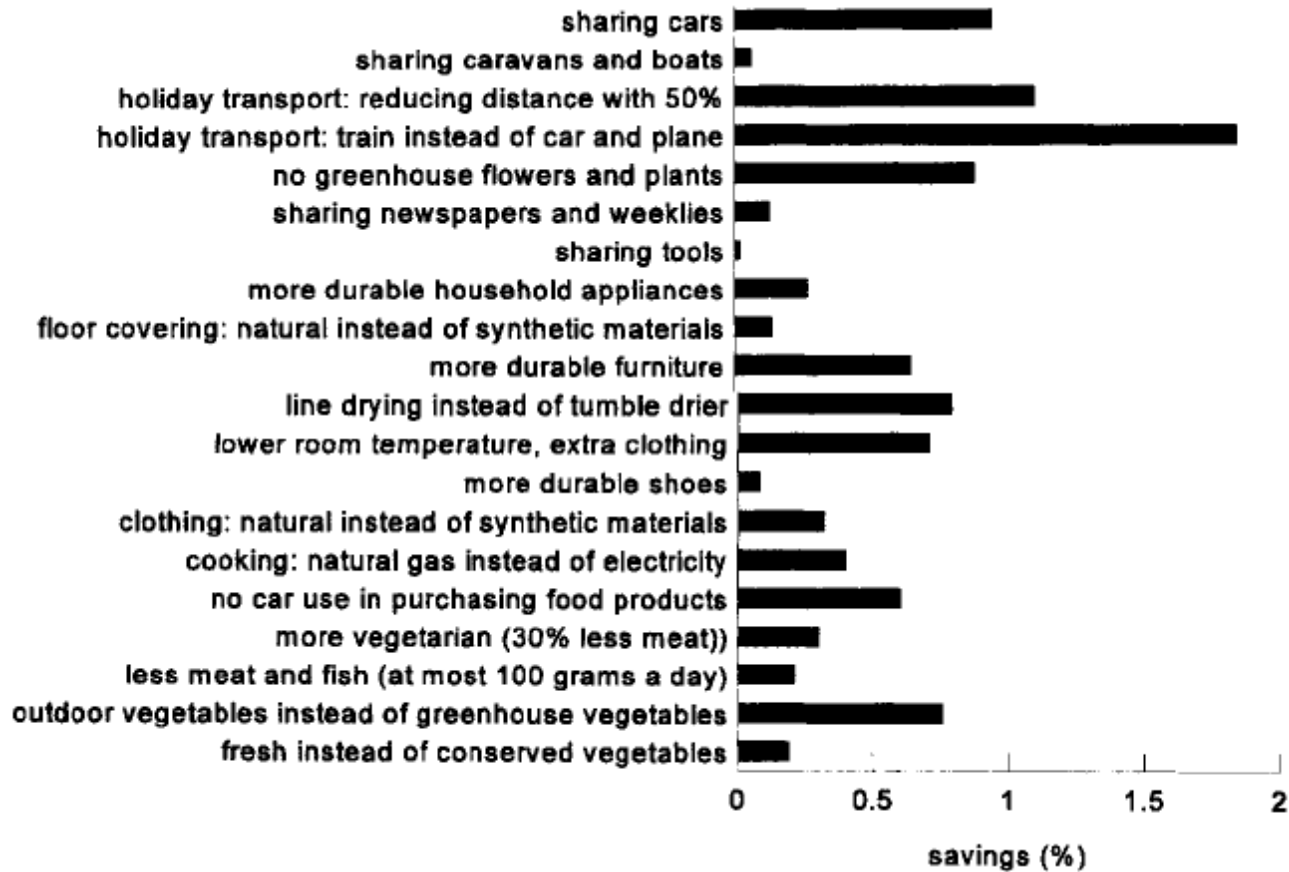


Examples of demand-side reduction strategies

- Extending lifetime of products
 - Furniture, appliances, shoes, etc.
- Product and material substitution
 - Vegetables, animal products, floor-covering, transport, etc.
- Sharing of (durable) products
 - Cars, caravans, tools, newspapers, etc.
- Purchase of products with an individualised design
 - Furniture, clothes, etc.
- Farming out services
 - House maintenance, laundry, window-cleaning, etc.

Source: Vringer et al. (1995)

Savings in the 1990 energy footprint of Dutch households



Source: Wilting et al. (1999)



Be aware of rebound effects

- Re-spending of financial savings due to energy conservation options
- Time savings may lead to more energy-intensive activities
- More intensive use of equipment with a higher energy efficiency and lower energy costs

See Druckman et al. (2011), Van den Bergh (2011), etc.

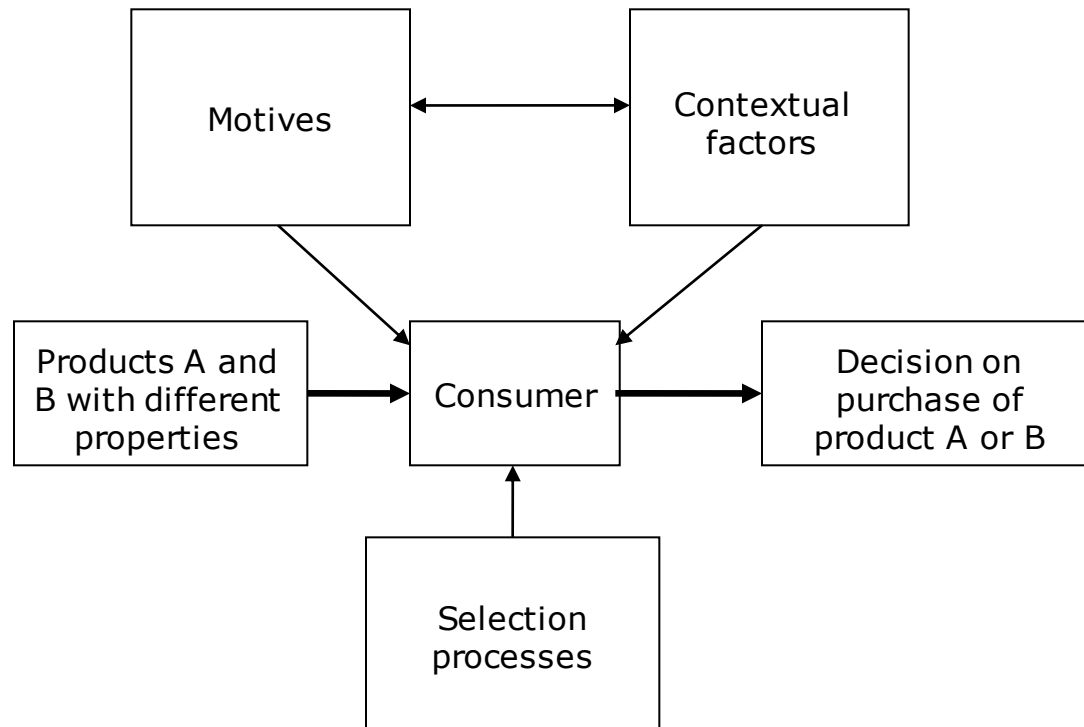


From reduction option to implementation

- Barriers
 - Insight in consumer choice processes
 - Identification of barriers

- Policy strategies
 - Each reduction option requires specific instruments
 - Strategies concern several policy areas: industrial policy, consumer policy, trade policy, foreign policy
 - Production chains are partly abroad: international instruments required
 - Passive or active role for government?

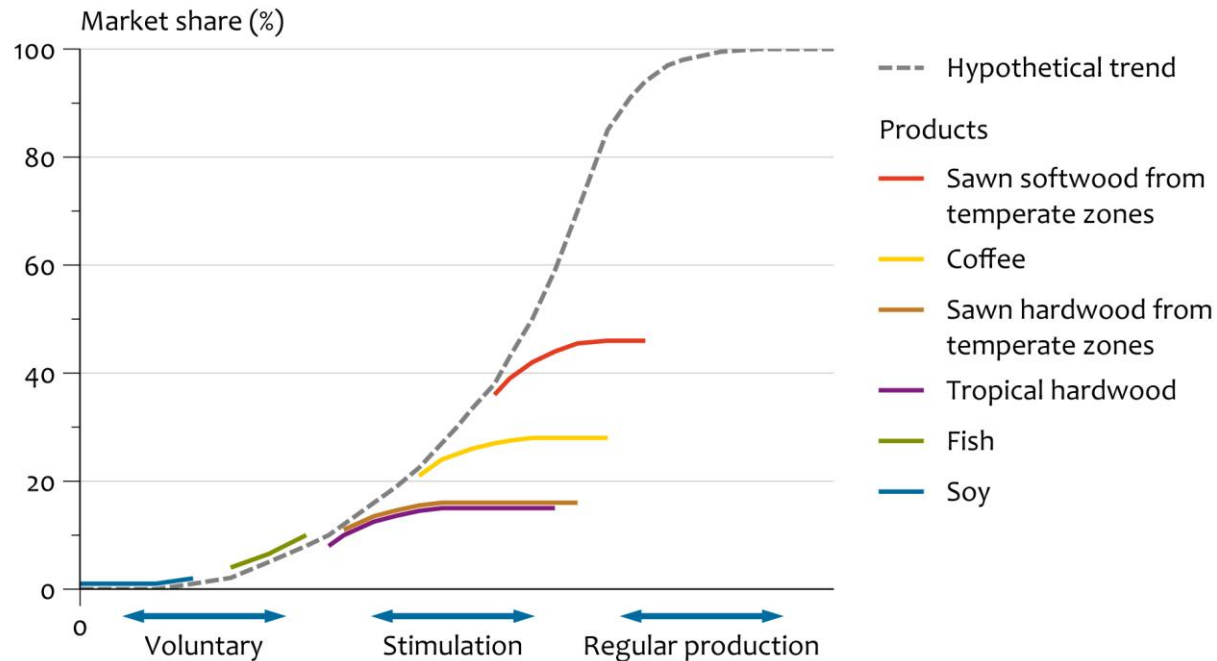
Insights in consumer decisions



Source: Vringer (2011)

Product certification in the Netherlands

Trends in certification of products, 2000 – 2008



Source: PBL.

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Final remarks

- Target setting for both territorial and CB environmental pressures
 - Enhances reduction possibilities
- CBA requires consensus on methods and data
 - Stewardship by international institutions
- Tailor-made implementation of reduction options
 - Each reduction strategy/option is different and requires specific research, information and policy instruments
- Governance
 - Research on the roles of producers, consumers, NGOs and government