Tools to assess consumption patterns

Mark Goedkoop, PRé consultants
goedkoop@pre.nl
www.pre.nl

Overview

• How can we assess consumption patterns
• CPA Consumption Pattern Assessment
• What limits consumption
• Guidance for designers
• Conclusions and proposals

Can we indeed monitor consumption

• Dutch project
  – Detailed statistics on consumer expenditure exist in many countries
  – Expenditure on 380 product categories was used to characterise spending
• Use of national and international I/O tables, that span the world

Direct and indirect load

• Purchases can be linked to economic sectors
• Environmental load of sectors can be determined
  – Indirect environmental load refers to load caused before purchase of the product
• Some products cause load after purchase
  – Direct environmental load refers to load caused by the consumer, after purchasing
IO matrix specifies trade between sectors, imports, exports and delivery to consumers.

Share of regions

Share of "direct" environmental load
Share of consumption domains

- Share of consumption domains across different domains:
  - Energy
  - Land use
  - Noise (traffic)
  - Smog
  - Eutrophication
  - Toxicity
  - Acidification
  - Climate

Outlook

- The intention is to repeat this study every 5 years and analyse the trends.
- Current similar Danish project will also provide scenario analysis.
- Can companies use this?

CPA (consumption pattern analysis)

- From LCA to CPA (consumption pattern assessment)?
- Example meat production on next slides:
  - Economic value divided over sectors
  - Environmental load (Eco-indicator 99) divided over sectors

Economic value of flows

- Non OECD
Environmental load of flows

Environmental load/value

Most relevant sectors

What limits the environmental load of consumption?

- Consumers cannot spend more than they earn.
- The environmental load per Euro determines the environmental load.
- Other factors that limit consumption are:
  - Time
  - Space
  - Calories (food products)
  - Complexity
Design implications?

- Minimise fixed costs, shift to cost per km
- Add additional offerings that can be paid with the saved costs
  - Cultural events, music, books, films, restaurants
  - Green investment savings accounts
  - Other things that prevent people from spending savings on holidays
- Too speculative???

Design rules?

- If available income, time, space, calories and complexity are limiting consumptions; design rules can be developed:
  - Income effect, per income category (cost/available income)
  - Time effect, per type of user (Time spend on the product/available free time)
  - “Fat” effect (calories in the food product)
- Designer can analyse and optimise product
### Generalised design rules?

- Consumption impact guidelines
  - Which product is replaced
  - What new need is created (and can we design additional products)
  - Impact on expenditure
  - Impact on storage space
  - Impact on time

### Proposals

- Develop continental or global consumption monitoring system like Dutch and Danish
- Research limiting factors for consumption
- Develop Consumption impact guidelines for “designers” and “marketeers”:
  - scenario analysis on consumption pattern
  - impact on environment and poverty
  - inspiring examples