



54th Swiss LCA Discussion Forum 'Ecological Scarcity 2013'

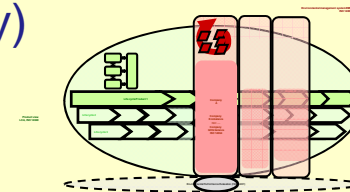
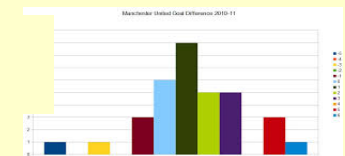
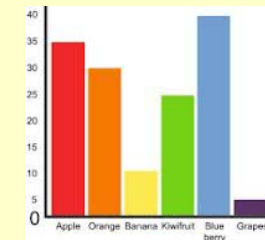
Using Ecological Scarcity in Companies

based on the experience
of McDonald's (CH) and other companies

Arthur Braunschweig, Dr. oec. HSG, Managing Partner, E2 Management Consulting AG, 5. 12. 2013

Typical questions in company environmental management

- **'Where to look for the coin?'**
(What is relevant?
Where to set priorities?)
- **How does our environmental performance develop over time?** (Eco-controlling)
- **How to compare sites, processes, products?** (Eco-Benchmarking)
- **Where to invest an available budget?** (Analyse cost-benefit ratios)
- **Where to improve products & services?** (Strategy)



Ecobalance and LCA – for which situations?

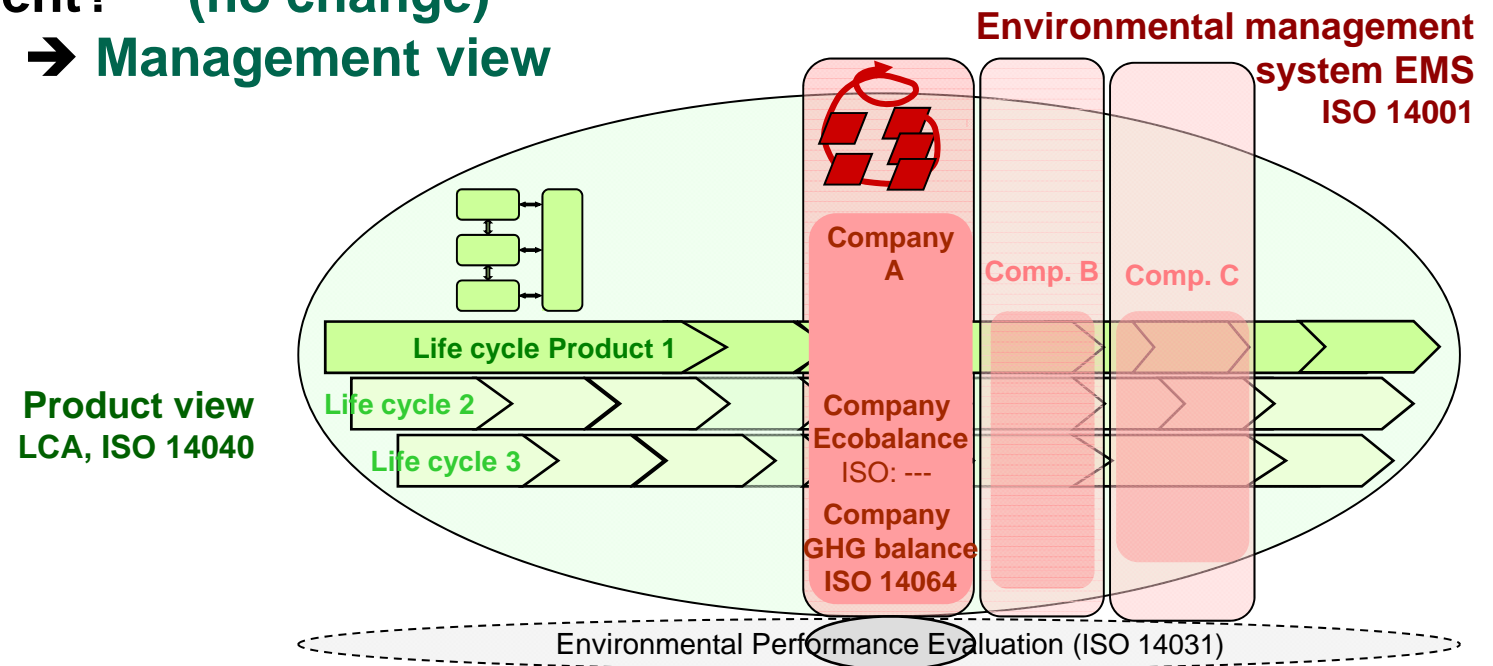
Application of LCA (* = acc. to ISO 14040)	Product view	Organisation view
<ul style="list-style-type: none"> - *Develop and improve products - *Strategic planning - *Political decision-making - *Environmental Management - *Communication (Information, PR, Marketing, etc.) - *Product Design - Controlling - Comparisons, Benchmarking - Cost-Benefit-Analysis 	<ul style="list-style-type: none"> ✓ ✓ ✓ Supp.Ch.Mgmt: ✓ ✓ ✓ (?) ✓ - 	<ul style="list-style-type: none"> Processes: ✓ ✓ - ✓ ✓ (✓) ✓ ✓ ✓

Company or product view

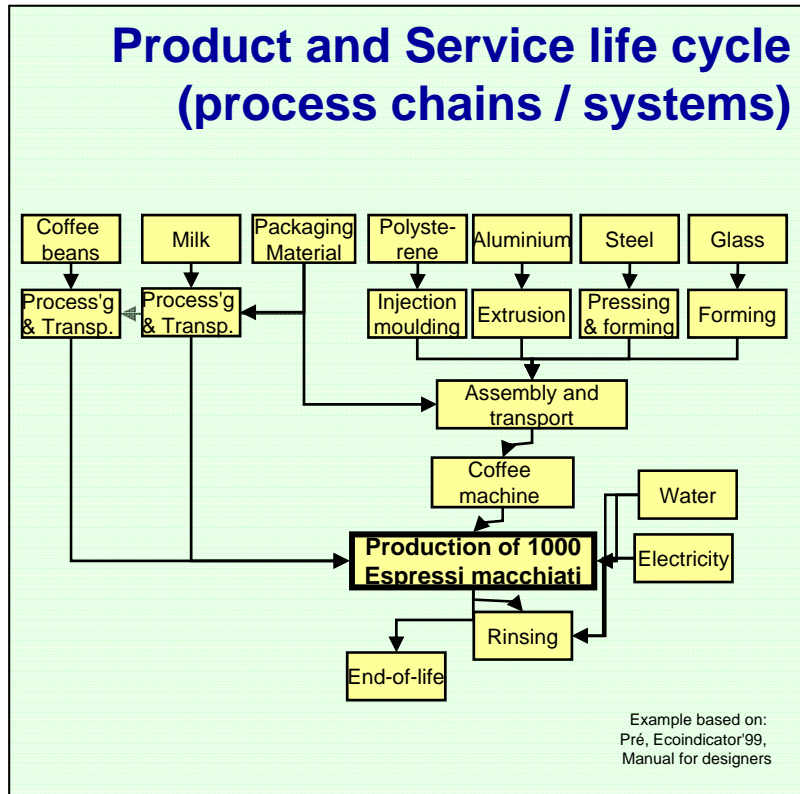
When moving between company and product (or service) view:

What changes in ...

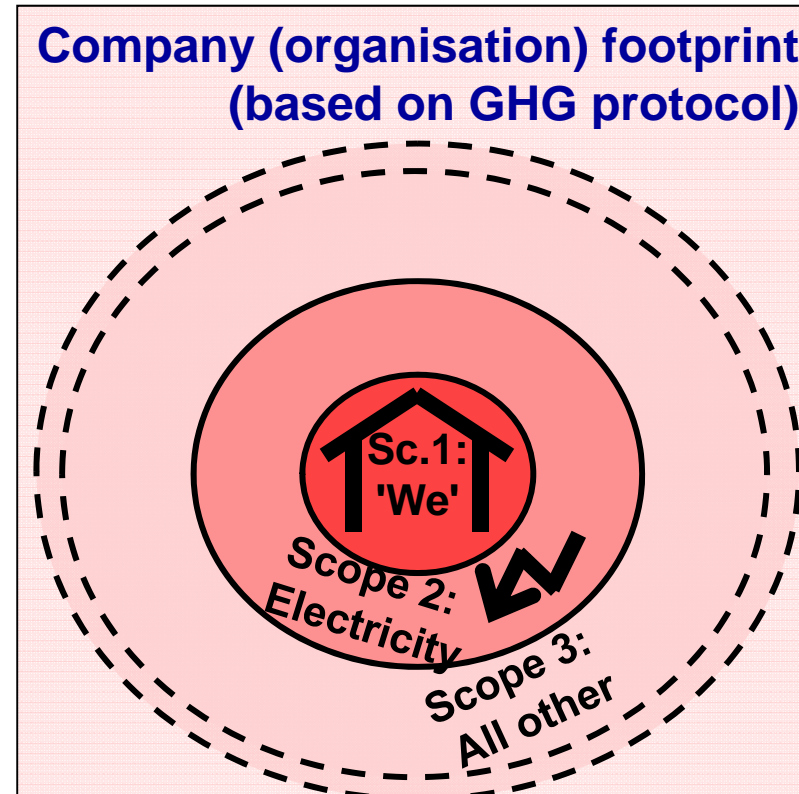
- Scoping: What we analyse → life cycle vs. organisation
- Inventory → type of primary data
- Impact assessment? (no change)
- Interpretation? → Management view



Product versus Company assessment: Scope



Similar to ISO 14040 LCA:
PAS 2050 (UK GHG-LCA standard)

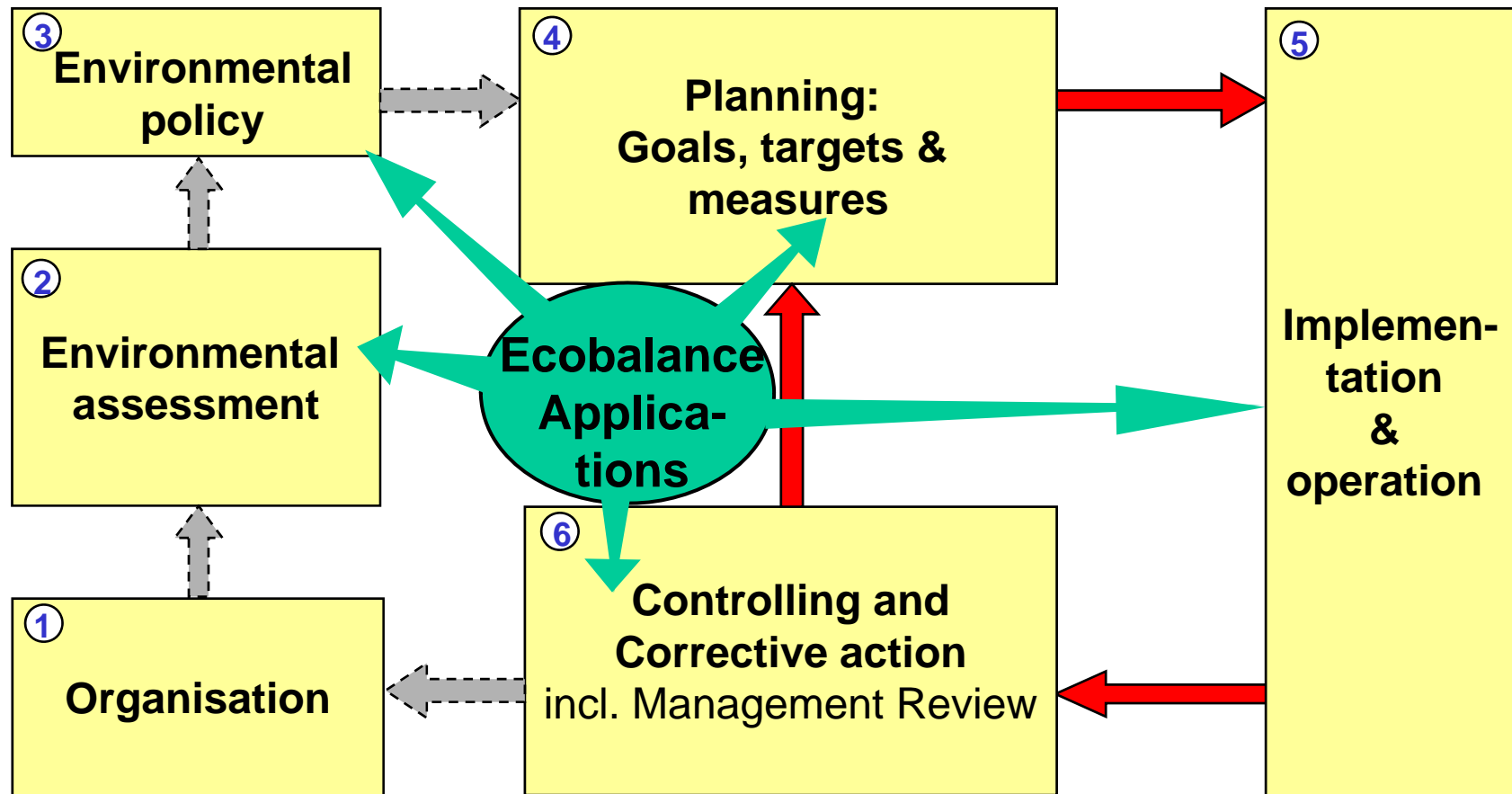


Similar to GHG protocol: ISO 14064

In the making:
Water footprint standards
EU initiatives for organisation's assessment
Next to older approaches (as e.g. applied in CH)

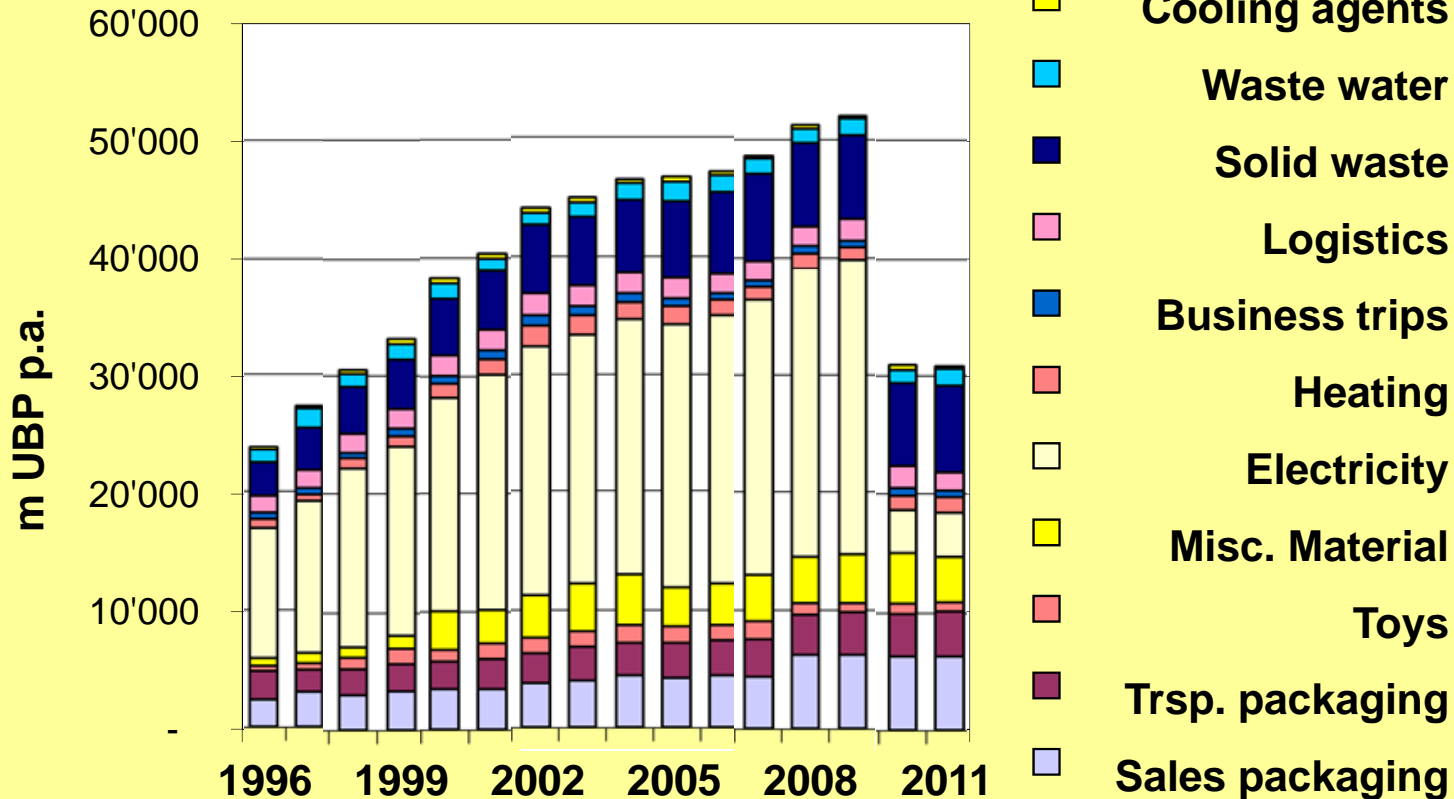
Ecobalance (env. company assessm't) as management tool LCA DF Ecoscarcity '13

Environmental performance data is key for a reasonable orientation of the environmental management. Data in the format of an 'ecobalance', based on a reasonable single score method, supports oriented decisions:



Environmental Controlling: Annual development

Ecobalance McDonald's CH 1996-2011



Strong market growth
(from ca 75 to 150
restaurants)
Turnover, size &
market share
developed similarly,
therefore see
below)

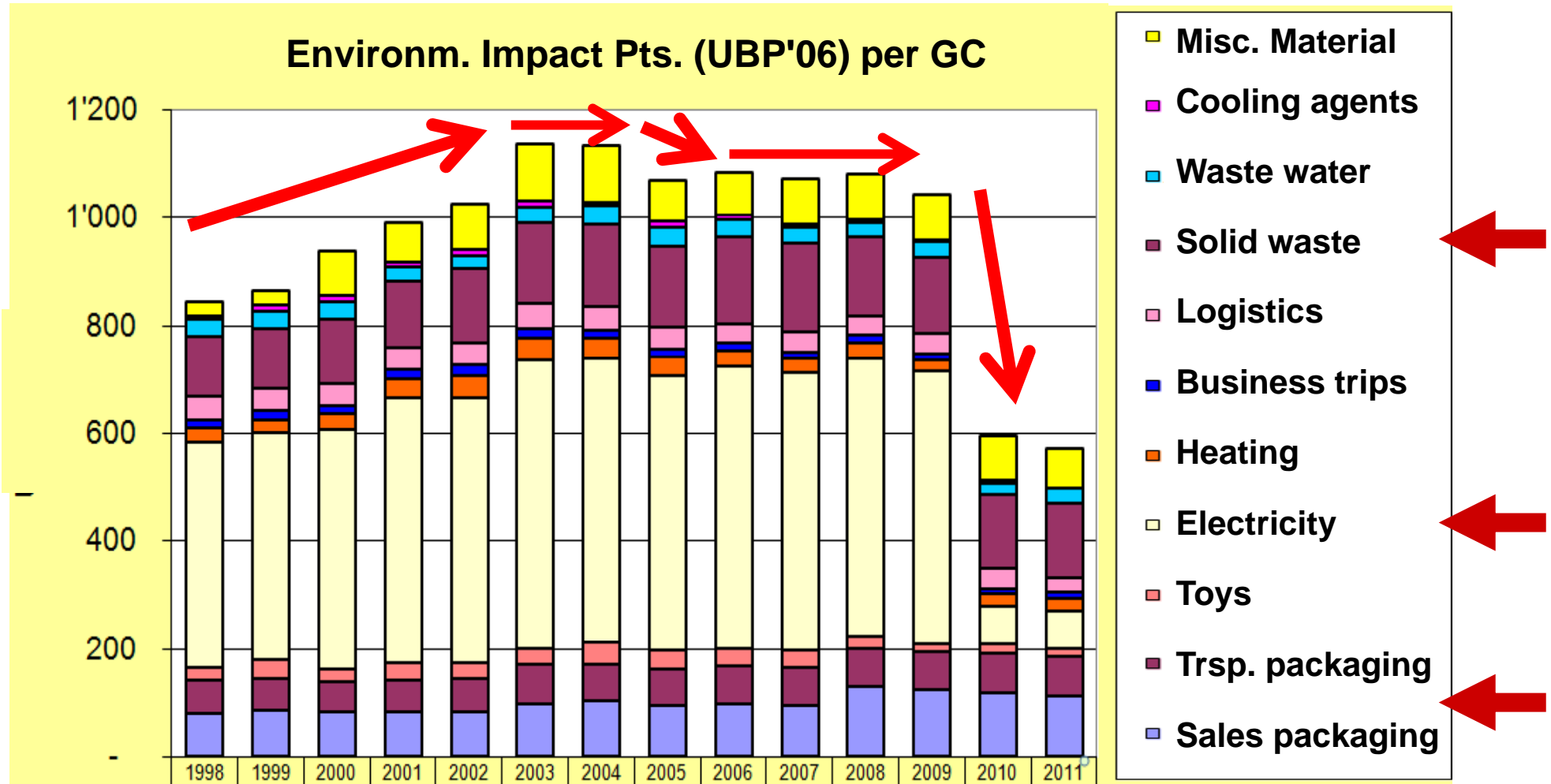
Calculation:

Foreground Inventory = Company energy use, emissions, materials use, etc.

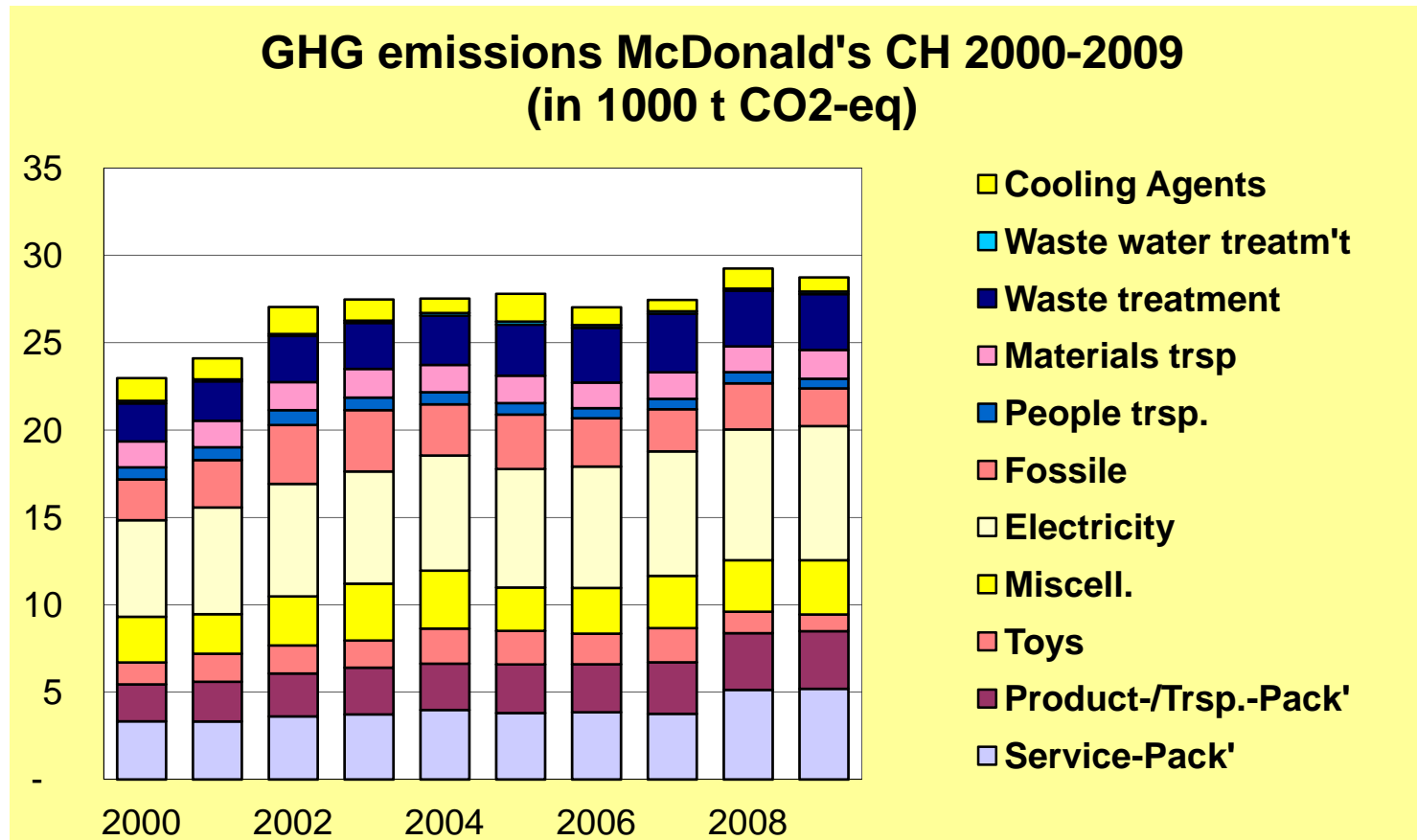
Background Inventory = Data of Ecoinvent on the up- & downstream processes

Impact Assessment = Swiss Ecopoints of these inventories

Environmental Controlling: specific impact per service



Alternative to single score: single *issue* ...



Carbon balance / Greenhouse gas analysis

→ easy to understand

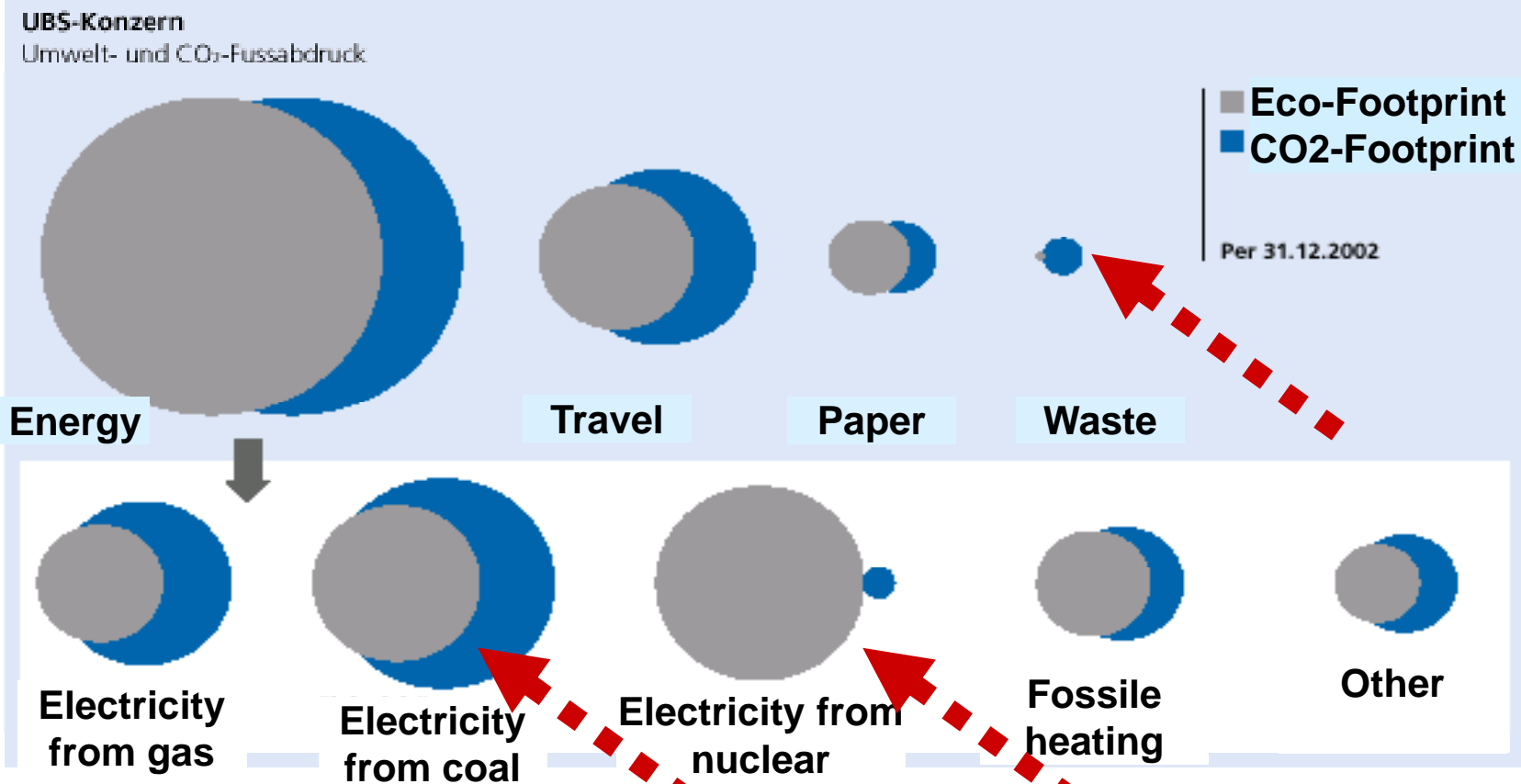
→ internationally accepted, even based on standards

→ yet only covers one environmental issue

→ useful for an energy/CO₂-'oriented' business

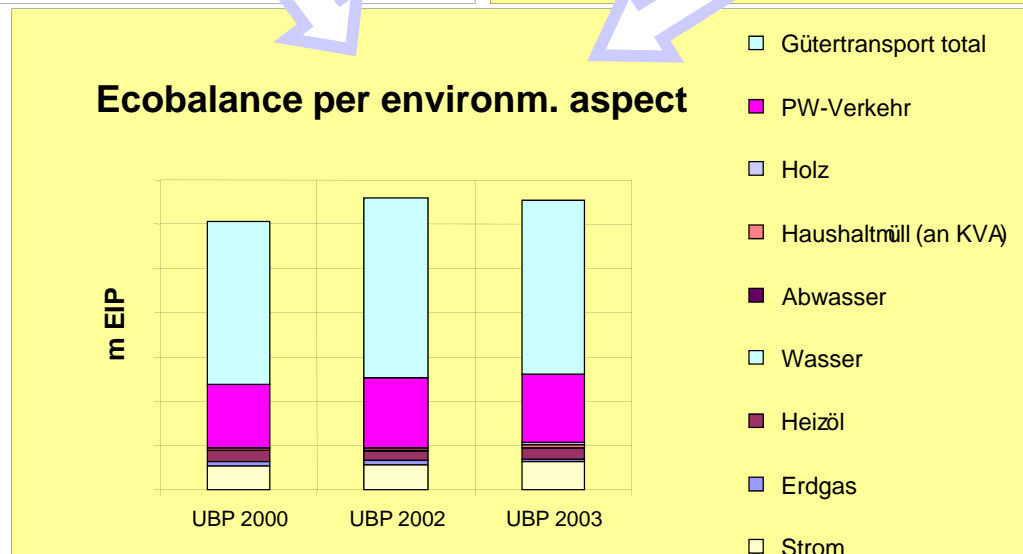
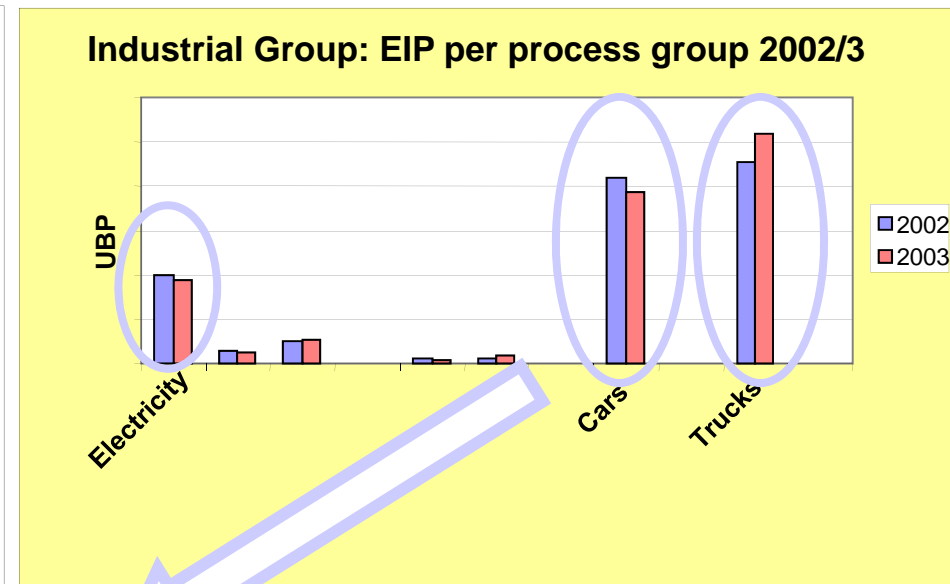
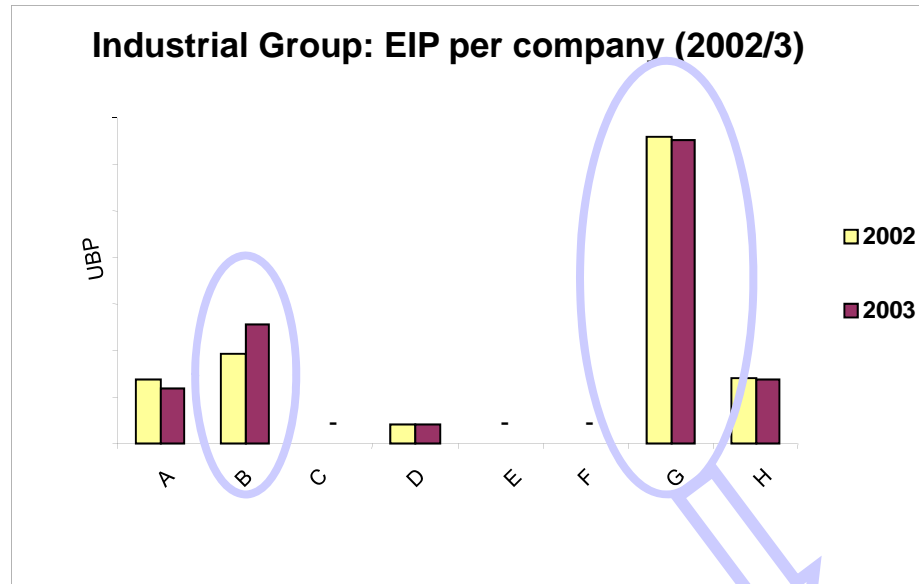
Assessment: environmental relevance analysis

Alternatively, a single score quantitative analysis can be used once, or every few years – just to set priorities. Controlling then is done on inventory level, e.g. in a financial service provider, focusing on electricity consumption, travel mileage, fossil heating consumption. Again, the single score result may differ substantially from e.g. a CO2 result.



http://www.ubs.com/g/about/ubs_environment/envreport/data/reports/2002.html; not online anymore

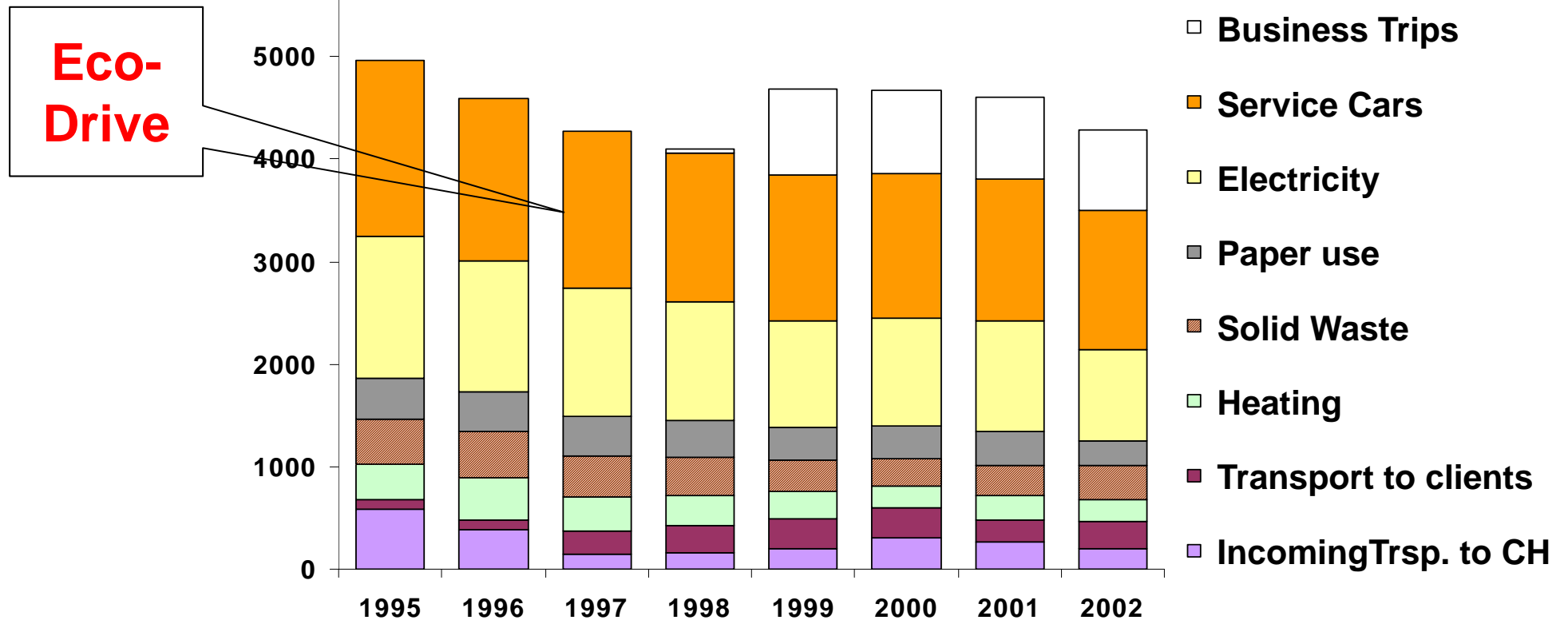
Setting priorities and controlling in a group structure



Linking company with product / service view (1/2)

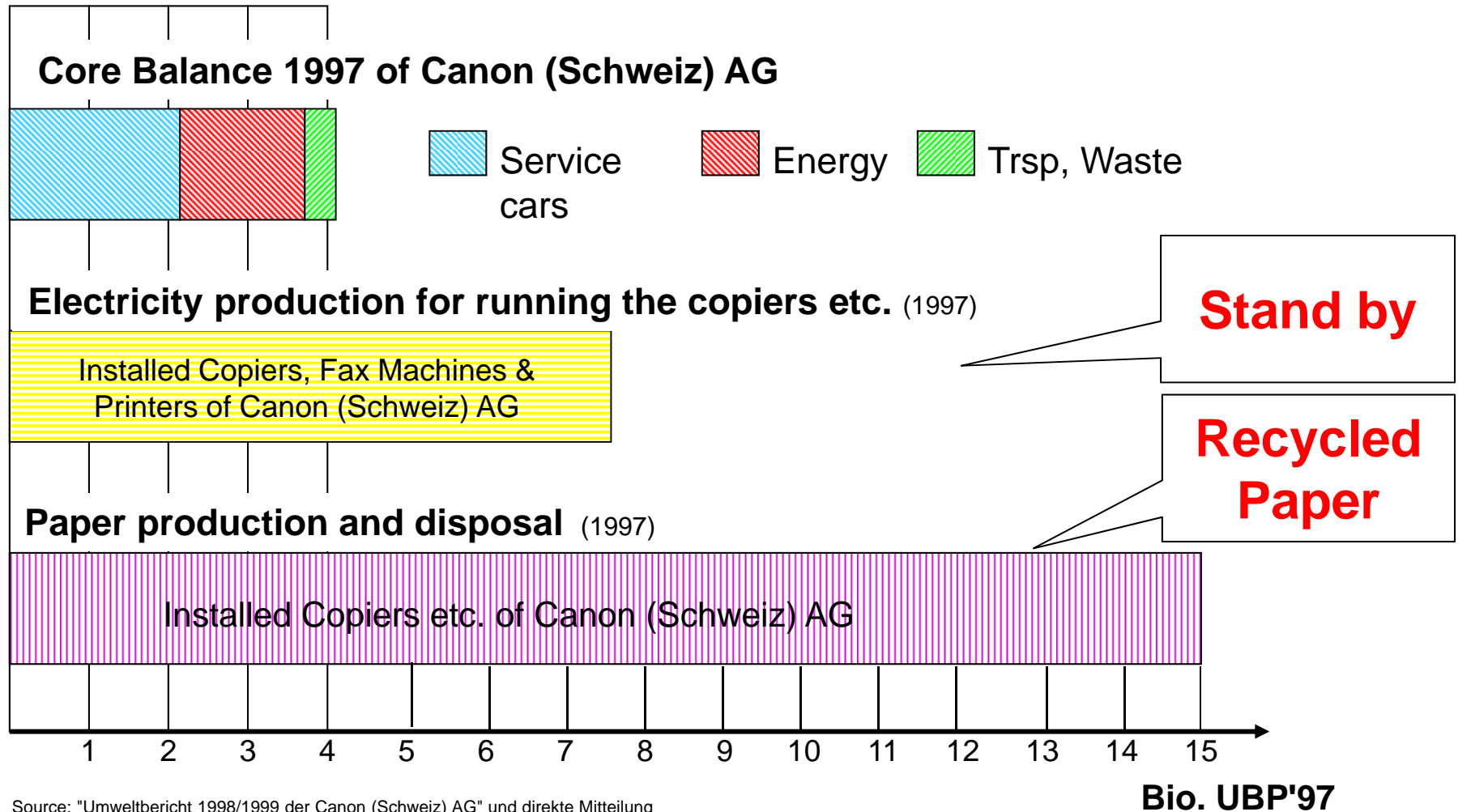
At first: company priorities

Mio. EIP'97; Core Balance Canon (Schweiz) Ltd,
plus selected additional transport processes



Source: Environmental Report 2003 Canon (Schweiz) AG

Linking company with product / service view (2/2)



Source: "Umweltbericht 1998/1999 der Canon (Schweiz) AG" und direkte Mitteilung
© Canon (Schweiz) AG

Conclusions: Positive Aspects of Ecoscarcity application

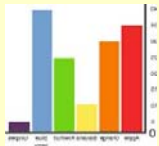
LCA DF
Ecoscarcity '13



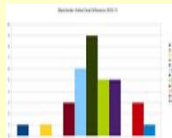
Identify relevances; setting priorities



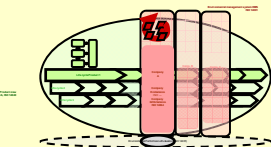
Eco-Controlling, analysis of performance over time



Eco-Benchmarking: Compare sites, processes, products





Cost-Benefit analysis: Where to invest an available budget



Strategy: Where to improve products & services?



Conclusions: Where we need to be careful

- **Does the company profile match with the weighting method? If major aspects of the company are not covered, application needs to be very cautious. (E.g.: a sports stadium, re its noise and light emissions)** 
- **If processes of the company take place far away from Switzerland, and if no adaptation (such as with fresh water use) is possible, one has to be aware of the fact that the ecofactors still represent the weighting according to the goals of the Swiss environmental policy.** 
- **Updates of the ecofactors, taking place +/- every 5 to 7 years, may of course change relative weights of certain impacts. This however, should be seen as a standard procedure.** 