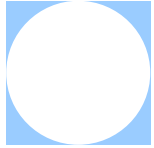


An innovative approach: LCI, LCA and I/OA data for SRI

Programme: LCA Forum, EPFL

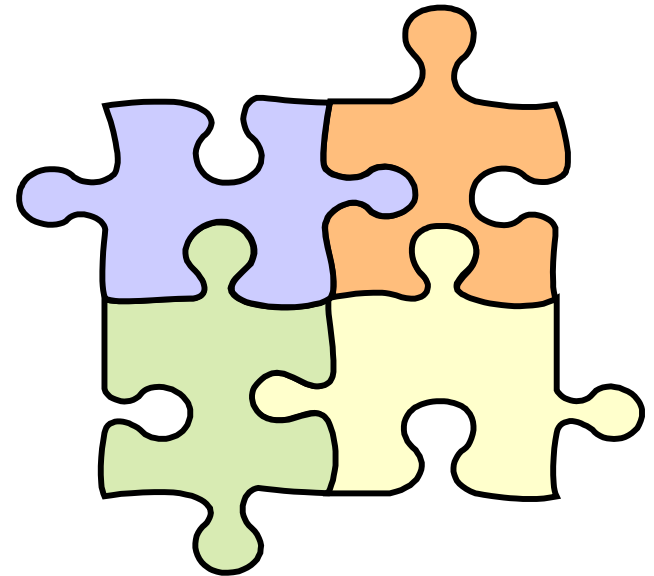
Speaker: Yvan Maillard, dipl. sc. nat. ETHZ
Centre Info SA

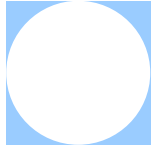


Contents

A new approach

- I. Introduction**
- II. Methodology**
 - 1. Functional Unit**
 - 2. Monetary**
 - 3. Purpose**
- III. Conclusion**



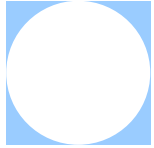


Introduction: information sources

1. Input/Output Analysis (I/OA) data for 481 sectors (Standard Industrial Classification of the DoC)
2. LCO data from ecoinvent.ch on numerous materials and processes
3. LCA studies of different products such as: cars, PC, tyres, monitors, etc.



Include these data for the environmental analysis of companies



Introduction: classic and new approach (1)

Classic approach:

- Analysis of **what companies say**
- Analysis of:
 - Transparency (env reports)
 - Environmental policy
 - Environmental mgt system
 - Data on production
 - Environmental impact of products/services

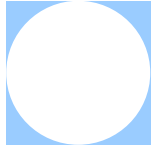
Many criteria !

New approach:

- Analysis of **what companies really do**
- Analysis of:
 - Environmental impact of products/services (during the whole life)



Less criteria but more relevant !



Introduction: classic and new approach (2)

Classic approach

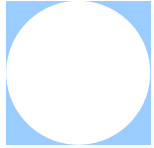
Example:

Porsche has a very good env mgt system and a very good env policy: good company (even if cars are very polluting)



New approach

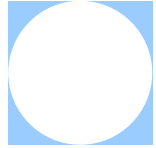
Example:

Renault sells the cars with the lowest CO2 emission per car: best company



Methodology: two steps

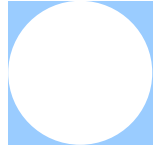
- 1. We first rate the subindustries:**
for example, in the Industry Group «Energy», we have two subindustries:
 - Integrated Oil & Gas: better rating
 - Coal and Consumable Fuels: worse rating rating for the subindustry
- 2. We then rate the companies within the subindustry:**
for example, in the Subindustry «Integrated Oil & Gas», companies with a high stake of gas (British Gas) have a better rating than companies that do not market gas (and have no renewable energies)
 rating of the company



Methodology: 3 approaches

- 1. Functional unit, if available**
- 2. Monetary approach, if no FU**
- 3. Purpose approach, for indirect impacts**

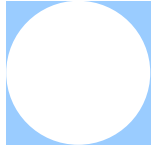
**We analyse the impact of the
products/services of a subindustry during
the whole product life**



Methodology: 1. Functional unit

Functional unit:

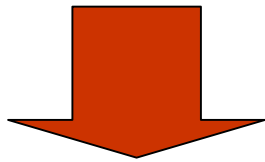
- **Car Industry: g CO₂ per km per car**
- **Oil & Gas Industry: g CO₂/GJ energy**
- **Air/Marine/Road Transportation:
g CO₂/passenger or ton transported x km**



Subindustry: Car Manufacturers

LCA of a Golf A4 (Schwein et al.):

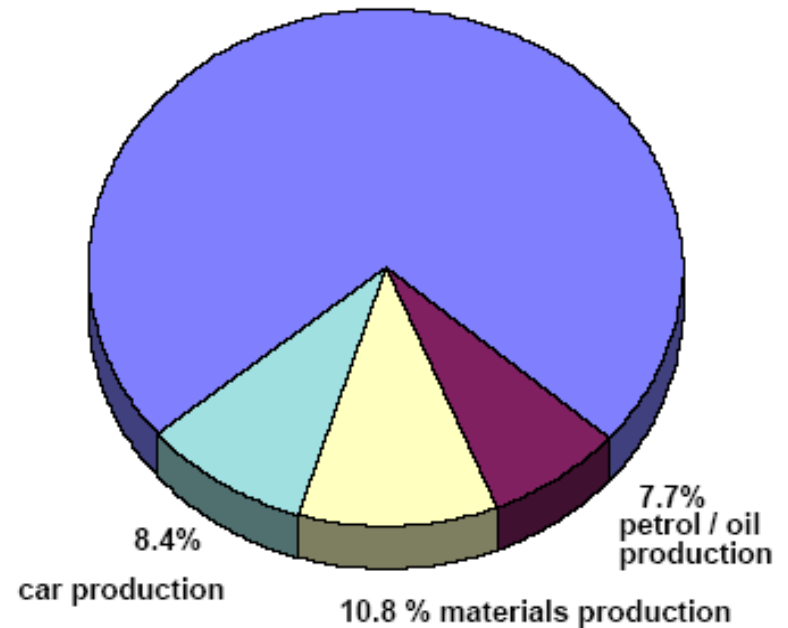
73% of the energy use during the use phase.

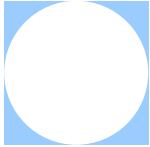


LCA allow us to **focus** only the **most important phase** (the use phase) and rank companies accordingly.

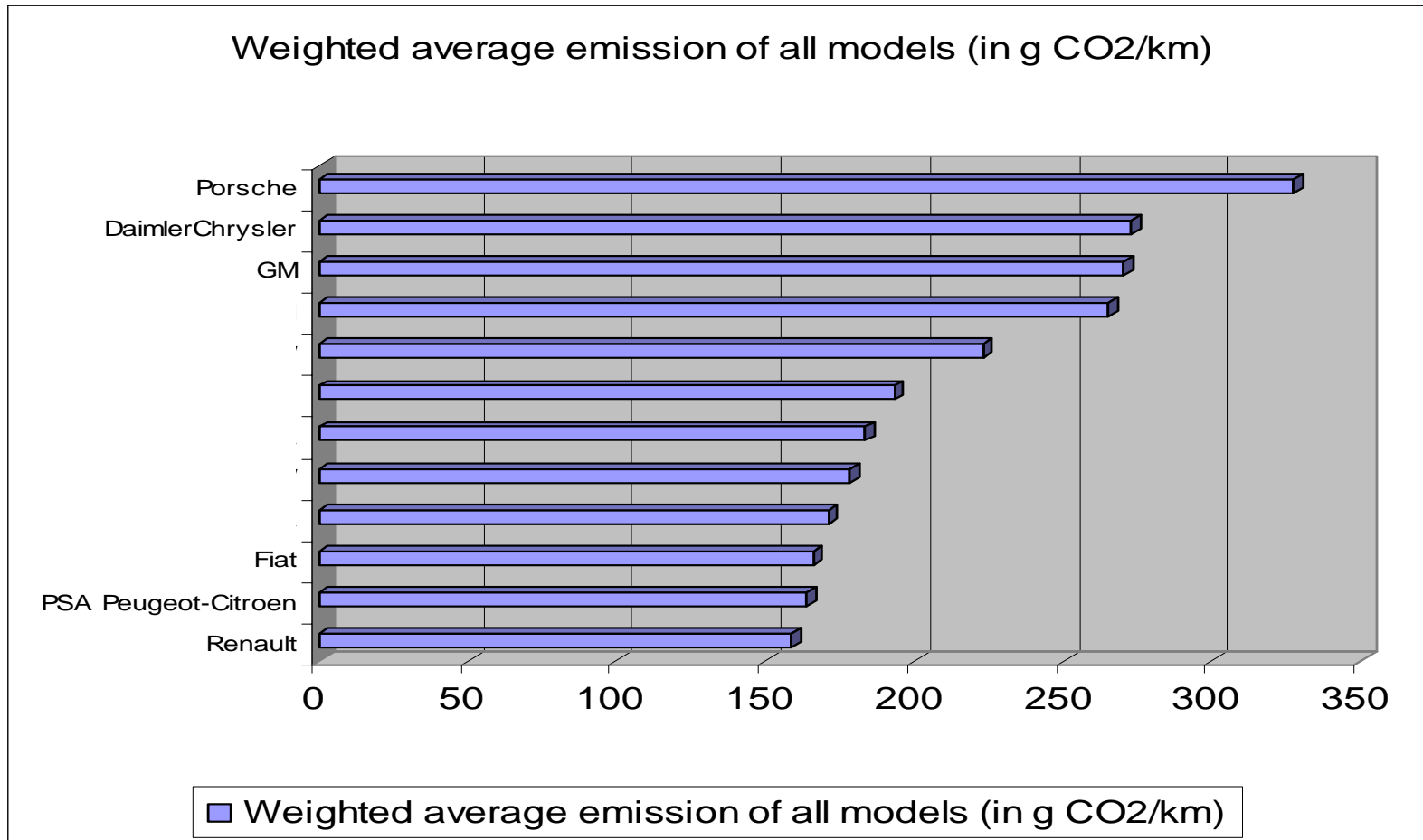
Golf A4, 1.4 l 55 kW Otto
Consumption 6.55 l/100 km

73.1% Use phase

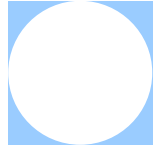




Subindustry: Car Manufacturers



Source: Study of car manufacturers, Centre Info SA, February 2005.

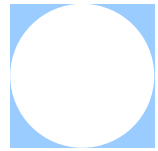


Methodology: 2. Monetary

How to rate companies with the monetary approach?

We compare the env impact of making \$1 million by selling apparel with the env impact of making \$1 million by selling books

Economic I/O data from Green Design Initiative of the Carnegie Mellon University



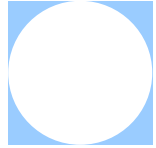
Rating companies according to the monetary approach

Example: Subindustry Specialty Stores

What do they sell?

- apparel (640 t CO₂/1 million USD turnover),
- toys (564 t CO₂),
- wood furniture (531 t CO₂),
- perfumes (449 t CO₂),
- periodicals and newspapers (average of 377 t CO₂),
- jewelry (366 t CO₂),
- books (277 t CO₂).

All companies have a mix of these products. We rank companies according to their mix of products.

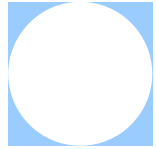


Methodology: Purpose approach

We rank companies according to the purpose their products are used (we assess the indirect environmental impact of products)

Example: Construction companies: building a road is not the same as building a railway. Because rail is a better transportation mode than road.

Example: Insurance companies: insuring an aircraft is not the same as insuring insuring people's life.

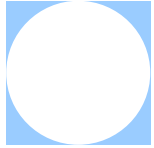


Conclusion

It is time for SRI to benefit from LCI, LCA and I/OA data !

Strengths :

- 1. Analyse what companies really do**
- 2. Less indicators for more relevance**
- 3. Methodology based on LCI, LCA and I/OA philosophy**
- 4. Move the industry to a sustainable way**



End

Thank you for your attention !