

Session: Lundi 26 novembre 2007

# Evaluation de l'impact environnemental du BIB



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# LIFE CYCLE ASSESSMENT



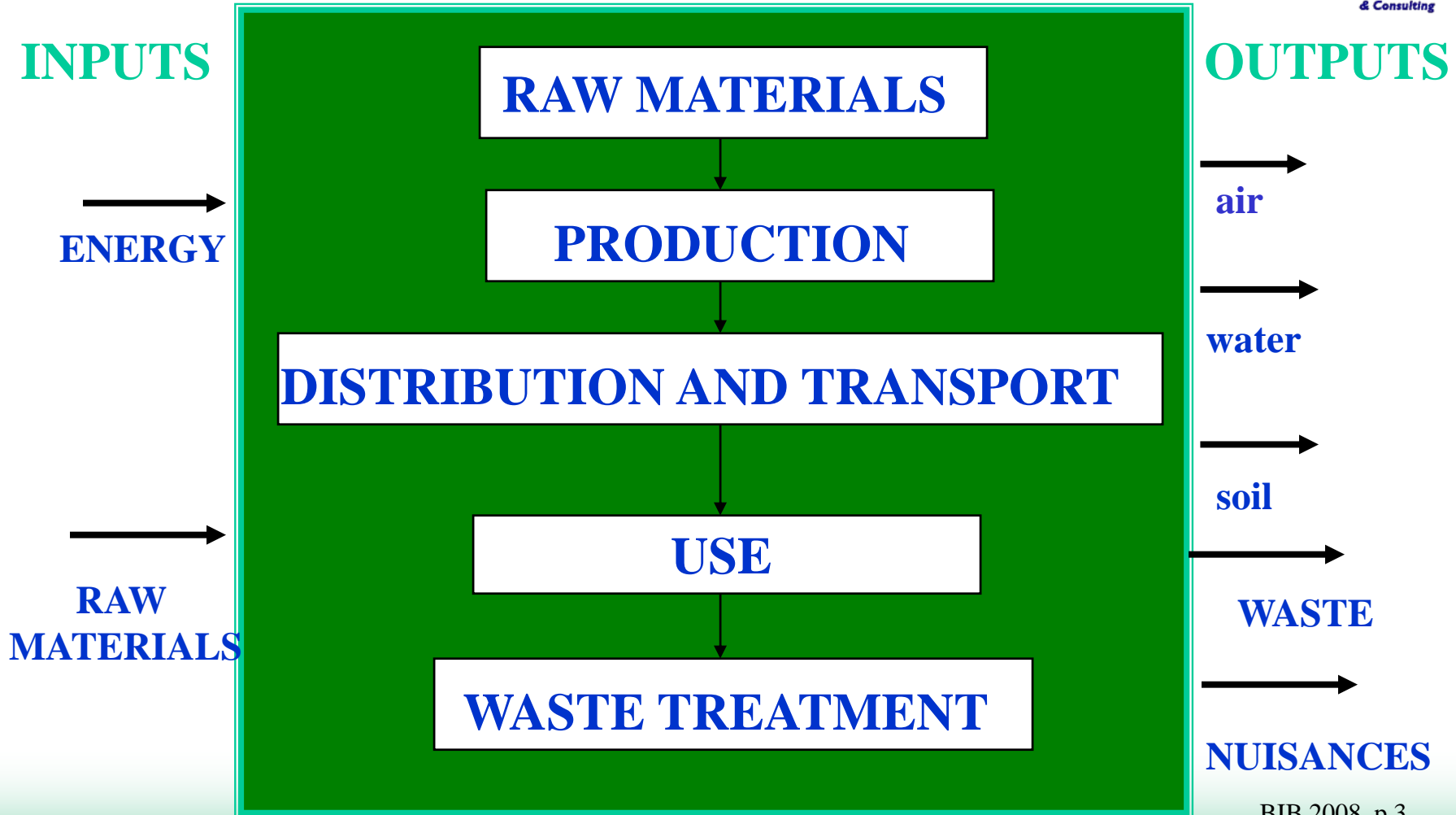
## *What is LCA ?*

A LCA is a global analysis of the environmental impacts, directly or indirectly caused by a product, material or process, or more generally, by a system over its entire life cycle.

“FROM CRADLE TO GRAVE”

# LIFE CYCLE ASSESSMENT

## *What is a Life Cycle ?*



# LIFE CYCLE ASSESSMENT

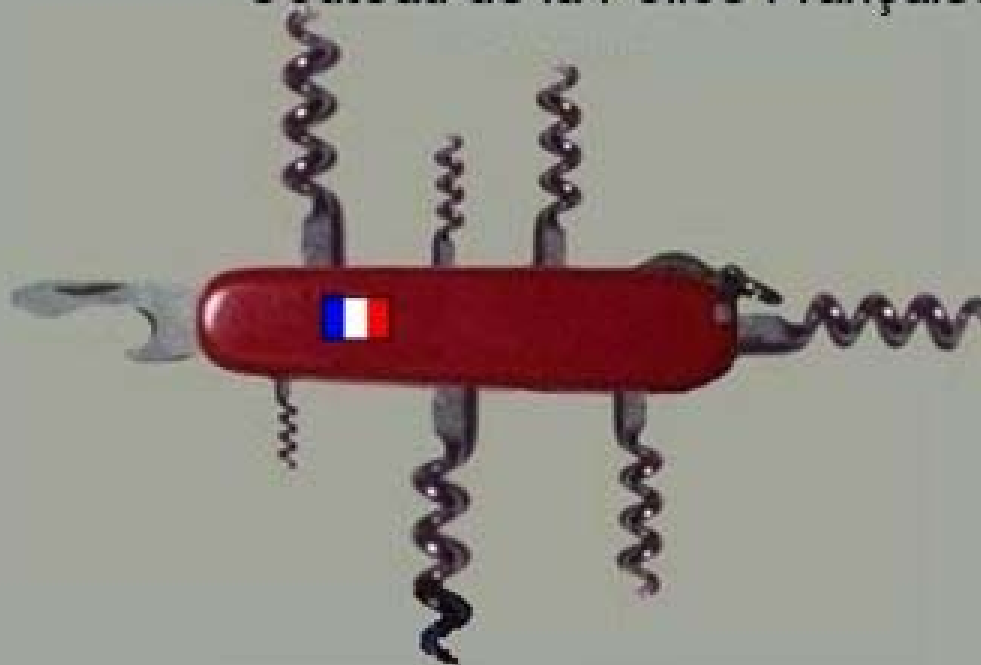
## *Types of results and goals*

- Ecoprofile : comparative environmental impacts throughout the LC
  - ➔ to make a choice among products, technologies, (waste) management options
- Areas of (or specific suggestions for) improvement
  - ➔ to improve products, technologies, (waste) management options

## Couteau de la Police Suisse

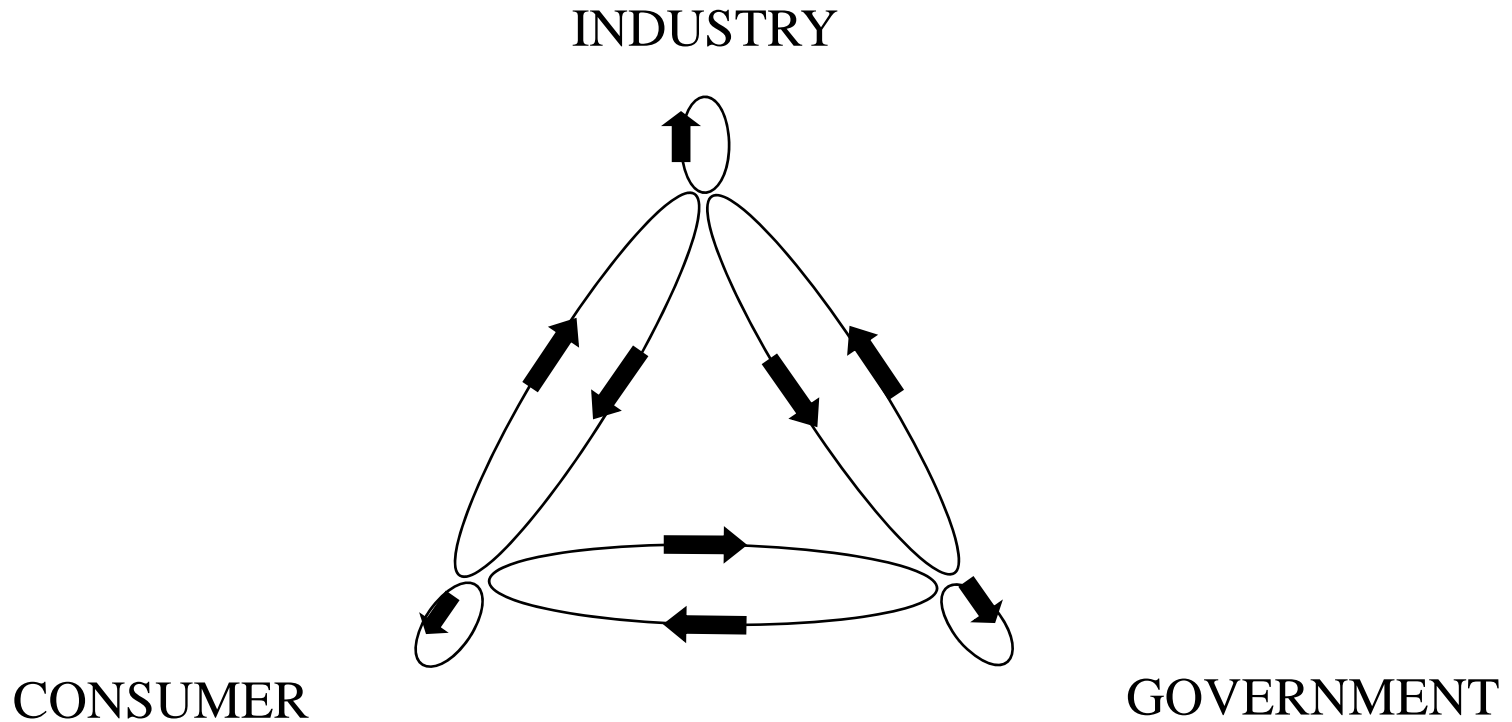


## Couteau de la Police Française



# LIFE CYCLE ASSESSMENT

## *Applications*



# LIFE CYCLE ASSESSMENT

## *Study stages*

- 1) Definition of goal, scope, concerned processes
- 2) Inventory
  - i. Development of the process tree
  - ii. Identification and quantification of :
    - a) energy and materials consumption
    - b) emissions to air/water/soil
    - c) waste production
- 3) Impact analysis and evaluation
- 4) (Improvement analysis)

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*Overview impact categories according to size of impact area*

## 1) world

- global warming potential
- ozone depletion
- depletion of resources (energy and materials)

## 2) continental (<1000 km)

- acidification
- radioactive particles

## 3) regional (<100 km)

- photochemical oxidant formation
- waste production
- human toxicity
- ecotoxicity
- ...

## 4) local (<5 km)

- smell
- noise and vibrations
- landscape



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## *Impact analysis*

### 2) Characterisation

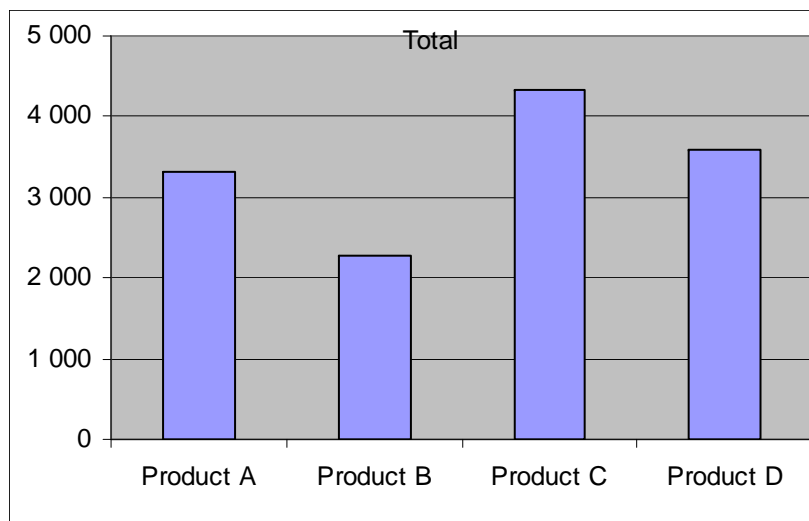
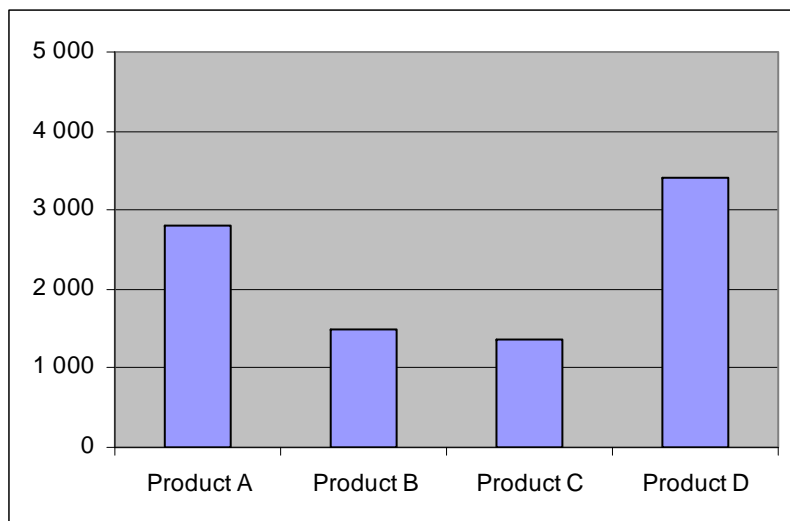
aggregation of the impacts into impact categories

e.g. by aggregating the emissions of greenhouse gases, GWP values are used as weighting factors

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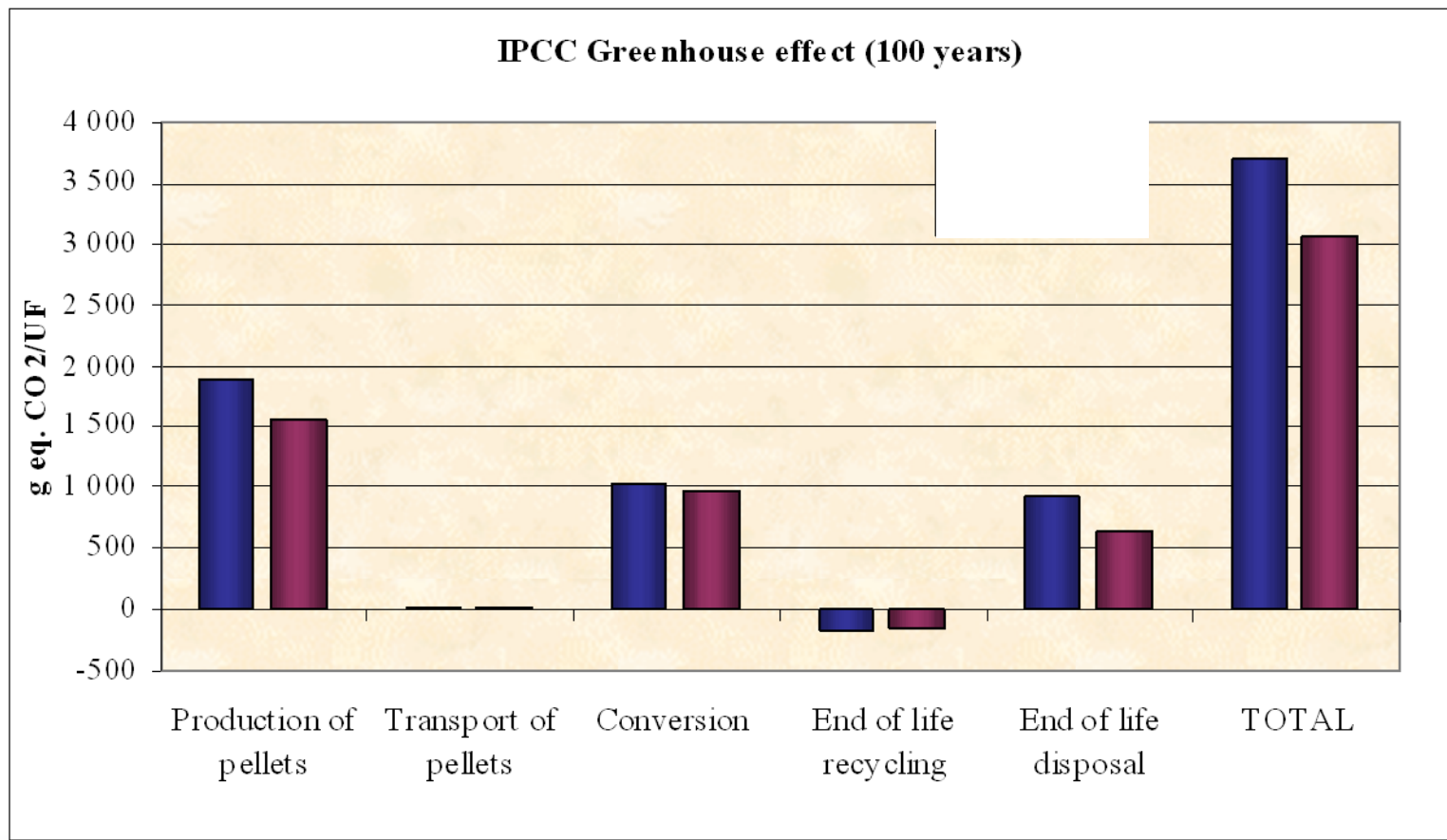
	Equip	Product A	Product B	Product C	Product D
CO2	1	2 800	1 500	1 357	3 400
CH4	23	23	34	129	8

CO2	1	2 800	1 500	1 357	3 400
CH4	23	529	782	2 967	184
Total		3 329	2 282	4 324	3 584



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## *Impact analysis - results*





Research Development  
& Consulting

# LIFE CYCLE ASSESSMENT

## *Cost-Benefit Analysis (CBA)*

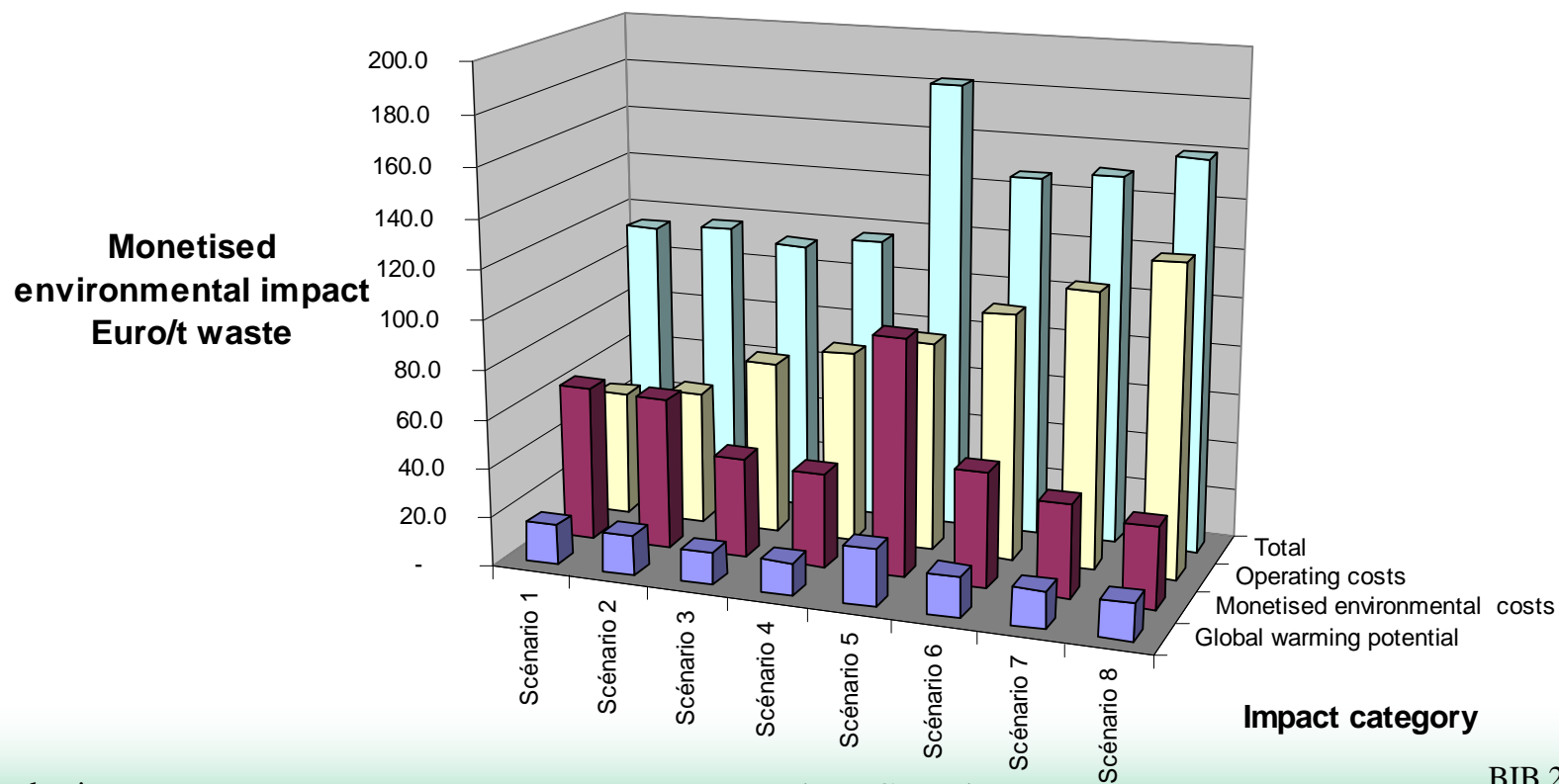
➔ includes social impacts and economic costs

- Global analysis of the environmental, social and economic information
- Sustainable development
- Requires methods to aggregate all three types of factors

# LIFE CYCLE ASSESSMENT

## *Impact analysis - results*

### Organic waste treatment scenario comparison



# LIFE CYCLE ASSESSMENT

## *BIB*

### Many similarities with LBC

- Lot of board (renewable)
- Laminate multilayer (plastics, Al)
- Efficient transportation

LBC has a good environmental position





# LIFE CYCLE ASSESSMENT

## *BIB*

### Important phases

- Materials production
- Product losses
- Transport
- (end-of-life)

Not important : Packaging production, filling, printing

# TRI SELECTIF

**BIERE**

**PASTIS**

**RHUM**

**VIN**



# LIFE CYCLE ASSESSMENT

## *Carbon footprint*

= LCA limited to climate change

- Method = LCA
- Incomplete but market demand

Not important : Packaging production, filling,  
printing