

RELIER ÉCONOMIE ET ÉCOLOGIE

**PROJECT:
CIRCULAR
VAT**

February 16

2011

Correcting the final price of goods and services through significant variations in VAT rates, in order to internalize environmental externalities

Draft

1) INTRODUCTION

The collapse of the Soviet economy can be partly explained by the fact that prices did not correspond to actual economic costs.

The current free market economy collides with a similar obstacle: prices do not correspond to actual environmental costs.

Internalizing the costs of negative externalities in the prices of goods and services has become a **major challenge to maintain business activities** and to follow the path of sustainability.

2) A REGULATORY FRAMEWORK WITH LIMITED IMPACT

Products, manufacturing processes, and business activities of all types have been subject to a large set of regulations since decades. This regulatory framework unarguably contributes to limit the environmental decline that threatens our economy. However, **it now struggles to meet local challenges and, more importantly, planetary challenges.**

Attempts to strengthen this regulatory framework regularly fail to overcome opposition from business representatives who express concern over loss of competitiveness in a globalized free market, that could lead to economic decline.

Tax increases based on the polluter pays principle do not always have the expected deterrent effect. These additional costs, which mainly apply to the intermediate levels of manufacturing processes, account for only a small fraction of the final price of goods and services. Thus, they are “discreetly” integrated in the price paid by consumers and rarely lead to significantly reconsider industrial and business processes.

The existing measures have enabled to reduce only the relative environmental pressure (in relation to economic growth), and not in absolute terms. End-of-pipe

treatments, which reinforce traditional technological paths, have often been preferred over major changes in operational solutions (example of the automobile with fuel consumption reduction, particulate filters, etc.).

3) A TIRED ECONOMIC MODEL

Drastic changes are needed in the new century to make a move towards new territories of economic development.

Our economic activities are simply the linear continuation of early 19th century industrial breakthroughs and mid-20th hyperconsumerism.

A quick look at any encyclopedia published between 1850 and 1930 shows how the scope of possibilities seemed endless at the time, compared to our current perspectives for technological, scientific and human development.

How bitter seemed the change of millennium compared to what 1960's science-fiction authors imagined!

4) A DISORIENTED CIVIL SOCIETY

Some parts of society are starting to question consumerism and the economic model that was supposed to bring happiness and prosperity.

Reduction of purchasing power, felt by the majority of the population as hindering access to a happy life, and planned obsolescence, that leads to faster replacement of goods, result in chronic dissatisfaction and ever-increasing frustration.

In this situation, **it seems rather bold to ask consumers to make additional efforts** for future generations.

The emerging **new consumer movements have a limited impact on the market**, with an actual effective influence that varies approximately between 5 and 10 percent market share, depending on the industry, with exceptional peaks at 30 percent in specific industries.

Hope remains, but more is required to provoke a shift in production and consumption modes.

The development of new modes of consumption has been hindered by **misleading environmental communication**, with firms engaging in greenwashing, and by the late development of standard environmental information on consumer goods. The low share of eco-labeled products in the GDP is an illustration of the critical slowness of this evolution.

Alarm signals about the state of our local and global environment are regularly relayed more or less effectively by the media, leaving **consumers in a critical situation**, either because they cannot pay "more", or because they cannot find available offers when they want to improve their consumption habits.

5) THE ECONOMY: A FIELD OF OPPORTUNITIES TO PROVOKE DRASTIC CHANGES

While economic activities, in particular the industrial and business sectors, have been and are still responsible for environmental decline (depletion of non-renewable resources, pollutant emissions, waste generation), they represent an extraordinary lever to adopt new, more virtuous, practices.

Under an authoritarian regime, in a partially protected territory, such as China, drastic changes can be initiated by coercive measures (see China's Circular Economy Promotion Law, passed on August 29, 2008).

However, in a democratic, open, free market system, substantial changes require the introduction of **new rules** that all stakeholders can accept. In order for changes to generate actual breakthroughs, they need to be enhanced by **positive feedback loops** that enable a **shift of balance between demand and supply**.

This approach goes well beyond tax increases or regulatory frameworks, which constitute linear evolutions, and rarely trigger the expected shifts.

The challenge is not simply to do environmental economics, but **to introduce the environment into the economy.**

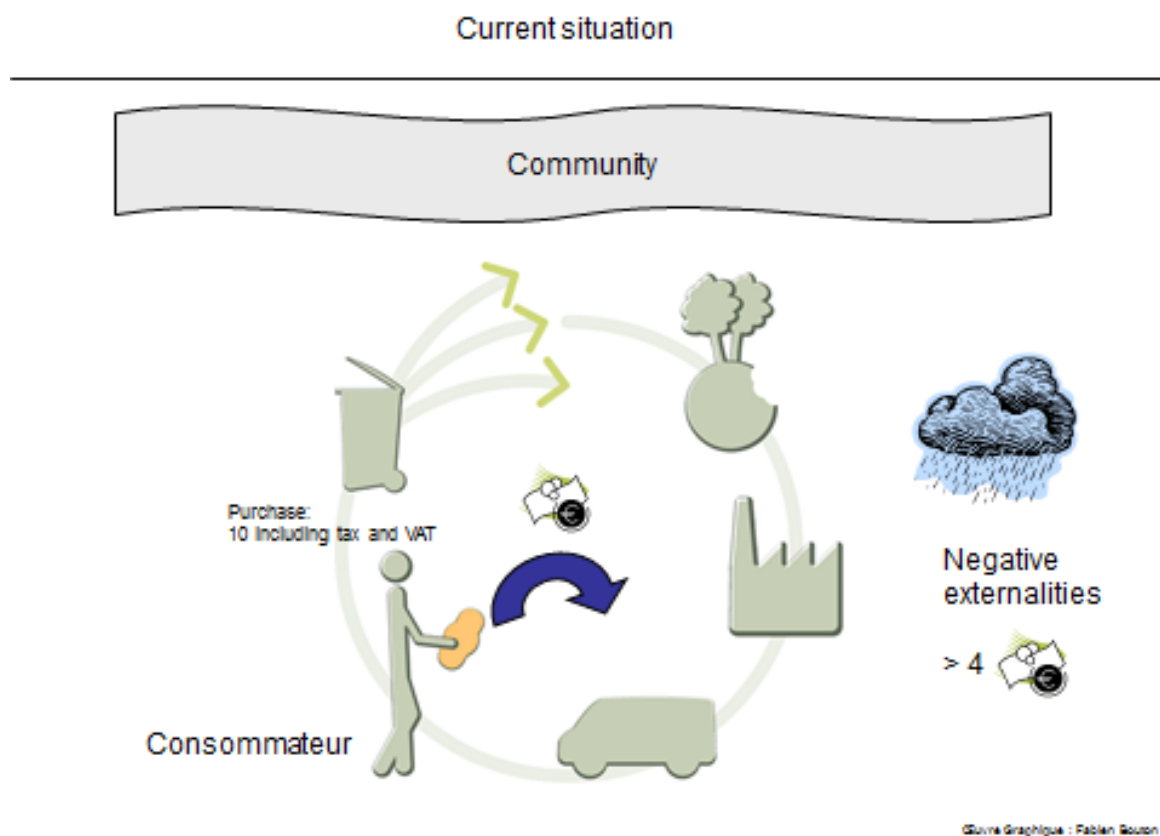
Among the many possibilities (*) of **system-altering economic shifts**, the introduction of a **CIRCULAR VAT** appears as a particularly relevant measure.

The objective would be to correct the final price of goods and services through significant variations in VAT rates, in order to internalize environmental externalities.

* Other such measures include corporate taxes, interest rate levels, etc.

6) SYSTEMS APPROACH TO THE ECONOMY Production – Consumption.

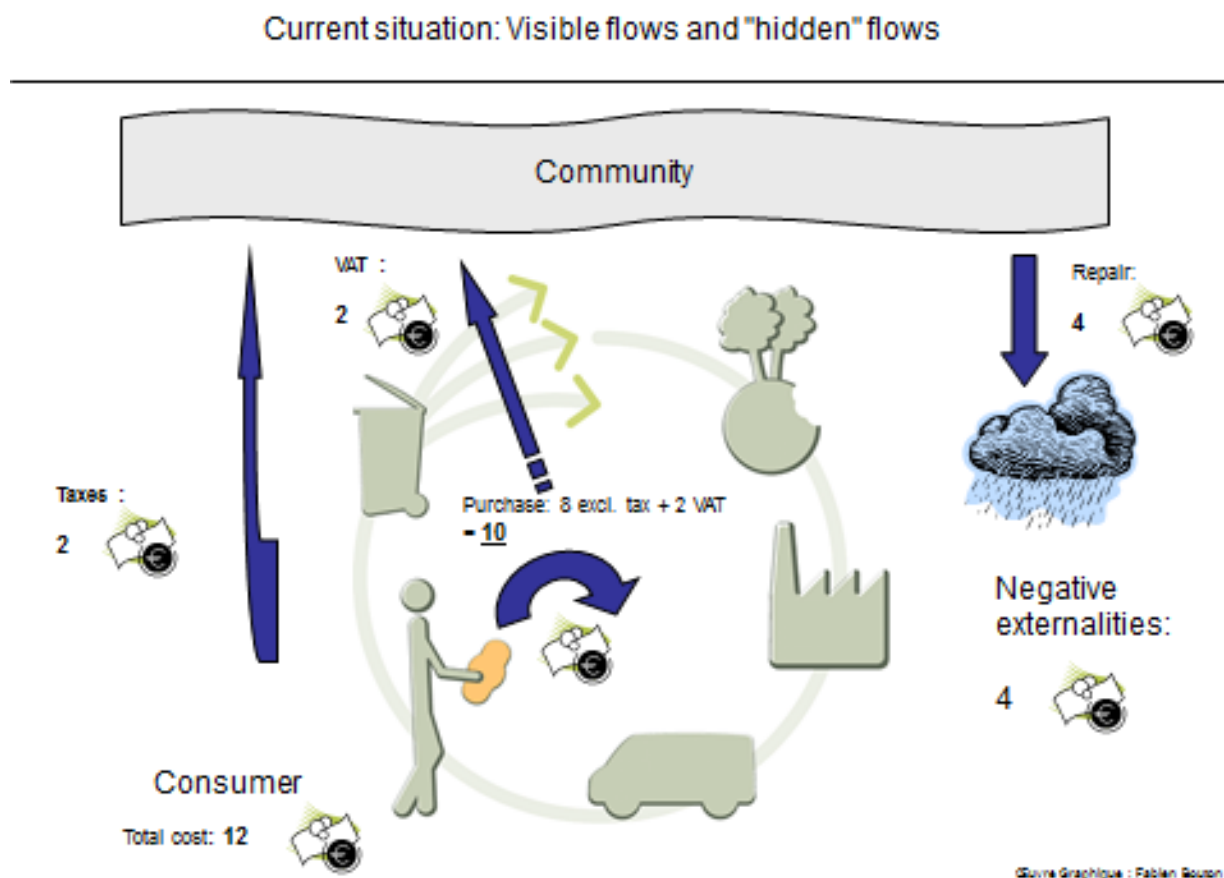
Generally speaking, economic activities generate environmental externalities that are not included in transaction amounts.



Negative externalities are costs incurred by the community, which require resources to be repaired, in order to avoid the deficit to grow, as well as potential negative consequences for future generations.

Financial flows associated to the typical act of consumption thus have other underlying flows that finance compensation activities through direct and indirect taxes, as well as other types of deductions.

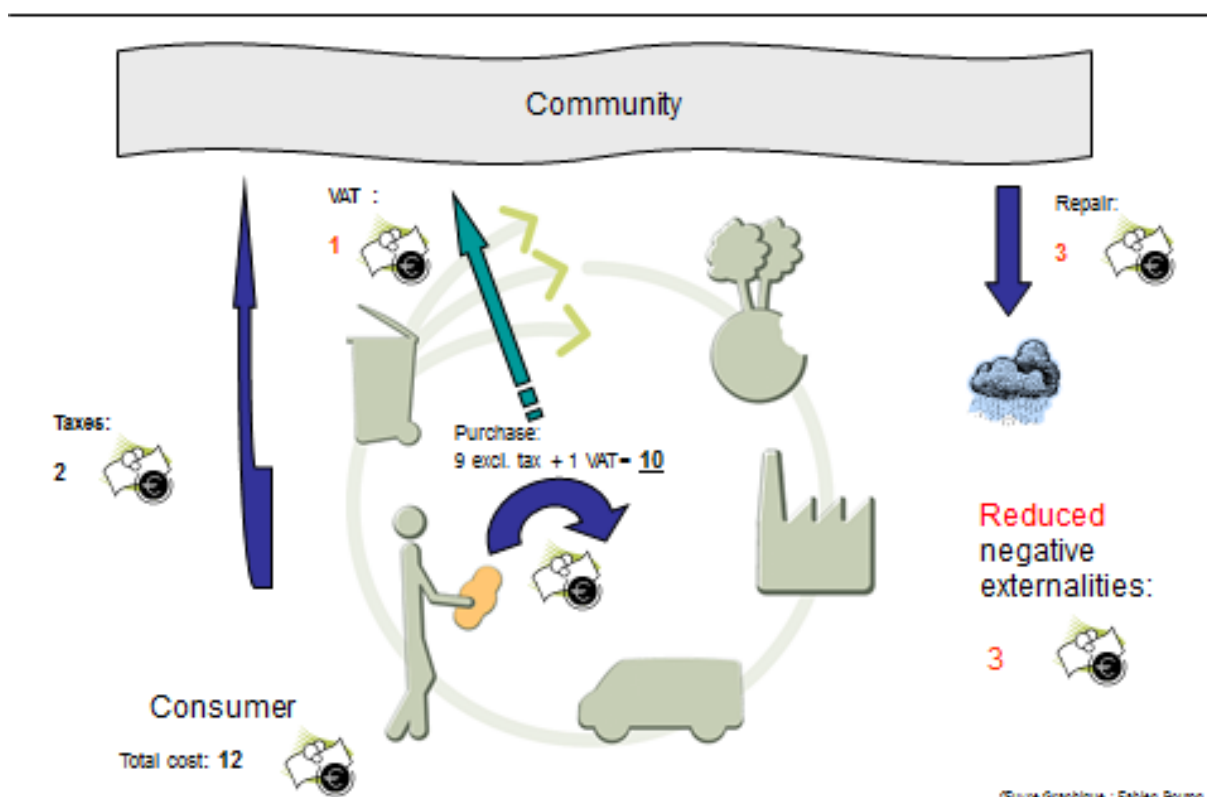
Broadly speaking, these "hidden" flows increase the global consumption cost:



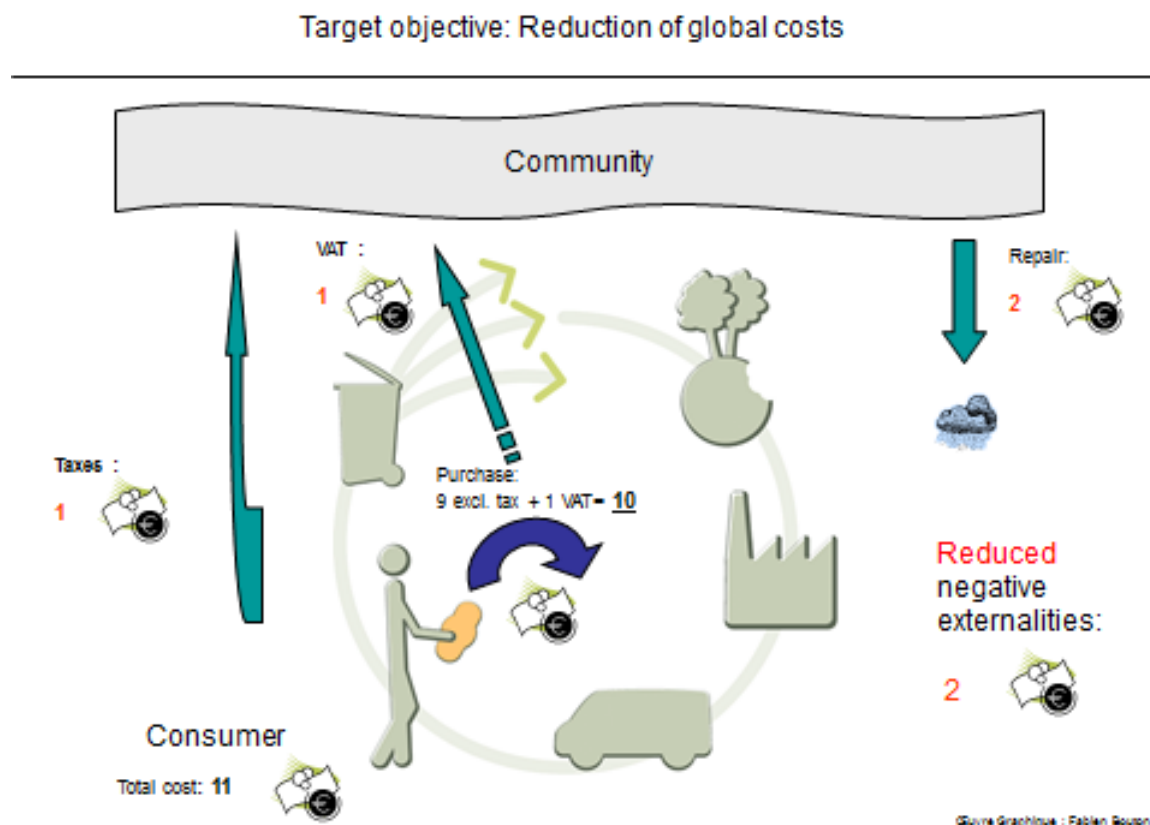
(Most optimistic scenario in which the community offsets the total amount of negative externalities. The actual situation is quite different.)

Introducing a (limited) circular VAT on goods and services, for which evidence is provided that they generate less negative externalities, could improve the global situation without increasing sales prices, nor the set of costs incurred by the consumer.

Introduction of a (limited) circular VAT



Eventually, this should lead to the development of new consumption and production modes, as well as other similar measures applied to other financial flows (corporate taxes, etc.), enabling to further reduce negative externalities:



The figures provide a very simplified representation of the issue:

- The amount of negative externalities is only indicative
- The proportion of externalities that the community offsets is highly variable. In the majority of cases, experience shows an increase of the deficit, rather than an offset.
- The offset costs of environmental damage are a lot higher than real time offset costs.
- Tax flows are only indicative

Such a CIRCULAR VAT has several advantages:

- It introduces an **incitative** process, which is compatible with a free market economy in a democratic regime and, given the stakes that it involves, which **will not leave economic actors indifferent**.
- **It does not transfer** additional economic costs **to the end consumer**, who would ULTIMATELY pay approximately the same price (or less...) for a responsible product that benefits from reduced VAT, despite higher manufacturing costs (or not...).
- **It does not induce market distortion**, which would not be acceptable according to international business regulations, since the method applies to both imported products and products whose manufacturing includes steps performed outside of the European economic area.
- It reintroduces costs incurred by the community into the market economy and **avoids risks** of increased **environmental deficits** passed on to future generations.

APPENDIX 1:

CONSTRUCTION OF A CIRCULAR VAT: METHODS AND TOOLS EXIST BUT THEY ARE INCOMPLETE

Tools such as Life Cycle Analysis (LCA, and also MFA, ESR, etc) enable to characterize and assess environmental impacts, and thus externalities, with a variable level of reliability that is nevertheless recognized as acceptable by most of the scientific community.

The **Monetization of Impacts** (resulting for example from a Life Cycle Analysis) enables to give an economic dimension to externalities and to measure the portion of costs incurred by the community.

Construction of such an approach requires important additional work.

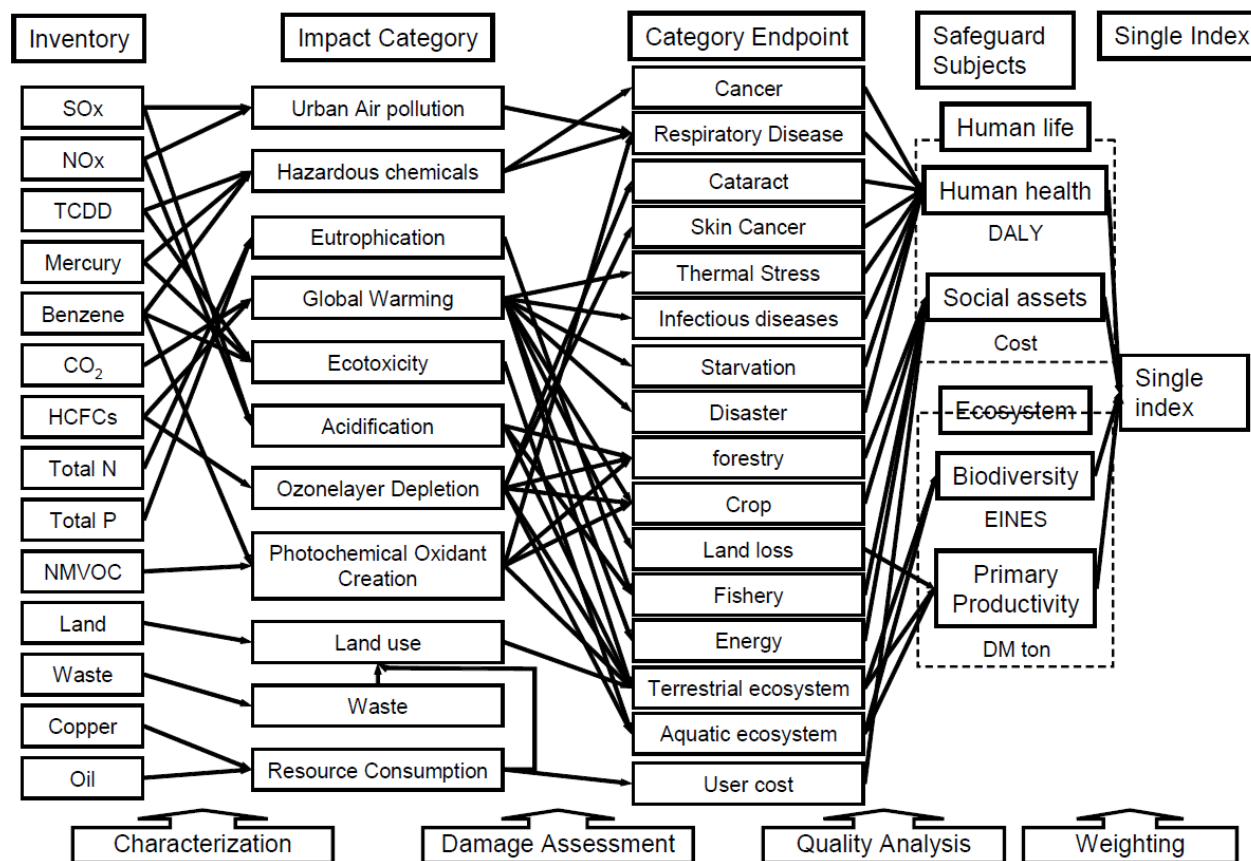
a) Focusing on end points

"In the first place, economic methods can be applied only if tangible impacts are fully described (for example, tangible consequences of greenhouse effect). Yet, considering existing results of analysis (for example life cycle analysis), it is obvious that "missing links" remain" BERTOLINI

Rap_record00-0702_1A

Such an approach should indeed measure suffered or avoided tangible damage in a field that goes well beyond environmental issues and includes social issues.

Conceptual Figure of LIME (Life-cycle Impact assessment Method based on Endpoint modeling) and the scope of this study



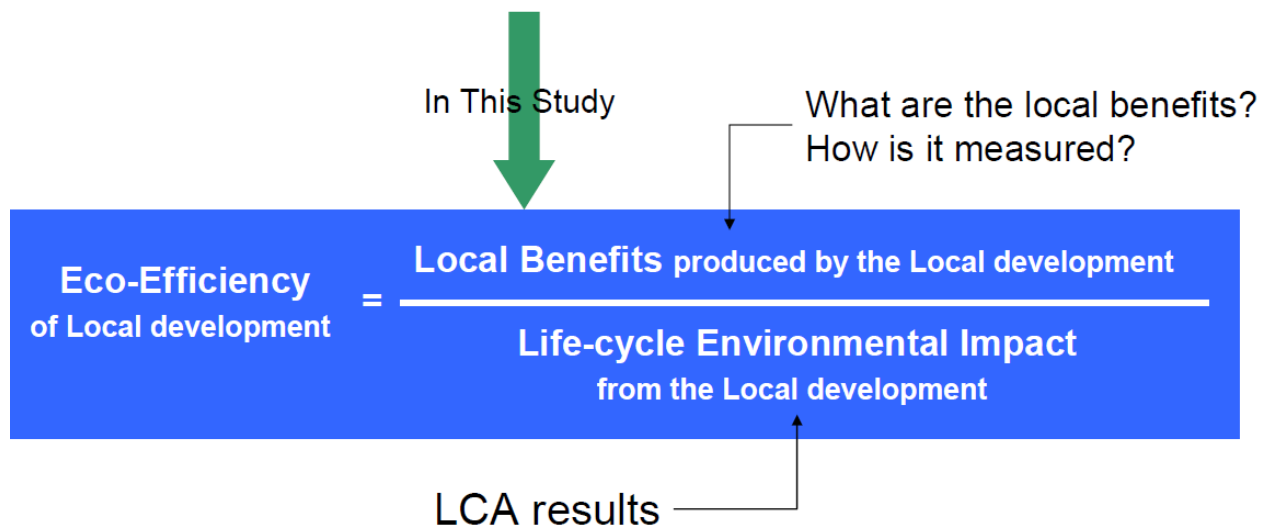
b) Avoid mistaking assessment tools and decision-making bodies

"As for LCA, monetization is not "final judgment" instrument, but rather a tool for progress",
BERTOLINI Rap_record00-0702_1A

The relationship between the actual contribution of the product or provided service and its global impact should be questioned in order to characterize its actual social eco-efficiency.

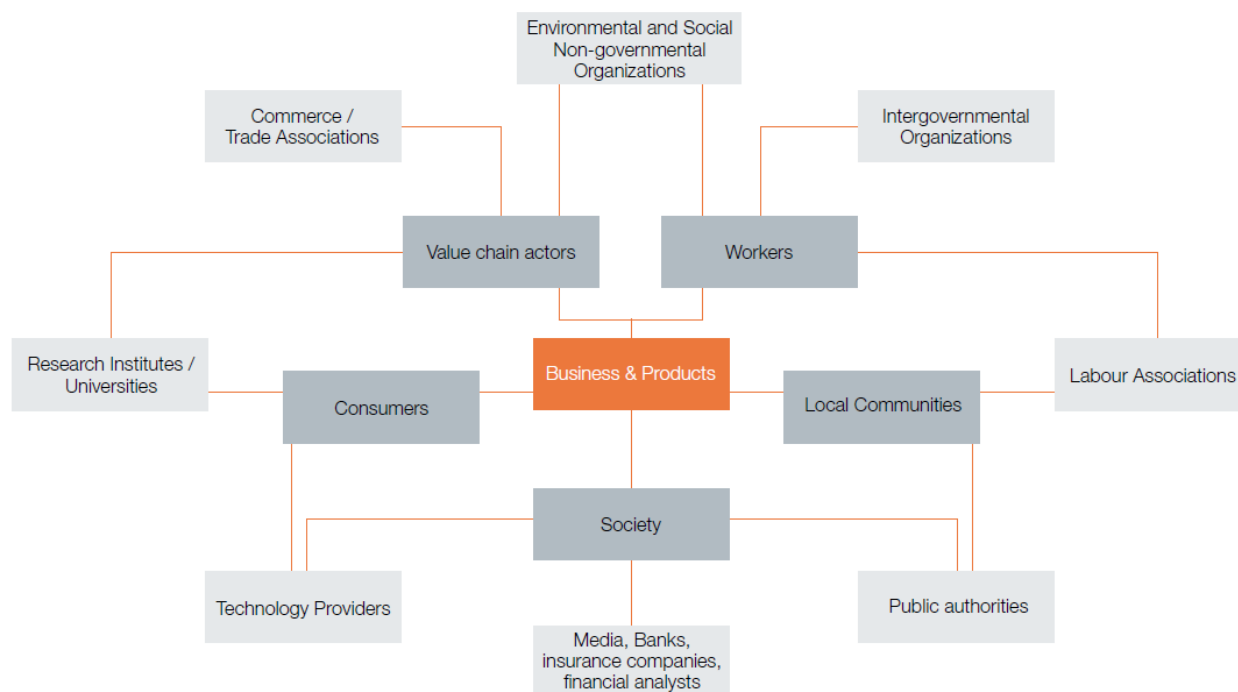
$$\text{Eco-Efficiency} = \frac{\text{Product or Service value}}{\text{Environmental influence}}$$

A local approach could lead to diverging points of view, compared to a more global approach.



An **ethics review committee** thus seems necessary to plan monitoring of the various scientific and technical phases (assessment, standardization, selection of applications, etc.).

Also, several stakeholders could be associated to the ethics review committee.



Obviously, the new arrangement will be inspired by **existing tools** and **standards** (certified eco-labels, environmental statements, LCA), as well as **forecasting tools** (SLCA, ESR, etc.).

APPENDIX 2:

REDUCED VAT ALLOCATION PROCESS:

Implementation scenario (very tentative outline of the process)

4 phases

Phase 1: Standardization

- Selection of a specific field (target product/service)
Example: washing machine
- Creation of a standardization group that includes relevant stakeholders

- Definition of reference functional units
- Environmental impact assessment, followed by economic impact assessment
- Monetization of impacts: **average generic environmental cost price of the selected field** (macroeconomic analysis)
- Assessment of the sector's global negative externalities

- Definition of monetized target objectives (through improvement of environmental impacts) by reference functional units
- Macroeconomic analysis of global economic challenges associated to the sector's target objectives
- Critical review by the ethics review committee

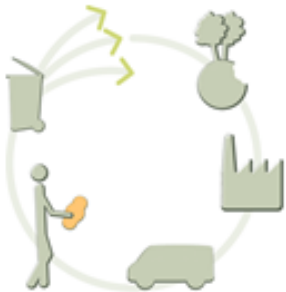
PHASE 1 Definition of a case study: Coffee machines



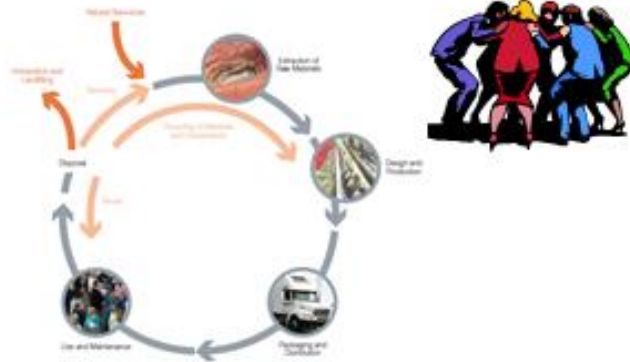
PHASE 1 Selection of a functional unit: a coffee cup



PHASE 1 Creation of the stakeholders group



PHASE 1 Assessments, monetization, critical reviews



Generic Product

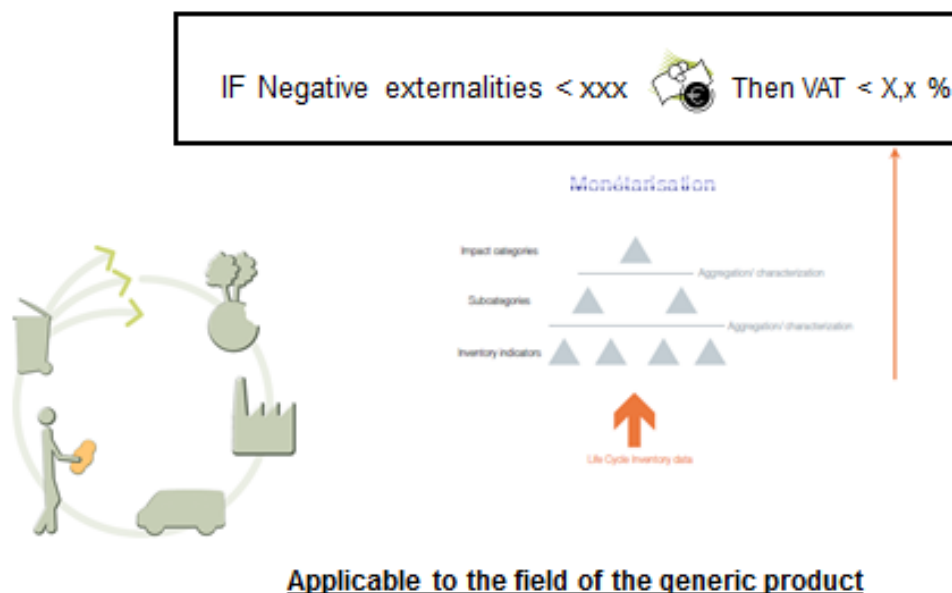


(*) Les applications ne sont pas dans le champ d'application des services

Phase 2: Publications

- Validation of objectives by public authorities, by sector
- Publication of the list of generic services/products that are eligible to reduced VAT, along with eligibility thresholds

PHASE 1 - 2 Objectives in terms of progress and access conditions to reduced VAT



Phase 3: Individual applications

- Review of the eligibility of individual applications
- Environmental, social and economic assessment through impact monetization = **environmental cost price** (to be carried out by each applicant)
- Analysis, critical review and allocation of **potential rights** to reduced VAT **under certain conditions, for a limited period of time.**

PHASE 3 Application individual Request



Specific Offer

PHASE 3 Assessments, monetization, critical reviews



Specific Offer

(*) Les Applications ne sont pas liées à l'étape d'interprétation des données.

PHASE 3 Allocation of reduced VAT under certain conditions, for a limited period of time



Phase 4: Periodic review

- Summary of induced economic and environmental impacts
- Critical review of methods
- Proposals for improvements (return to phase 1)