

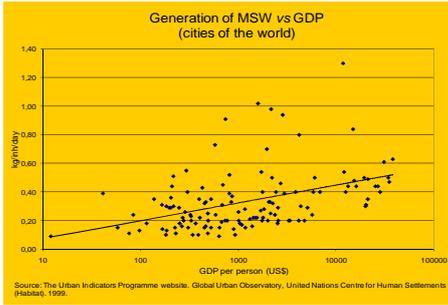
ECONOMIC INSTRUMENTS TO FOSTER WASTE PREVENTION



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WHY IS IT SO DIFFICULT TO SEE ANY PROGRESS REGARDING WASTE PREVENTION?

- Production of waste is too cheap, since no social or environmental costs are (generally) considered. Some forms of production and consumption (e.g. one way packaging...) are particularly unaware of this considerations.
- Strong correlation between GDP and municipal solid waste (MSW) generation:



PUBLIC ACTION IS REQUIRED

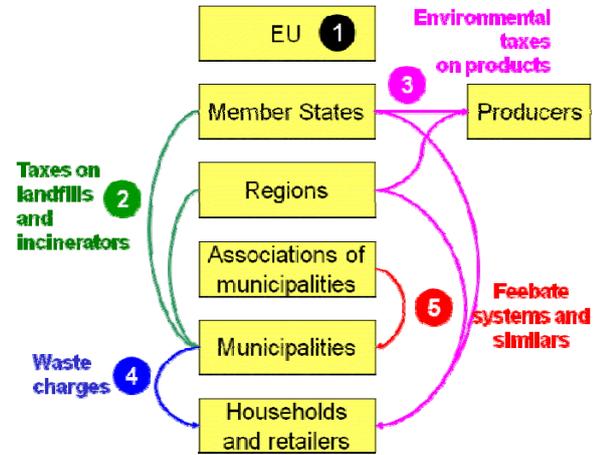
PUBLIC ACTION IS REQUIRED TO ADVANCE TOWARDS WASTE PREVENTION, AT LEAST IN FOUR FIELDS:

- **Command and control**
- **Public procurement**
- **Communication**
- **Economic instruments**

Economic instruments are required to:

- Increase the price of landfills and incinerators, by means of *internalising* some of their social and environmental costs. This would:
 - Create incentives to foster MSW prevention (and recycling).
 - Trigger innovation in the sector.
- Increase the price of the products with higher environmental impacts.
- Obtain a revenue (potentially used for prevention policies).

ECONOMIC INSTRUMENTS FOR MSW PREVENTION:



1 ECONOMIC PRINCIPLES AT EU LEVEL

Several EU Directives assume (in principle) important economic principles, such as producer responsibility or the polluter-pays principle:

- Directive 94/62/EC of 15 December on packaging and packaging waste
- Directive 2000/53/EC of 18 September on end-of-life vehicles
- Directive 2002/96/EC of 27 January 2003 on waste electrical and electronic equipment

3 GREEN TAXES ON PRODUCTS

Taxes on:	Country/region
Beverage containers	Belgium, some regions of Canada, Denmark, Sweden, Norway
Paper	Belgium, France
Plastic bags	Ireland, Iceland, South Africa
Disposable tableware	Denmark
Pesticides	Denmark
Fertilizers	Sweden
Batteries	Sweden, Belgium
Tyres	Some provinces of Canada
Disposable razors	Belgium
Disposable cameras	Belgium
Ordinary light bulbs	Denmark

2 TAXES ON LANDFILLS AND WASTE INCINERATORS

Taxes on landfilling of MSW:

Country	Tax rate [€/t] (year)
Austria	87 (2009)
Czech Republic	18.89 (2009)
Denmark	63.80 (2009)
Estonia	7.80 - 15.60 (2009)
Finland	30 (2009)
France	9.15 (2009)
The Netherlands	85.54 (2009)
Norway	31.47 - 52.07 (2009)
Poland	24.05 (2009)
Slovakia	0.64 (2009)
Sweden	40.92 (2009)
Switzerland	9.94 - 13.25 (2007)
United Kingdom	44.90 (2009)

Taxes on landfilling of MSW at regional level:

Region	Tax rate [€/t] (year)
Flanders (Belgium)	21.22 - 79.56 (2007)
Wallonia (Belgium)	35 - 150 (2007)
All Italian regions	5.17 - 25.82 (2009).
Catalonia	10 - 20 (2009)

Taxes on incineration of MSW:

Country or region	Tax rate [€/t] (year)
Austria	7 (2009)
Denmark	44.32 (2010)
Flanders (Belgium)	7.43 (2007)
All Italian regions	1.03 - 5.16 (2009).
Norway	7.26 (2009) plus additional tax rates for different pollutants
Catalonia	5 - 15 (2010)

Taxes on landfilling of industrial waste:

Country	Tax rate [€/t] (year)
Finland	270 (2002)
Czech Republic	64.23 - 170.03 (2009)
Austria	18 - 26 (2009)
France	0 - 7.5 - 36 (2009)

These taxes have proved to be very efficient and effective economic instruments to foster waste prevention and recycling.

Some other countries and regions have taxes on the landfilling of construction and demolition waste.

4 WASTE CHARGES

Waste charges can create incentives towards reduction and recycling if the tax rate is linked with the actual waste generation:

PAY-AS-YOU-THROW SCHEMES

I. VOLUME BASED

- Pay-per-bag
- Pay-per-tag
- Pay-per-can



II. WEIGHT BASED

- Pay-per-can



5 FEEBATE SYSTEMS AND SIMILARS

OPTIONS TO FOSTER MUNICIPALITIES TO MSW PREVENTION:

- A) To set a limit on waste generation (absolute or per person)
- B) To establish lower prices for more ecological treatments
- C) *Feebate* systems:

$$fb_i = n_i \cdot \left(\frac{t_i}{pop_i} - \frac{\sum_{j=1}^q t_j}{\sum_{j=1}^q pop_j} \right) \cdot pop_i$$

t_i tonnes from the municipality i treated with system j
 pop_i population of municipality i
 n_i constant defined for each treatment

These *feebates* would be added to the amount that municipalities would otherwise have paid. Some would pay more, some would pay less.

+ OTHER ECONOMIC INSTRUMENTS

• DEPOSIT-REFUND SYSTEMS

- For packaging (!)
- To ensure waste prevention in actions that need authorisation (e.g. demolitions, events to take place in the street or in public buildings...)

• GREEN PROCUREMENT

• PREVENTION CREDIT SCHEMES

CONCLUSIONS

- Degrowth of waste flows, commonly known as waste prevention, should be (and actually formally is) the first priority in waste management.
- Waste management costs are RELATIVE and depend on which factors are considered.
- Environmental and social costs of MSW management should be taken into account (both for environmental and economic reasons).
- Economic incentives can change practices and therefore their implementation may be of help to advance towards a more environmentally friendly MSW management.
- Incentives work better if previously discussed with stakeholders, introduced progressively and with a clear idea of its evolution.
- The most powerful economic instruments and incentives could be applied at the national and regional level (landfill taxes, taxes on products, deposit-refund systems...), nevertheless Local Authorities could also use economic instruments (PAYT charges, feebate schemes...).