



Evaluation of costs, tariff system and cost recovery

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Summary



- Urban waste: collection and treatment
 - From taxation to tariff
 - The role of Municipality: the financial plan
 - Common rules to calculate the tariff
- Industrial waste: free market approach for collection and treatment



The evaluation of the cost

The first law on separate collection in Italy

National Law 22/97



From tax to tariff



The cost are calculated by the regional administration
The regional law 3/2000 established the criteria adopted in
Veneto – Artt. 36 to 49



The cost of urban waste collection and treatment

Before the separate collection



Each Municipality or Province
had his own landfill

Unsorted collection
No treatment of leachate
No treatment of biogas

COSTS ARE VERY LOW



A small tax was enough to cover the cost



The collection tariff for Urban Waste

COME SEPARARE I RIFIUTI	CONTENITORI	GIORNI DI RACCOLTA
 Scuri alimentari e organici	 nelle pertinenze dei nuclei familiari, all'interno dei recinti di case e nel balcone condominiale, con capacità massima di 120 lt	Ritiro a domicilio LUNEDÌ - VENERDÌ - SABATO
 Materiali non riciclabili	 nei nuclei più antropizzati	Ritiro a domicilio MASSIMA - VENERDÌ
 Carta, cartone cartoncino	 nel balcone condominiale, oppure nei recipienti, massimo di 120 lt	Ritiro a domicilio MASSIMA
 Contenitori plastica e lattine	 nei nuclei più antropizzati	Ritiro a domicilio GIOVEDÌ
 Contenitori vetro	 nelle pertinenze dei nuclei familiari	
 Sfalci e ramaglie	 legare in fascio	Presso il Centro di Raccolta su via Locatelli, Roma, ore: dal lunedì al sabato dalle 7.30 alle 12.30

National Decree 22/97



Enforcement of
Polluter Pays principle



The collection tariff **have to** cover all the cost related to urban waste management (collection and treatment)



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The role of the Municipality



The municipality (or a consortium) prepare a tender for urban waste collection and treatment



The winner will prepare a proposal of Financial Plan and Tariff



The city council adopts the proposal



The waste management company collect waste (and tariff too)



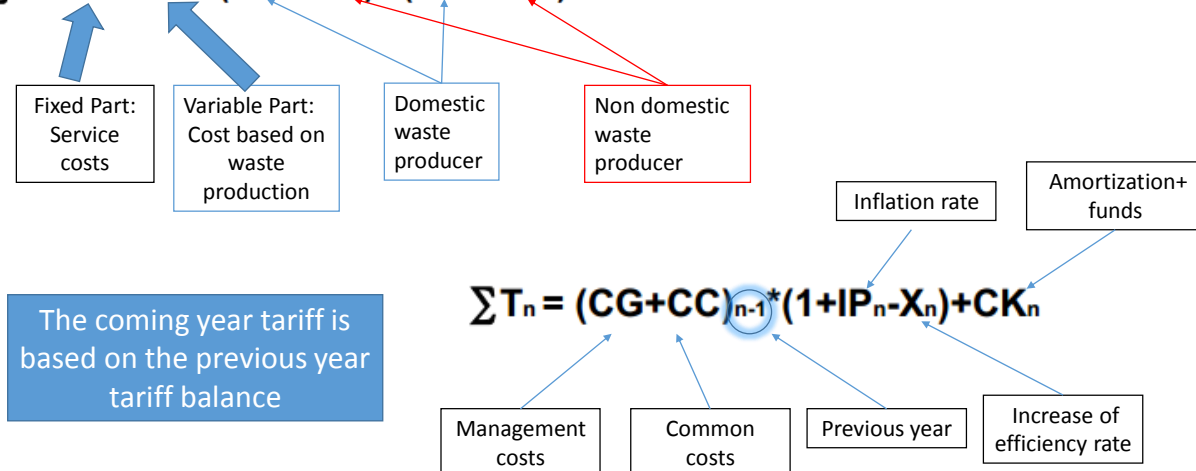
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Main contents of the collection tariff

Topic	Instrument adopted
The tariff have to show clearly the costs	Municipal Financial Plan (FP)
The Municipality have to evaluate the cost	The Municipal Council have to discuss and approves the FP
Who pay?	The Tariff have to cover all the investment and management costs
Tariff composition	Two main parts: <ul style="list-style-type: none"> • Fixed part: essential parts of the collection tariff • Variable part: <ol style="list-style-type: none"> 1. based on the waste production 2. Kind of service 3. Management costs
National standard tariff	The scheme used for the evaluation and definition of the tariff is based on a national proposal
Reductions and facilitations	The tariff modulation is based on: <ul style="list-style-type: none"> • Level of separate collection (reduction of discharge plants gate fee)

Behind the tariff...the decree 158/99

$$\sum T_n = CF + CV = (CF_d + CF_{nd}) + (CV_d + CV_{nd})$$



Behind the tariff...part 2

Management Cost (CG)	Unsorted waste management costs	Road cleaning, Bins cleaning	CSL	
		Collection of unsorted waste	CRT	
		Treatment of Unsorted waste	CTS	Landfill tariff, Incineration tariff, unsorted waste tax
	Separate collection costs	Other costs	AC	Information campaign, green center maintenance...
		Collection of separated fractions	CRD	For each fraction (paper, plastic, glass..)
		Treatment of separated fractions	CTR	Cost for treatment – revenue from secondary raw materials
Shared costs (CC)	Management costs		CDD	
	Other costs		CGG	Electricity, worker safety, ...
	Tariff collection costs		CARC	
CK		Funds		
		Amortizations		



Behind the tariff...part 3

$$\sum T_n = CF + CV = (CF_d + CF_{nd}) + (CV_d + CV_{nd}) = (CG + CC)_{n-1} * (1 + IP_n - X_n) + CK_n$$

CG/CC/CK	details		CV/CF
Management Cost (CG)	Road Cleaning, Bins cleaning	CSL	CF
	Collection of unsorted waste	CRT	CV
	Treatment of Unsorted waste	CTS	CV
	Other costs	AC	CF
	Collection of separated fractions	CRD	CV
	Treatment of separated fractions	CTR	CV
Shared costs (CC)	Management costs	CDD	CF
	Other costs	CGG	CF
	Tariff collection costs	CARC	CF
CK	Funds		CF
	Amortizations		CF



The Financial plan

The structure of the financial plan is fixed and based on a national guideline

Part 1: Report on financial plan



Tables that describe and summarize the costs



LINEE GUIDA
PER LA REDAZIONE DEL PIANO FINANZIARIO
E PER L'ELABORAZIONE DELLE TARIFFE



Three kind of costs:

1. Management cost
 1. Unseparated waste
 2. Separate collection
2. Shared costs
3. Amortization costs, reserve...



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The role of database

To enforce a tariff system it is necessary to create a reliable database

Usually starting from the information collected by the local fiscal office

Information about the citizens and industrial activities

Information that are fundamental:

1. Collections system adopted
 1. Treatment plant (and their tariff)
2. Fiscal information
3. Family components/
professional user
4. Facilitations



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The tariff collection

The waste management company is the company in charge for the collection of the tariff



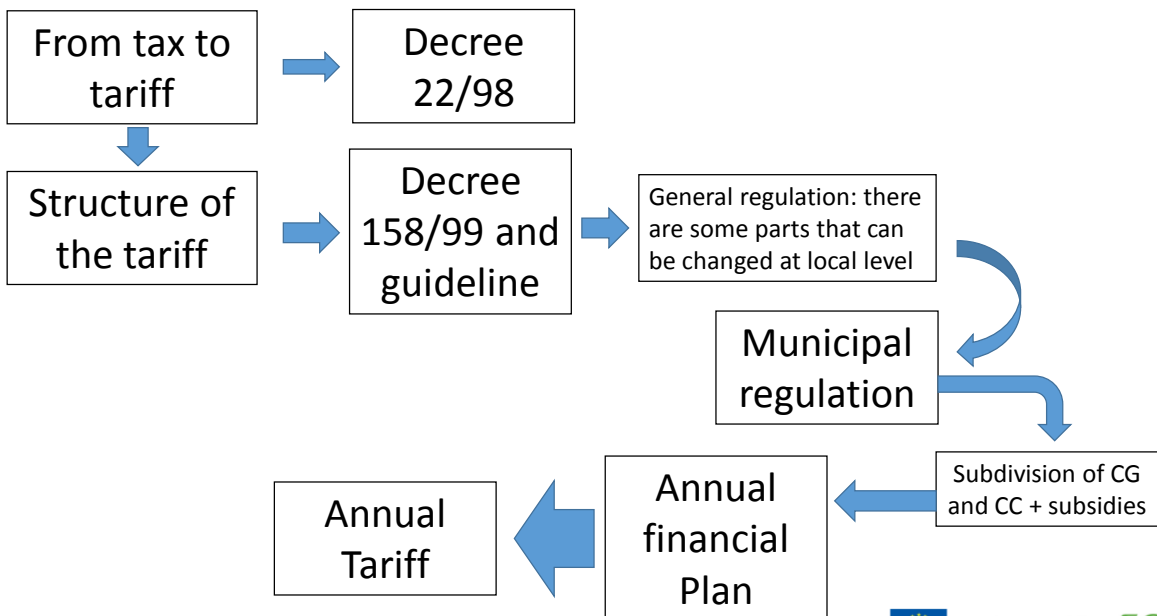
Is Francesco Loro
a reliable citizen?

Financial plan foresee an amount dedicated to cover the costs related to missed payments

Municipality can cover the costs for specific cases (Charity associations, poor people..)

Penalty and how to recover cost are aspects that are described the in the Tariff Regulation

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The waste treatment cost



- Evaluation of gate fee for plant and landfills
- The financial instrument to enforce Art. 8 of Landfill directive

The gate tariff for treatment plants



- In Veneto: the evaluation of gate tariff is a mandatory part of the permit
 - All urban waste landfills
 - All public recovery plant
 - All disposal plant (public and private management)
- At national level
 - National law 549/1995 Special tribute for urban waste in landfill
 - National decree 36/2003 on landfill
 - National decree 1/2012 on competitiveness

Which plants?

- **Market criteria:** Composting and Anaerobic digestion plants, matter recovery plant for Urban and industrial waste
- **Market criteria:** for all the industrial waste (both recovery and disposal plants)

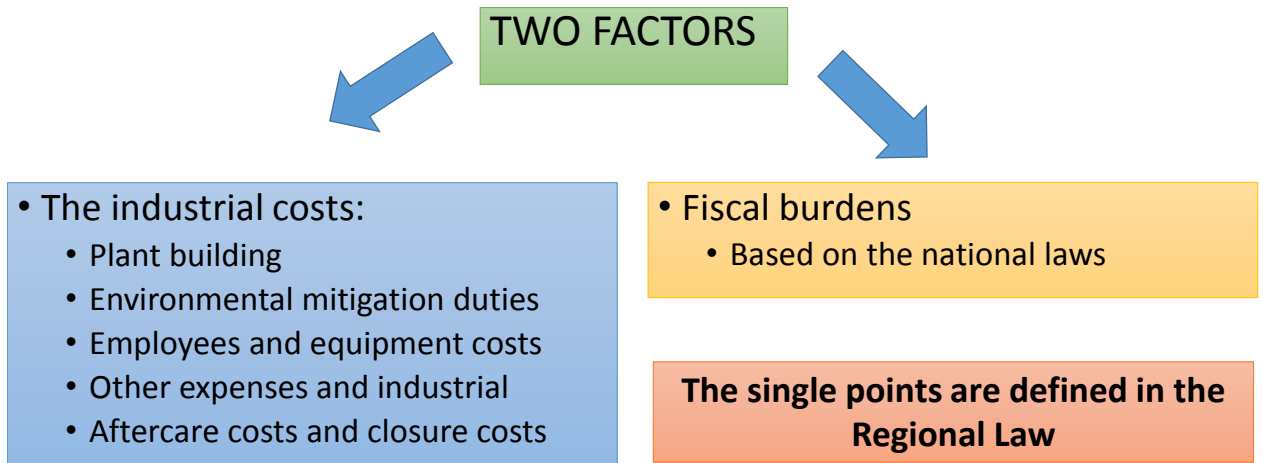


The composition of the gate fee

- Three parts + another one:
 - Conferral tariff
 - Environmental duty as compensation to Municipality where the plant is located
 - Environmental duty related to the treatment of waste outside the province (application of self sufficiency principle at local level)



The conferral tariff



The financial plan

Every year (before the end of June) the company that manage the plant have to:

- Present a financial plan where is proposed a new gate fee
- The gate fee have to consider these aspects:
 - National inflation (based on the evaluation of National Statistics Institute)
 - Final balance evaluations



The competent authority approves the new tariff
The tariff is applied all along the future year

A special financial plan for landfills



- Within 3 month after the last conferment to a landfill, the landfill manager have to present to CA:
 - A final balance where all the management costs are showed
 - The final balance have to be written and undersigned by an independent evaluation company
 - The Regional administration will decide the use of the possible extra amount collected by the layaway plan

The environmental fee to Municipality

- To reduce the environmental pressure in the Municipality where the plant/landfill is located
- The regional administration has established that the amount of the fee is 10,33 €/t (urban waste) and 5 €/t (industrial waste) dumped in landfill
- The partition criteria of the fee has been defined by CA on the basis of the evaluation of local situation (e.g. a landfill close to another municipality, direct and indirect environmental pressures, geographical situation)

The enforcement of self sufficiency principle



- In Veneto the self-sufficiency is defined at province level
- Each provinces must be able to treat all the Urban waste produced by his citizens
- In order to supply to emergency situation or to request of waste treatment from other provinces, the Regional administration collects the income from a dedicated part of the gate fee
- The amount of this part of the tariff is established yearly
- The money collected must be used in environmental projects based in the province that receive the waste from other areas



The special tribute for urban waste dumped in landfill



- The law 549/1995 established a specific tribute for urban waste dumped in landfill.
- The amount of this tribute is 25, 82 €/t
 - Urban waste
 - Industrial waste dumped in urban waste landfill
- If the level of Separate collection of the Municipality that dump the urban waste is higher than 50%, the tribute will be 30% of the maximum tribute
- If the level of Separate collection of the Municipality that dump the urban waste is higher than 35%, the tribute will be 65% of the maximum tribute



An example of financial plan of a landfill

- The tariff is evaluated on the basis of the landfill residual capacity

- Link to PDF



Landfill approved tariff	Other cost	Special Tribute	Local compensation	Province	Gate fee
90,51	30,25	7,75	10,33	2,90	141,74

Este Landfill tariff in 2012

The contents of Article 8 of Landfill directive

- Financial instruments to cover the cost of after-care and enforcement of permit obligation



- The Italian enforcement of Directive 31/99 is the national Decree 36/2003
- The enforcement of Art.8 is described in Art. 9 par.1 let. D “permit” and Art. 14 “Financial Insurance”

The bank guarantee for waste treatment plant

- The evaluation of the gate fee take into the account also two specific voices related to the enforcement of Art. 8 of Dir. 99/31 (see Financial plan Bullet points 7, 11)
- The Italian legislation framework adopted the same approach for all the waste management plants (Polluter pays principle)
- The amount of the minimum bank guarantee is defined by a Regional decree
- Without a bank (or Insurance institute) guarantee isn't possible to obtain a permit

11 - FIDEIUSSONE				
a - Applicata su 13 settori da 200.000 mc	4.739.340,4299	4.739.340,43	3,5769	4,12
7 - ONERI GESTIONE DOPO CHIUSURA (SOMME ACCANTONATE PER POST-GESTIONE)				
a - Relativi al secondo stralcio (S. A. PER POST-GESTIONE)	8.072.260,2057	8.072.260,21	6,0923	7,02
b - Relativi al primo stralcio (con riduz. 5% solo su parte inerente adeguamento costi percolato 1^ stralcio relazione 2007) (S. A. PER POST-GESTIONE)	6.167.864,8805	6.167.864,88	4,6550	5,36



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The bank guarantee

• Landfill

- Every 200.000 m³

	Urban waste	Non hazardous Waste	Hazardous waste
Landfill located in phreatic area	2,200,000	2,800,000	3,400,000
Landfill not located in phreatic area	1,500,000	2,000,000	3,000,000

• Waste management plant

• Storage plant

- Insurance policy for environmental risks: minimum maximum coverage : 3,000,000 €
- Bank guarantee to cover the costs of waste management in case of non-compliance of permit
 - 500 €/t for each ton of hazardous waste that is possible to treat
 - 200 €/t for each ton of non hazardous waste that is possible to treat

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The enforcement of EPR: the Italian way

- EPR concept was enforced for the first time in 1997 in the Italian legislation
- CONAI is the mandatory consortium of packaging producer and packaging user
- Producer and user have to enforce IPP (integrated product policy)
- Different consortium for different kind of packaging: COREPLA (mandatory consortium for plastic packaging) – COMIECO (paper) – RILEGNO (WOOD)



One step back: the packing

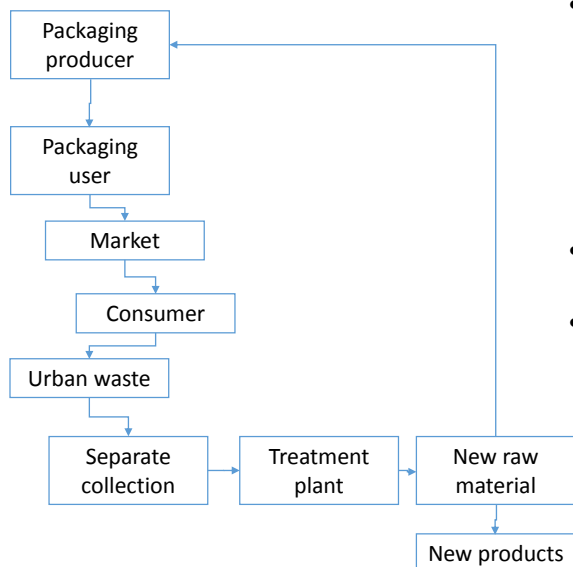
- Directive 94/62/CE describes three different kind of packaging:
 - sales packaging or primary packaging
 - grouped packaging or secondary packaging
 - transport packaging or tertiary packaging



- The tertiary packaging isn't a part of urban waste and in some case also the secondary. Private waste plant collects and treat this kind of waste based on agreement with the waste produced.



The recycling targets

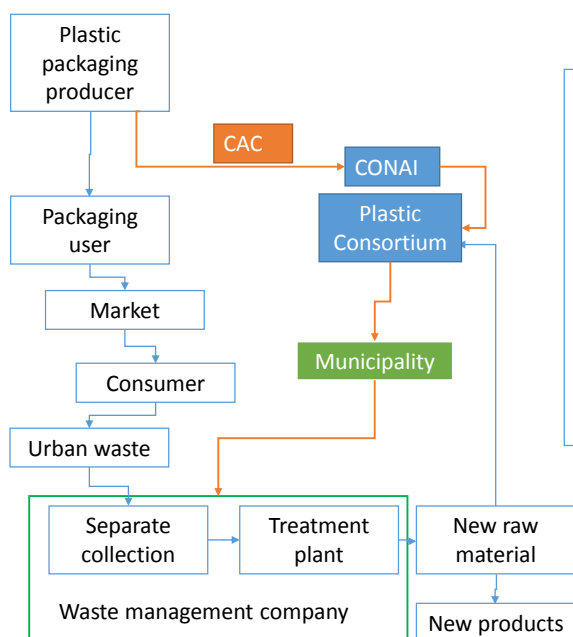


- The WFD has defined as target at 2020:
 - Paper, metal, plastic and glass from households and possibly from other origins – at least 50%



- Packaging Producer and User have to pay to collect and treat their waste
- The urban waste management company collects, through the separate collection the largest part of primary packaging

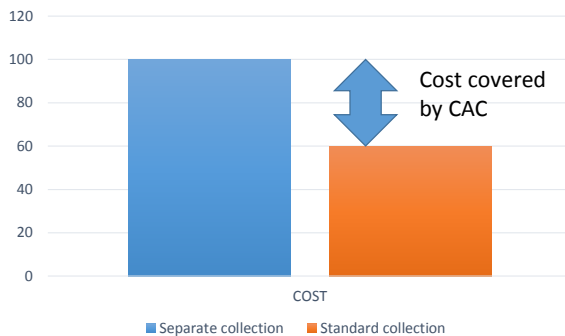
How to cover the costs?



- In Italy CONAI collects the amount of a specific FEE called CAC on the basis of the weight of packaging directly from the producer
- All kind of packaging have to pay (secondary and tertiary included)
- The amount of CAC is used to cover the cost of separate collection and Conai's overhead
- The money stream destined to municipality is calculated on the basis of a national agreement between CONAI and Municipality Association (ANCI)- This agreement is not mandatory. A municipality can manage directly his own waste but in this case without a fixed price (market rule)

The ANCI-CONAI Agreement

- The agreement defines the rules to calculate the amount of money for each Municipality
- This amount is used to cover the EXTRA COST of separate collection
- If the quality of separate collection is too low, the CAC is reduced
- CONAI becomes the owner of the separated waste



ANCI CONAI Agreement – Follow the money*



* All the president's men
– "Follow the money"
Quote

- CONAI as owner of the waste can sell it getting an extra revenue. This money aren't used to cover the cost of separate collection but to reduce the CAC
- The quality level is high in order to push the enforcement of separate collection but in many cases too high. To comply the minimum level it is necessary to sort the separate waste in a dedicated plant. The costs of this treatment is not covered by the CAC
- The packaging producer have to pay for tertiary packaging but these fractions are not collected and it is necessary to enforce a separate system (that isn't subsidized by CAC) to achieve the EU targets

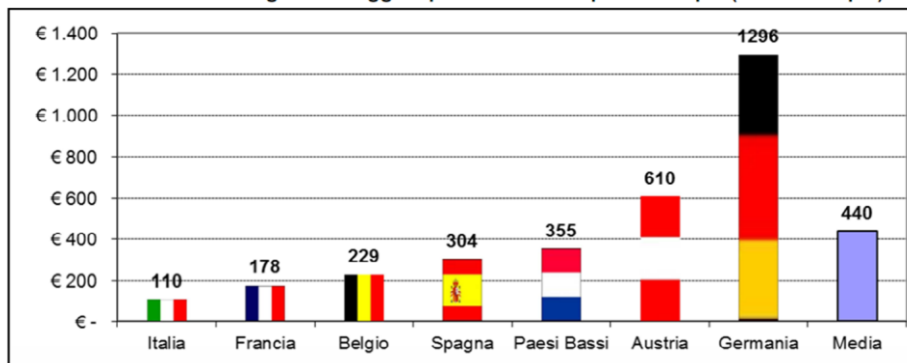


The result of these factors is a level of taxation extremely low

What's happen if the taxation level is too low?

- Not enough pressure on producer and

Confronto tra i CAC degli imballaggi in plastica nei vari paesi europei (Fonte Corepla)



Impact of CAC for a 1,5 l PET bottle

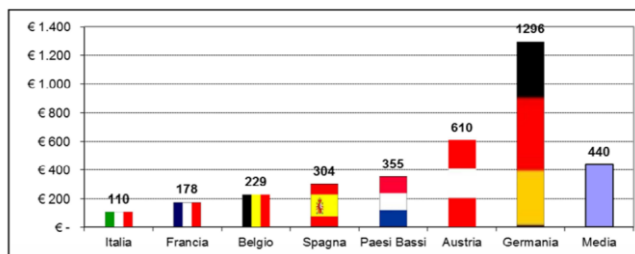
Finlandia	Norvegia	Danimarca	Germania	Austria	ITALIA
76 cent	11 cent (min.)	7 cent	5 cent	2,5 cent	0,3 cent



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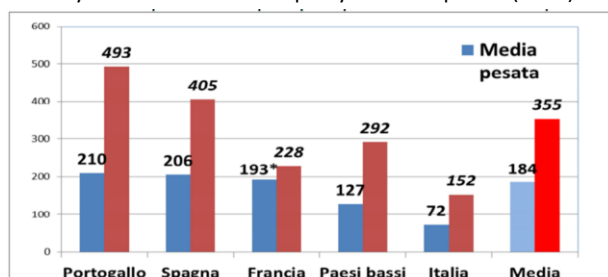
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Taxation level for plastic in 2013 (COREPLA)



It seems clear that CONAI have to be changed, but after 20 years is not easy.

Payment due to a Municipality for a t of plastic (2013)



To support the separate collection and IPP the Consortium model could be the right choice

But all the players should be represented in the Consortium board to avoid distortions



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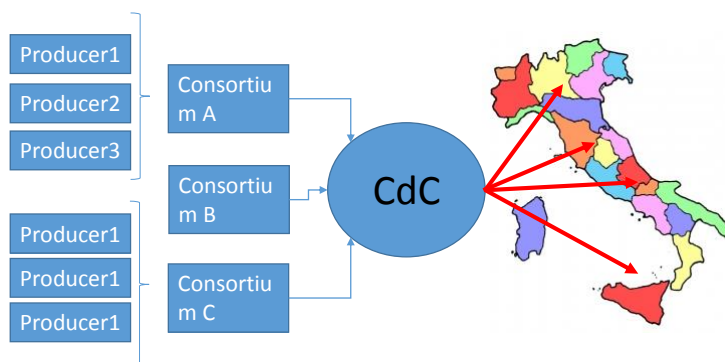
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How to push the market : the ecodesign



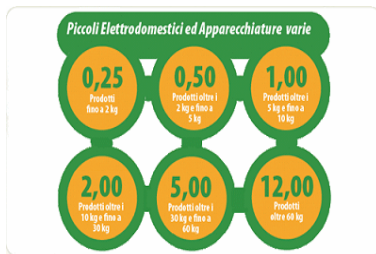
- Several countries introduced specific legislation to reduce the production of waste or to ease the recovery
 - France – COTREP (www.cotrep.fr) adopted an higher taxation if the producer use a PVC label on PET packaging
 - Germany, Finland, Sweden use a key money system (in Germany 0,25 € on metal, plastic, glass bottles used to contain water and soft drinks)
 - Japan administration impose not only the kind of plastic but also the colour in order to ease the separate collection

Other kind of solution adopted in Italy



- WEEE consortium: There isn't a mandatory consortium but a group of consortium managed by an independent authority (Coordination Center - CdC)
- EEE produced and importer have to take part to a consortium
- The collection and treatment of WEEE is managed by CdC, that coordinate the activities of consortiums

The cost of WEEE collection and treatment



- The cost related to the collection and treatment of WEEE are evaluated by CDC.
- Different EEE = different Fee
- The producer have to pay to CDC the total amount on the basis of the quantity of EEE putted on the market
- The market price have to show clearly the amount of the fee (Visible FEE)

Transboundary shipment of waste: the same systems

Art. 6 Reg. 1013/2006



National Decree
370/1998

$$\text{Warranty (W)} = R(\text{oad}) + A(\text{mount})$$

$$W = 300 \text{ €} \times t \times \text{km}$$

$$A = K2 \times t$$

K2 :

–Waste to recovery operations (R)

- K2= 516,5 € (Amber list)
- K2= 1.032,9 € Other waste (Red List)

- Waste to disposal operations (D)

- K2= 1.032,9 € Non hazardous waste
- K2= 2.065,8 € Hazardous waste with halogenic compounds < 5.000 ppm
- K2= 4.131,6 € Hazardous waste with halogenic compounds > 5.000 ppm



Thanks for your attention

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Information and reports on environmental topics
<http://www.arpa.veneto.it/temi-ambientali/rifiuti>