

# Evaluation of costs, tariff system and cost recovery

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## Summary



- Recovery of waste treatment costs:
  - The role of Municipality
  - The Financial Plan
- How to divert waste from Landfill:
  - EPR
  - Landfill tax



# The evaluation of the cost

## The first law on separate collection in Italy National Law 22/97

### From tax to tariff

All the cost should be covered by a tariff based on production of waste

### Extended producer responsibility scheme

For specific waste streams the producers have to cover the cost of the management of waste



## The cost of urban waste collection and treatment

Before the separate collection



Each Municipality or Province had his own landfill

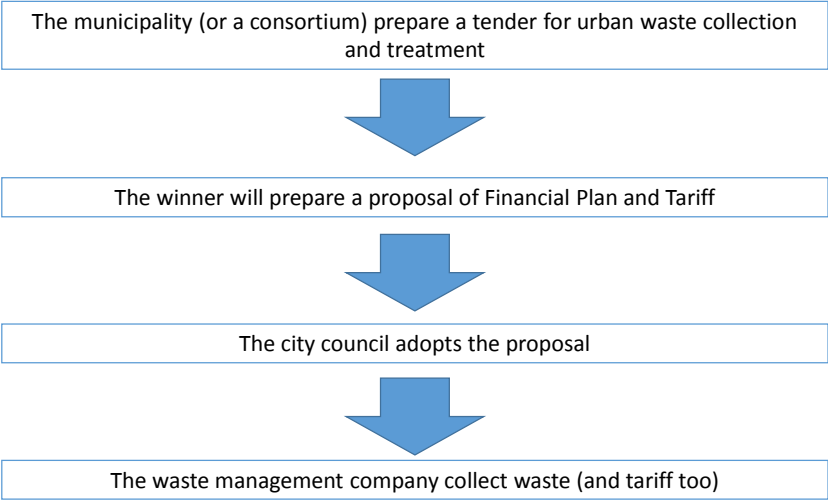
Unsorted collection  
No treatment of leachate  
No treatment of biogas

**COSTS ARE VERY LOW**

**A small tax was enough to cover the cost**  
**Part of the costs are hidden in our taxes**  
**(eg: house taxation)**



# The role of the Municipality



## 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"><li>• Fixed part: essential parts of the collection tariff</li><li>• Variable part:<ol style="list-style-type: none"><li>1. based on the waste production</li><li>2. Kind of service</li><li>3. Management costs</li></ol></li></ul>
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"><li>• Level of separate collection (reduction of discharge plants gate fee)</li></ul>

## Behind the tariff...the decree 158/99

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

Fixed Part:  
Service  
costs

Variable Part:  
Cost based on  
waste  
production

Domestic  
waste  
producer

Non domestic  
waste  
producer

The coming year tariff is  
based on the previous year  
tariff balance

$$\Sigma T_n = (CG + CC)_{n-1} * (1 + IP_n - X_n) + CK_n$$

Inflation rate

Amortization+  
funds

Management  
costs

Common  
costs

Previous year

Increase of  
efficiency rate



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## 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



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## The Financial plan

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

Part 1: Public Report on financial plan



Tables that describe and summarize the costs



MINISTERO DEL LAVORO  
E DELLE POLITICHE SOCIALI

Ministero del Lavoro e delle Politiche Sociali  
Dipartimento per gli Affari Regionali

per il tuo futuro  
Programmi operativi nazionali  
per la formazione e l'occupazione

### 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 tariff collection

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

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

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



Is Francesco Loro a reliable citizen?

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

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**PERIODO dal 01.01.2015 al 31.08.2015**

Contratto nr. : **3000822051** Address  
Servizio fornito in : VIA GAETANO DONIZETTI, 1  
30030 SALZANO VE  
Tipo utenza : Domestici Residenti

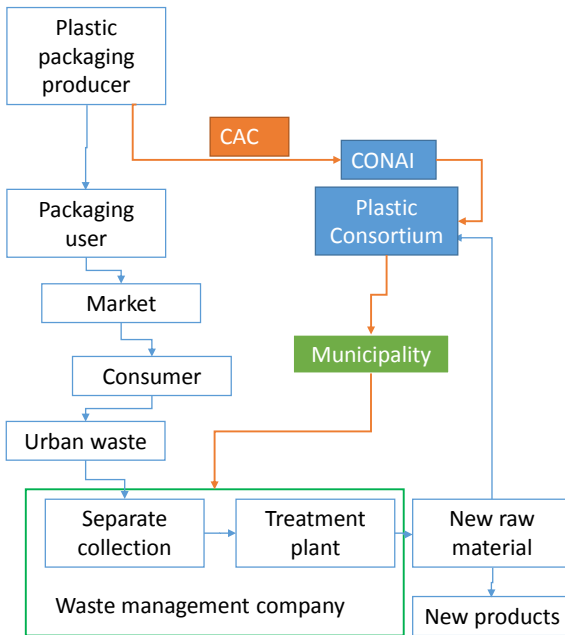
Destinazione uso	Descrizione Superf.	Anno	Nucleo Comp/ Svuotam.	Mq/ Litri	Tariffa	GG	% Rid.	Cod IVA	Importo
Quota Fissa: Appartamento		2015	4	70	0,958906 E/mq	123		V1	22,62
<b>Tariffa MULTI</b> Recyclable waste		2015	4		18,307504 E/anno	123		V1	6,17
<b>Tariffa UMIDO</b>		2015	4		18,444048 E/anno	123		V1	6,22
SVUOTAMENTI RILEVATI Dry waste									
<b>Secco con Adeg.al minimo</b> 80 Litri		2015	2	160	0,080398 E/litri	123		V1	12,86
<b>Secco con Adeg.al minimo</b> 80 Litri		2015	1	80	0,080398 E/litri	120		V1	6,43
Rettifica documenti precedenti		2015						V1	7,20-
Addizionale provinciale 5%	Base imp. Euro 22,74							FX	1,14
<b>TOTALE COMPETENZE al netto di IVA</b>									<b>EURO 48,24</b>
Gentile Signora/Signore,			n. Of bin emptied	n. Of bin emptied					

Annual year salary in Italy: 29.000 €

Average cost of service in Veneto: 130 €/inh\*year

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## The enforcement of EPR and reduction of management cost



Italy has adopted a mandatory Consortium system

The consortium collects the fee from producer and importers of a specific goods

The fee is used to cover the cost of the specific waste stream collection and treatment (Eg packaging – tyres – oil)

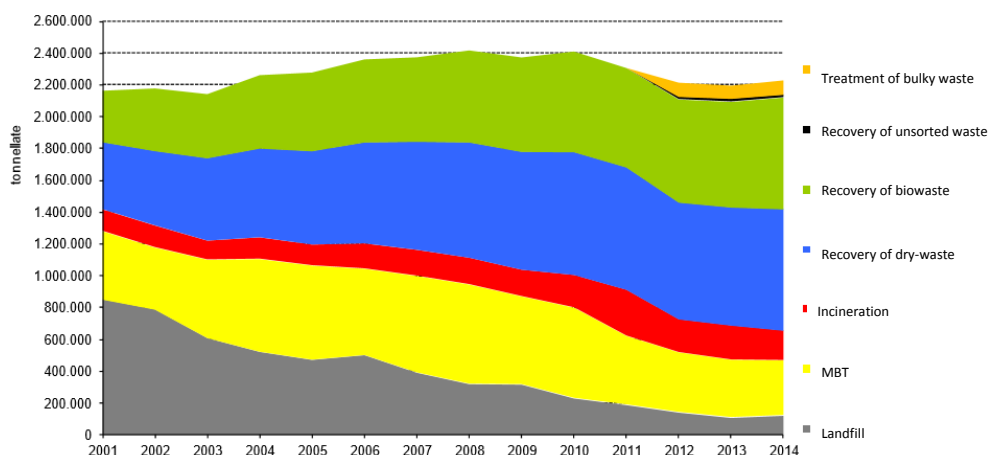
Municipal financial plan has a specific voice dedicated to income coming from consortium

## The waste treatment cost: how to divert waste from landfill



- Costs for landfill and other installation in Veneto
- Evaluation of gate fee for plant and landfills
- The financial instrument to enforce Art. 8 of Landfill directive

## The treatment of urban waste in Veneto



## Treatment costs in Italy



- Landfill= 70 €/t (technical cost)
- Incineration= 113 €/t
- MBT = 130 €/t
- Composting = 80 €/t Kitchen waste – 35 €/t Green waste
- Selection plant = 40 €/t (paper) – 90 €/t(multifraction)
- C&D Recovery plant = 20 €/t
- Inert Landfill = 20 €/t

## 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)
- For other kind of plant (Composting – private recovery) the tariff is based on the market

## The composition of the gate fee of landfill



- Three parts + another one:
  - **Conferral tariff (including aftercare costs)**
  - Environmental duty as compensation to Municipality where the plant is located (**Compensation tax**)
  - Environmental duty related to the treatment of waste outside the province (**Self sufficiency tax**)
  - Progressive tax based on level of separate collection (**Eco-tax**)

# The conferral tariff

## TWO FACTORS

### • The industrial costs:

- Plant building
- Environmental mitigation duties
- Employees and equipment costs
- Other expenses and industrial
- Aftercare costs and closure costs

### • Fiscal burdens

- Based on the national laws

**The single bullet points are defined in the Regional Law**



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# 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**

ALLEGATO A Dgr n. del



REGIONE DEL VENETO  
GIUNTA REGIONALE  
COMMISSIONE TECNICA REGIONALE AMBIENTE  
SEDUTA DEL 18 sett. 2014  
PARERE n. 3941

OGGETTO: GEA s.r.l. - COMUNE DI SANT'URBANO - PD.  
DISCARICA TATTICA REGIONALE DEL VENETO PER RIFIUTI URBANI, ASSIMILATI E SPECIALI NON PERICOLOSI, Loc. Cà Brusi in Comune di Sant'Urbano (PD). Rideterminazione tariffa a valore dal 01/01/2015.

#### 1. Premessa

Con nota prot. n. 403/2013 del 18 dicembre 2013 la ditta Gea S.r.l. che gestisce la discarica tattica regionale per rifiuti urbani, assimilati e speciali non pericolosi, in Località Cà Brusi del comune di Sant'Urbano - PD, ha presentato, ai sensi dell'art. 36 della L. R. n. 3 del 2000 s. m. ed l., una proposta di tariffa di conferimento a valore dal 01/01/2014.  
Con successiva nota prot. n. 215/2014 del 21 luglio 2014, la medesima Ditta ha trasmesso una nuova versione della "rideterminazione della tariffa" che, nell'annullare e sostituire la precedente proposta, ha recepito gli esiti degli incontri istruttori tenutisi informalmente presso l'Amministrazione regionale, anche a seguito di quanto rappresentato dal Comune di Sant'Urbano con la nota prot. n. 2906/2014 del 15 maggio 2014.  
Va precisato che la discarica in questione è classificata con delibera di Giunta regionale (DGRV) n. 321 del 14 febbraio 2003 come impianto "tattico regionale" ed è adeguata con DGRV n. 2542 del 06 agosto 2004 al Decreto Legislativo n. 36 del 2003.  
La discarica inoltre è da considerarsi, così come riconosciuto in occasione delle precedenti proposte tariffarie, come un

A seguito di quanto approfondito nel corso dell'istruttoria, si ritiene di proporre i seguenti importi:

- Costo industriale: 59,57 €/t,**
- Tariffa di smaltimento: 64,68 €/t (I.V.A., contributi di legge esclusi).**



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## A special financial plan for closing 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 Compensation tax to Municipality



- To reduce the environmental pressure in the Municipality where the plant/landfill is located
- The regional admiration 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)

## Self sufficiency tax



- In Veneto the self-sufficiency principle 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 ( about 5 €/t)
- 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 (Eco-tax)



- 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 (pretreatment of waste)	Special Tribute	Compensation tax	Province	Gate fee
90,51	30,25	7,75	10,33	2,90	<b>141,74</b>

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

<b>11 - FIDEIUSSONE</b>				
a - Applicata su 13 settori da 200.000 mc	<b>4.739.340,4299</b>	4.739.340,43	<b>3,5769</b>	4,12
<b>7 - ONERI GESTIONE DOPO CHIUSURA (SOMME ACCANTONATE PER POST-GESTIONE)</b>				
a - Relativi al secondo stralcio (S. A. PER POST-GESTIONE)	<b>8.072.260,2057</b>	8.072.260,21	<b>6,0923</b>	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)	<b>6.167.864,8805</b>	6.167.864,88	<b>4,6550</b>	5,36



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## The bank guarantee

### • Landfill

- Every 200.000 m<sup>3</sup>

	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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# Conclusion and lesson learnt



## TARIFF SISTEM

- The collection of tariff was a step by step process (still on-going)
- Communication and transparency are not an option

## EPR and TAXATION

- Landfill tax and EPR-Mandatory consortium represented the strongest driving force to divert waste from landfill
- To reduce the cost for collection and treatment EPR was the right solution, but needs a strong independent authority and the board of the consortium should be composed by all the players (producer – seller – collectors – recyclers)
- The taxation should be adapted periodically to drive the market



*Thanks for your attention*

*Loro Francesco*

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Treviso*

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