

If you are not for Zero Waste... how much waste are you for?



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The linear economy is heating up the planet





CHANGING THE RULES



SHIFTING SUBSIDIES



JOBS FOR THE ENVIRONMENT



PRODUCER RESPONSIBILITY



RESOURCE RECOVERY CENTERS



EMPOWERED CONSUMER



SIGN FOR THE ENVIRONMENT



PRODUCTION



DISTRIBUTION

European Union (EU-27)

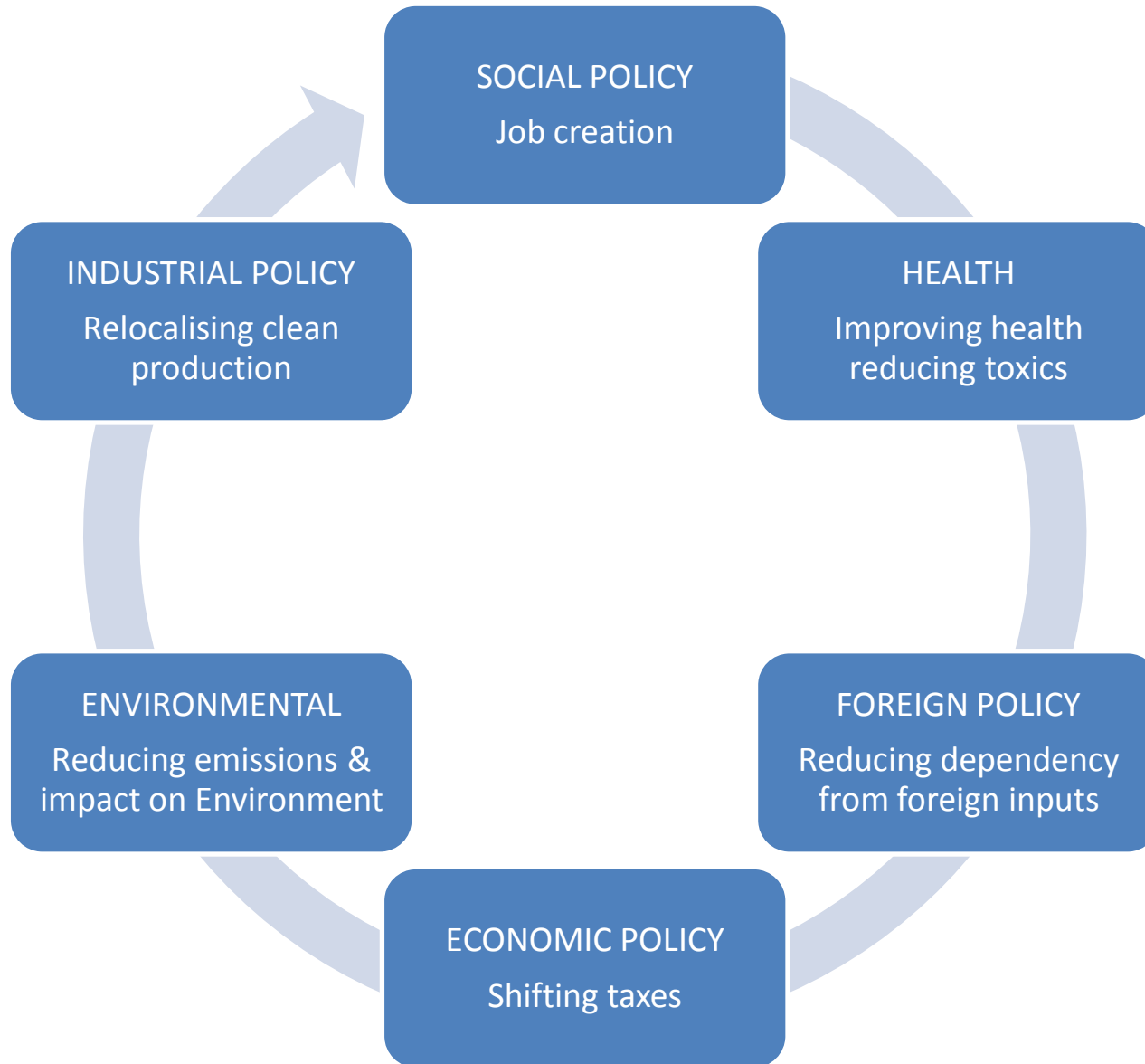
Rest of the world (ROW)

Biomass
(126 million tonnes)



Fuels/mining products
(1 384 million tonnes)

Waste policy is not about waste



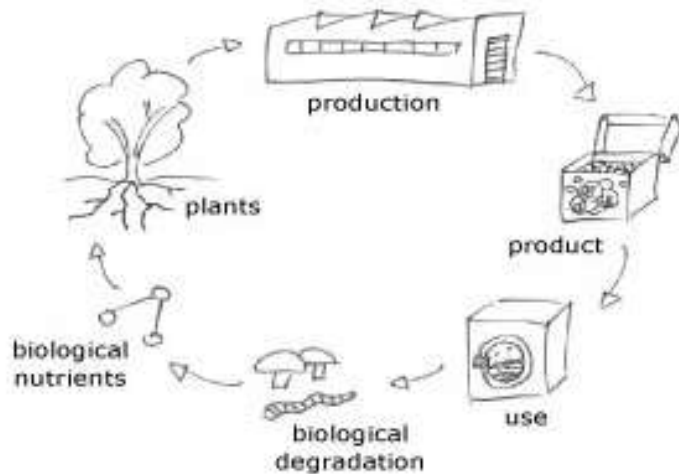
Zero Waste?

3

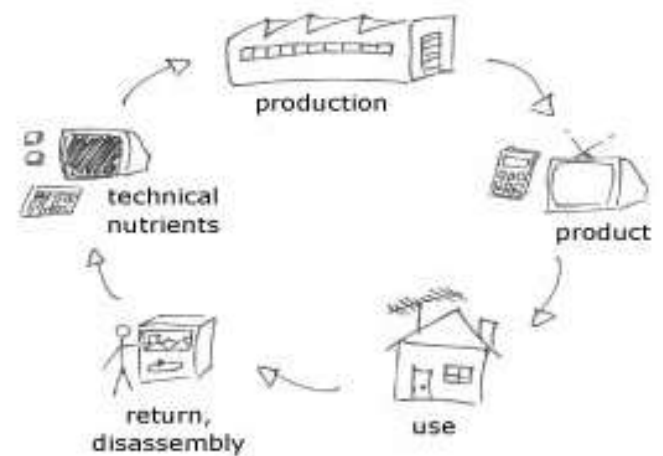
principles

1

Make waste visible to design it out of the system



biological cycle
for Products for Consumption



technical cycle
for Products for Service







“If a product can’t be reused, repaired, refurbished, recycled or composted it it needs to be redesigned or taken out of the system”

2

Excellent separate collection

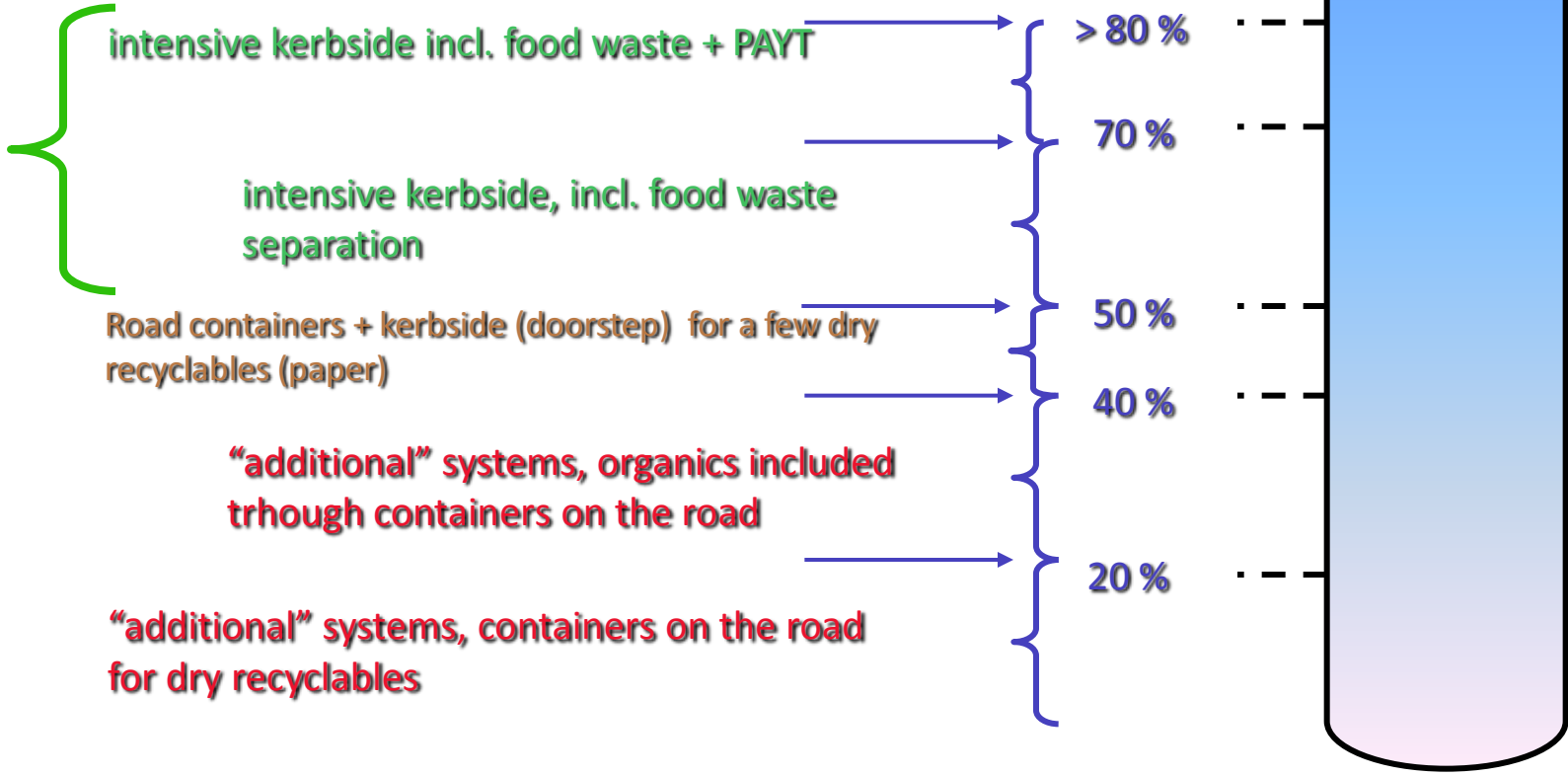
No recyclables or compostables can end up in disposal facilities





CADA RESIDU AL SEU LLOC. DEPEN DE TU

CALENDARI	Dilluns	Dimarts	Dimecres	Dijous	Divendres	Dissabte	Diumenge
	Envasos	Materia Orgànica Paper Cartó	Materia Orgànica	Envasos	Materia Orgànica	Rebuig	Materia Orgànica



Separate collection - more expensive?



Italia, Nord e Veneto: dati 2006 (fonte Rapporto Rifiuti 2007 APAT - ONR)
 Consorzio Priula e Consorzio TvTre: costi dati 2008 - % RD stima anno 2008

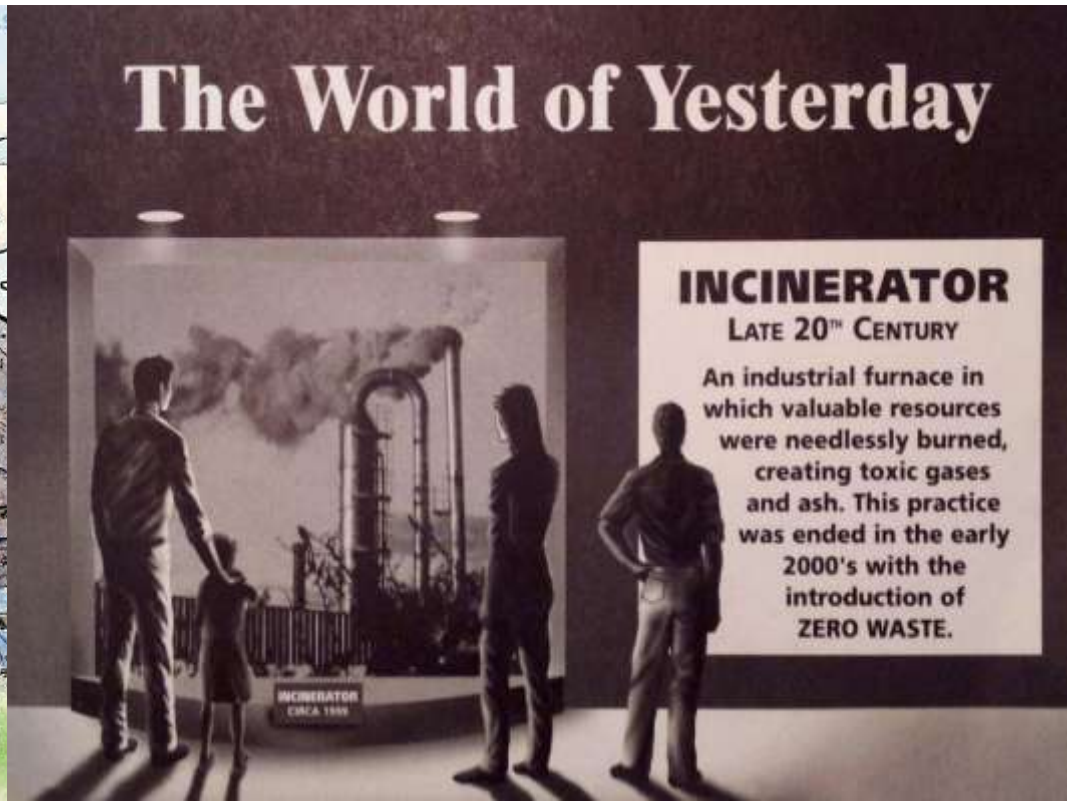


zerowaste



NO BURN

NO BURY

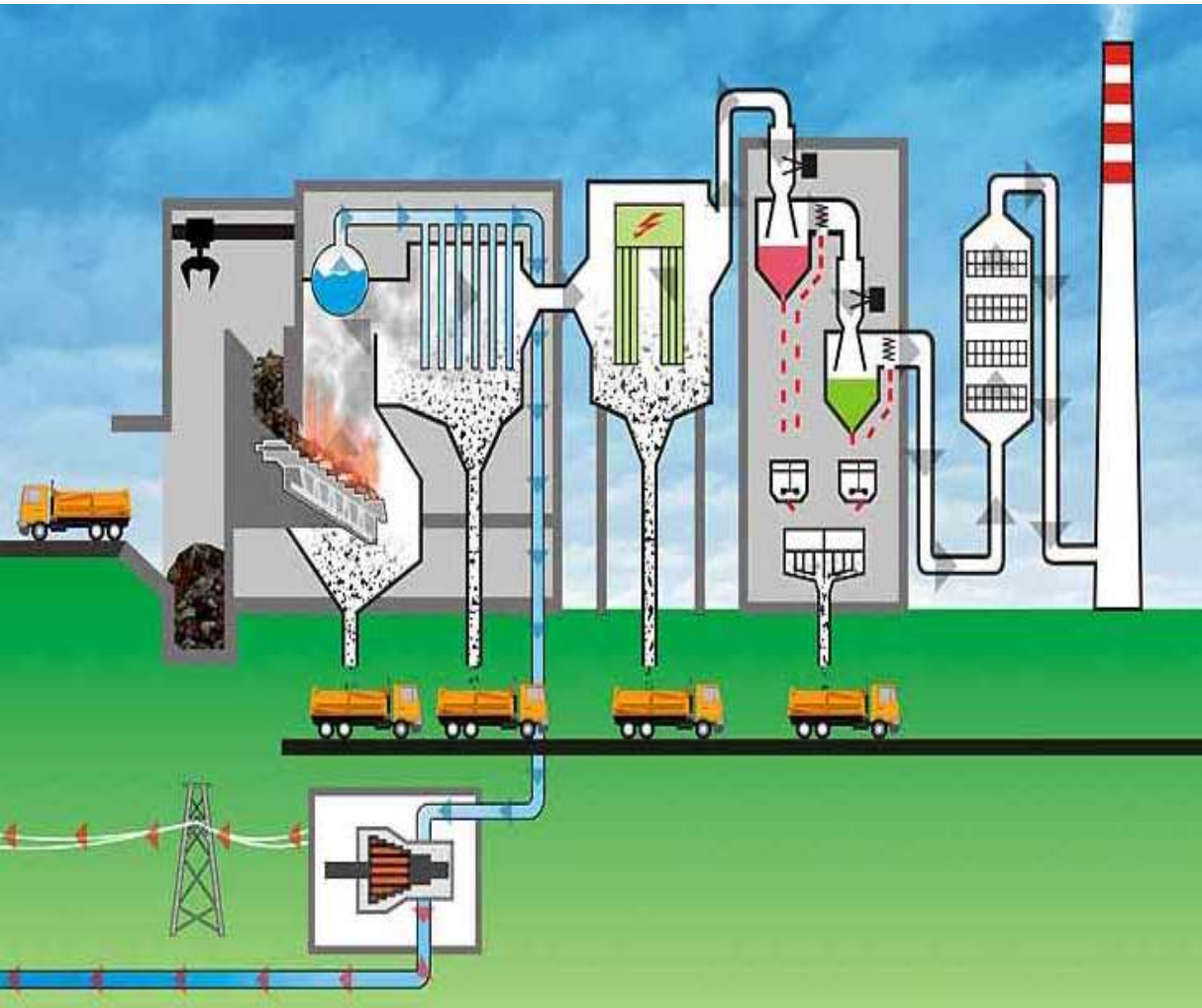


Mass Burn Incinerator

Advantages: no methane emissions, generates heat and power

Problems

- Cost
- Inefficient source of energy
- Corruption
- Air emissions
- Fly and bottom ash
- GHG emissions
- Destroys resources
- Competes with recycling
- Needs auxiliary fuel



3

Stop superfluous waste =>
reduce resource & product use



PLASTIC BAGS

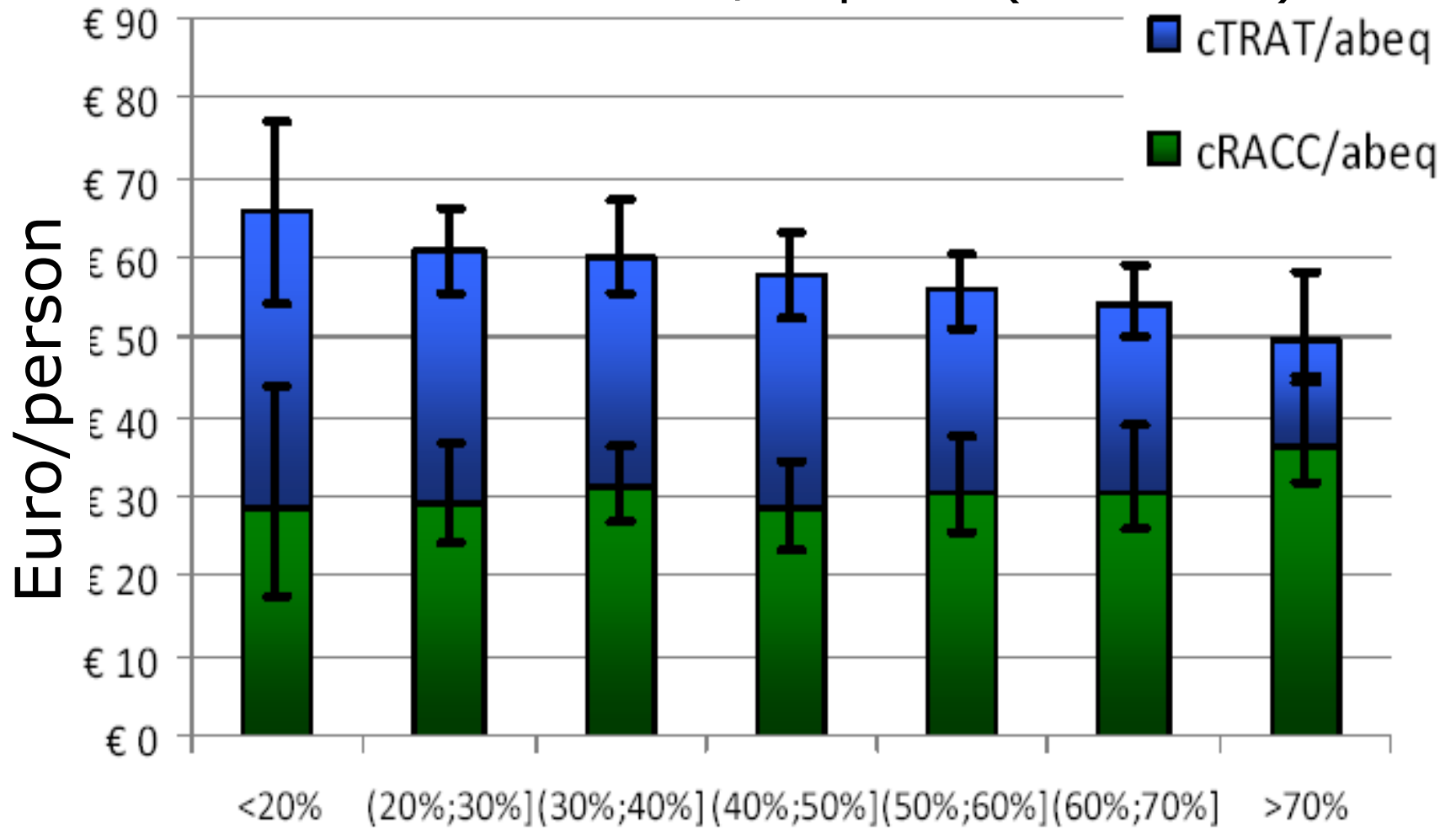


"The problem of plastic bags will not be cured without the political will to do so."

Jeremy Irons, Oscar winning actor



Cost of collection (green bars)
and cost of treatment/disposal (blue bars)



Recycling is good!

Exploiting the urban gold mine – a comparison

Primary production
≈ **5 g/t Au** in ore



Secondary production
≈ **250 g/t Au** in computer circuit boards



Reuse is a lot better than recycling

1 H																	2 He
3 Li	4 Be											5 B	6 C	7 N	8 O	9 F	10 Ne
11 Na	12 Mg											13 Al	14 Si	15 P	16 S	17 Cl	18 Ar
19 K	20 Ca	21 Sc	22 Ti	23 V	24 Cr	25 Mn	26 Fe	27 Co	28 Ni	29 Cu	30 Zn	31 Ga	32 Ge	33 As	34 Se	35 Br	36 Kr
37 Rb	38 Sr	39 Y	40 Zr	41 Nb	42 Mo	43 Tc	44 Ru	45 Rh	46 Pd	47 Ag	48 Cd	49 In	50 Sn	51 Sb	52 Te	53 I	54 Xe
55 Cs	56 Ba	*	72 Hf	73 Ta	74 W	75 Re	76 Os	77 Ir	78 Pt	79 Au	80 Hg	81 Tl	82 Pb	83 Bi	84 Po	85 At	86 Rn
87 Fr	88 Ra	**	104 Rf	105 Db	106 Sg	107 Bh	108 Hs	109 Mt	110 Ds	111 Rg	112 Uub	113 Uut	114 Uuq	115 Uup	116 Uuh	(117) (Uus)	118 Uuo

* Lanthanides	57 La	58 Ce	59 Pr	60 Nd	61 Pm	62 Sm	63 Eu	64 Gd	65 Tb	66 Dy	67 Ho	68 Er	69 Tm	70 Yb	71 Lu
** Actinides	89 Ac	90 Th	91 Pa	92 U	93 Np	94 Pu	95 Am	96 Cm	97 Bk	98 Cf	99 Es	100 Fm	101 Md	102 No	103 Lr

<1%
 1-10%
 >10-25%
 >25-50%
 >50%



...furniture...



...fashion...

...

or knick-knacks and household goods





Reuse of construction materials.



Återbruket – for those looking for used construction materials



Milan — $\frac{3}{4}$ of town, now covering 1 M people





Intensive source separation of foodwaste at high-rises in Milan



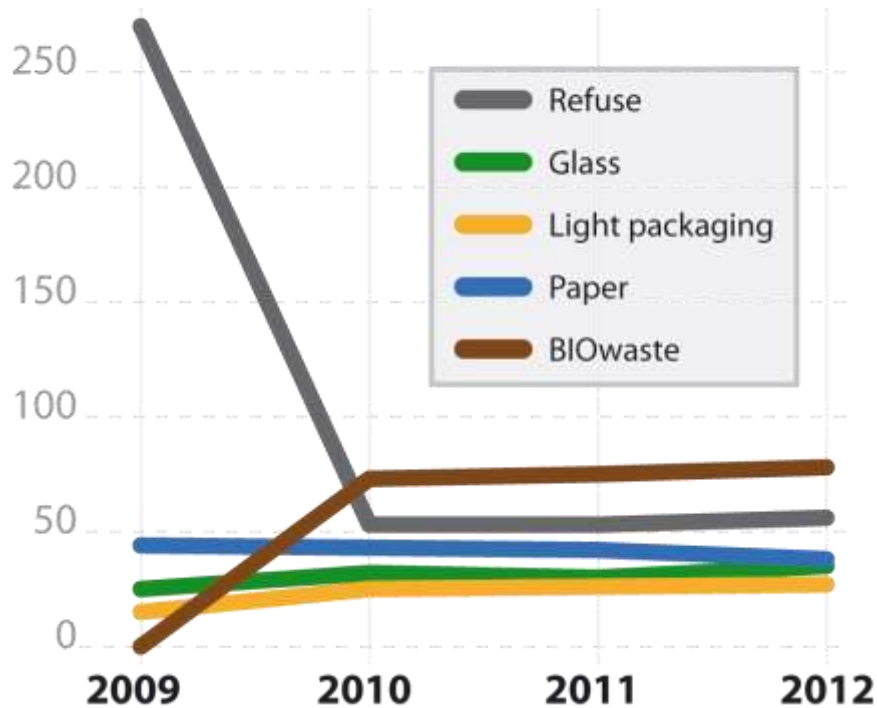


In Gipuzkoa – 48 municipalities for ZW

Hernani, Basque country

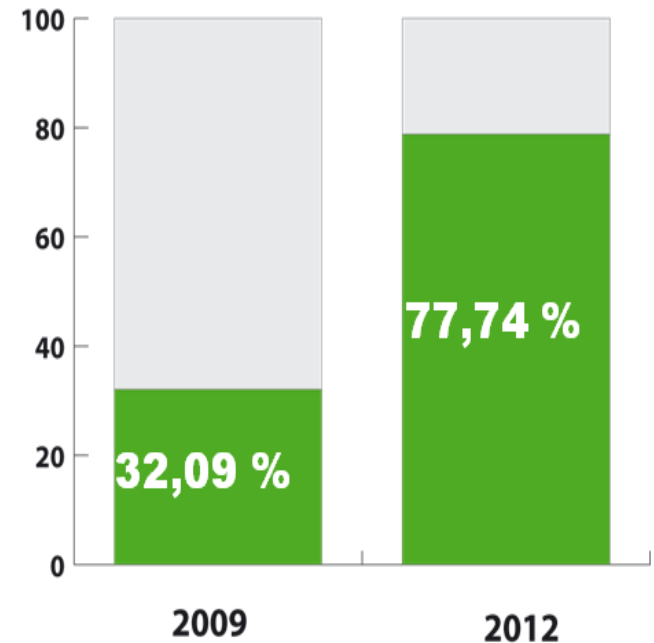


Evolution of separate collection



Variation of collection

SEPARATE COLLECTION VS. RESIDUAL WASTE



Experiences in
40 municipalities



Home-composting

&

Community
composting









Mi ez a Träzy? Nézd meg a videót





TRADITIONAL WASTE MANAGEMENT

Disposal 60-80%



Landfill

Incineration
(WtE, gasification,
pyrolysis...)

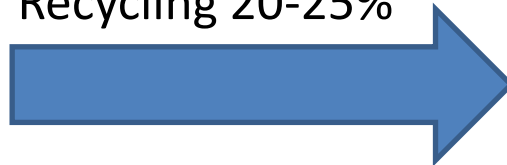
Co-incineration
(Cement kilns,
biomass plants...)



Reuse 5%



Recycling 20-25%



Composting 5-10%



ZERO WASTE SCENARIO – RESOURCE EFFICIENT EU



Residual 10-20%



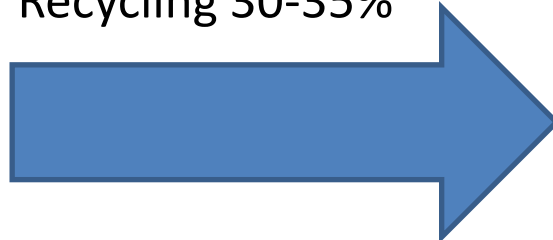
Prevention 10-20%



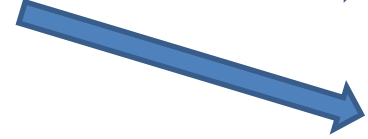
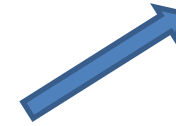
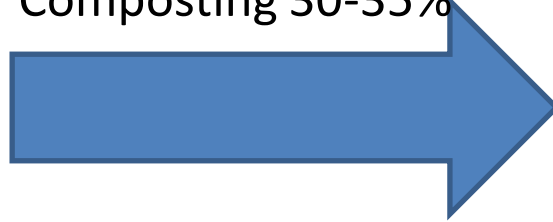
Repair & Reuse 10%



Recycling 30-35%

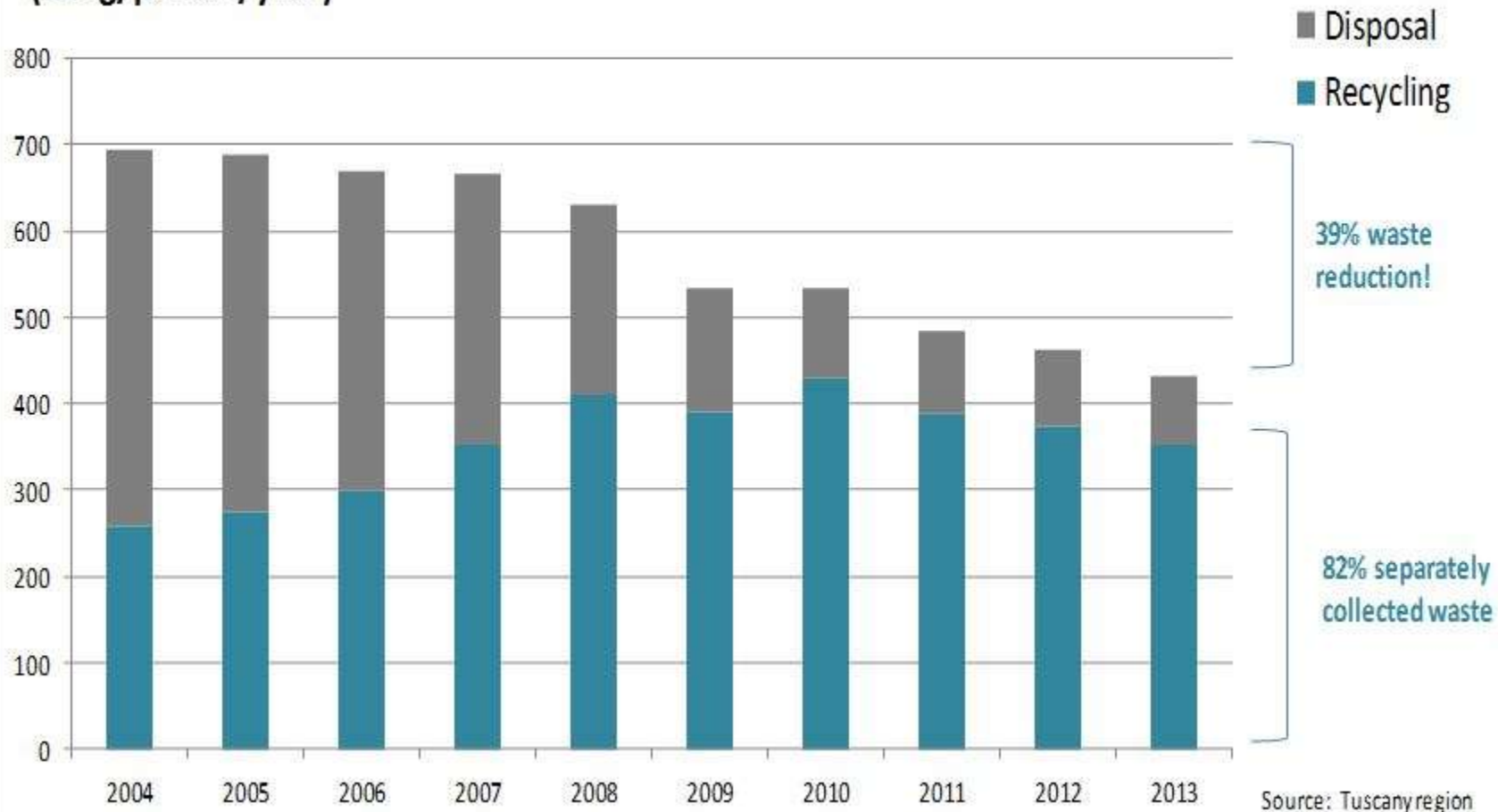


Composting 30-35%

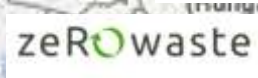


How does this look in practice?

Evolution of separate collection and waste generation in Capannori 2004-2013
(in Kg/person/year)



Zero Waste Europe international network





Retweeted by [Enzo Favoino](#) and 1 other

Janez Potočnik @JanezPotocnikEU - 5 Apr 2013

Good **waste** management needs good will and good organisation: "**zero waste**" is completely possible

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Message: Yes we can!



But good political will
doesn't come alone...



Obrigado!



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