



Klimagune Workshop 2013

Opportunities, Challenges and Barriers for Transitions Towards Sustainability in the Context of Climate Change

Urban Areas including their Natural and Built
Infrastructure

"Opportunities, challenges and obstacles in the management and treatment of urban organic waste"

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What waste is? BOE. 22/2011 Law, July 28

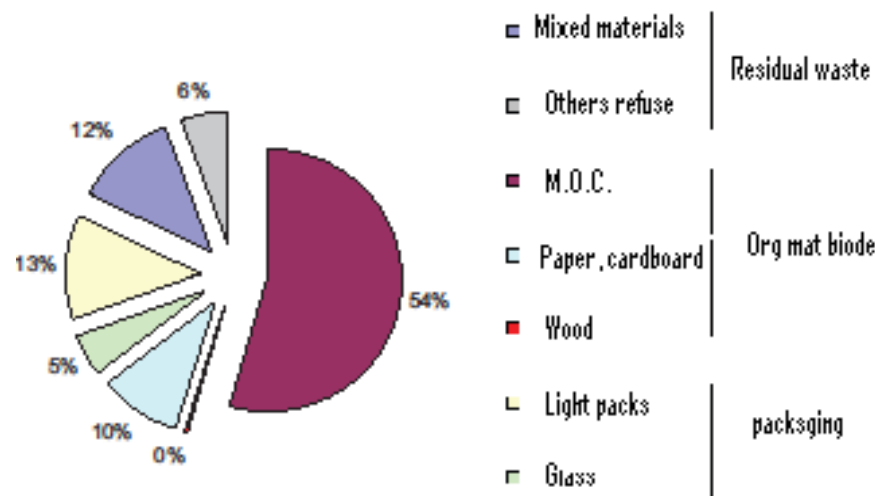
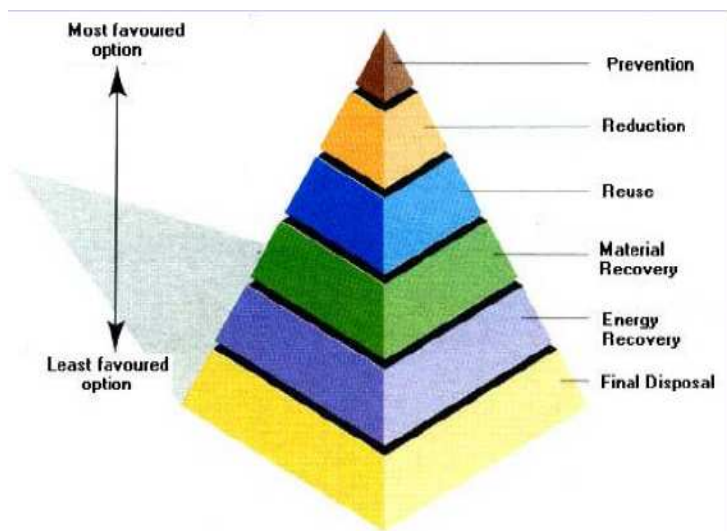
- **A - Waste:** 'Wastes' are substances or objects, which are disposed of or are intended to be disposed of or are required to be disposed of by the provisions of national law"
- **B - Municipal solid waste (MSW)**, commonly known as **trash** or **garbage** (US), **refuse** or **rubbish** (UK) is a [waste type](#) consisting of everyday items that are discarded by the public.



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- 2008/98/CE

The composition of municipal waste ?





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Basque Country:

- $3 \cdot 10^6$ citizens; 1,2-1,4 kg waste/citizen/day, %50 organic and compostable
- More or less 650.000 Tn/year or $3,3 \cdot 10^5 \text{ m}^3$ compost
- Worked lands 473.211 Ha (%48 of land)
- High of the sandwich

$$\text{High} = \frac{\text{volumen}}{\text{surface}} = \frac{3,3 \cdot 10^5 \text{ m}^3}{4,73 \cdot 10^5 \text{ Hx}10^4 \text{ m}^2 / \text{H}} \approx 1 \cdot 10^{-4} \text{ m} = 0,1 \text{ mm high}$$

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Incinerator. Biscay

- $2 \cdot 10^5$ Tn waste/year
 - Heat of combustion 8.550 kJ/kg (very low)
- Electricity $760 \cdot 10^6$ kW.h/year. Only %28 from waste
- 88.000 Tn fossil fuel has to be burned, that means
 $200.000 \text{ Tn CO}_2/\text{year}$



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- Best management versus best techniques
- If you are worried about the future of your child/students, don't hesitate and make compost
- Remember that small is beautiful, my friend

Thank you