

# 2.7

# WASTE



In 2011, the Framework Directive on Waste was transposed into Spanish law by means of Law 22/2011 of 28 June, on waste and polluted soil, which replaces Law 10/1998 of 21 April, on Waste.

This new Law, respecting the basic principles of protecting human health and the environment, guides waste policy in accordance with the principle of hierarchical management of waste, optimising the use of resources and minimising the impact of waste production and management.

It also promotes innovation in the prevention and management of waste in order to facilitate the development of the solutions that are most valuable to society at each moment in time, which will undoubtedly affect the reduction of greenhouse gas emissions associated with this sector and will contribute to the conservation of the climate.

One of the measures included in this policy aimed at enhancing waste management is the reinforcement of strategy coordination between the Ministry of Agriculture, Food and the Environment, the Autonomous Communities and local authorities to achieve effective management.



Among other things, this measure seeks to establish a strategy for prevention and recycling to save production costs in all sectors and develop Spanish technologies, thereby also creating jobs.

The waste policy goals for the forthcoming years are established by the latest edition of the National Integrated Waste Plan 2008-2015 and they will adapt to the new requirements provided by law.

### KEY MESSAGES

The downward trend in urban waste production per inhabitant that began in 2000 continues.

The quantity of urban waste landfilled (expressed in kg per inhabitant) remained fairly stable, recording only slight annual variations. This figure fell in 2010 in regard to 2009.

Despite a decrease in 2010 (and in 2002 and 2003), the paper and cardboard collection rate displays an upward trend. The recycling rate is also up.

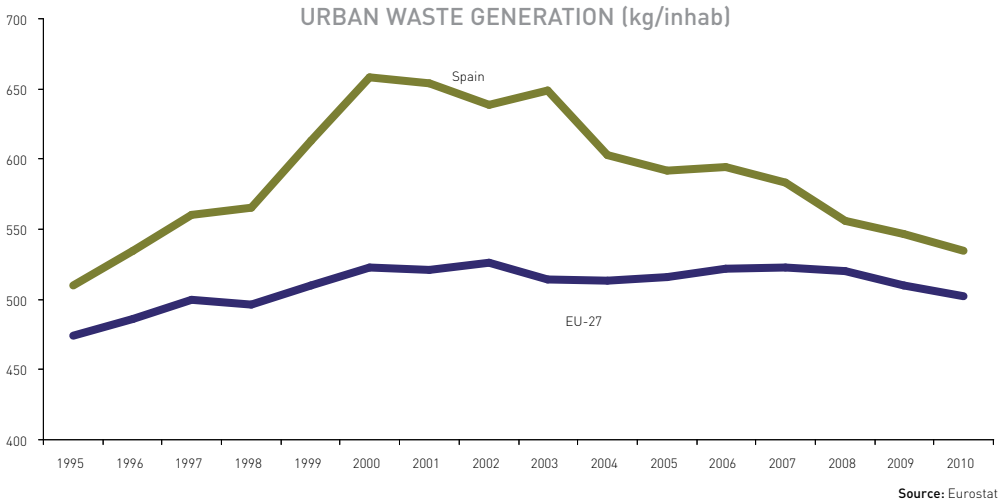
The packaging waste recycling and recovery targets included in Directive 2004/12/EC were surpassed.

### INDICATORS

- Urban waste generation
- Urban waste management: landfill and incineration
- Paper and cardboard recycling
- Packaging waste recycling and recovery

# Urban waste generation

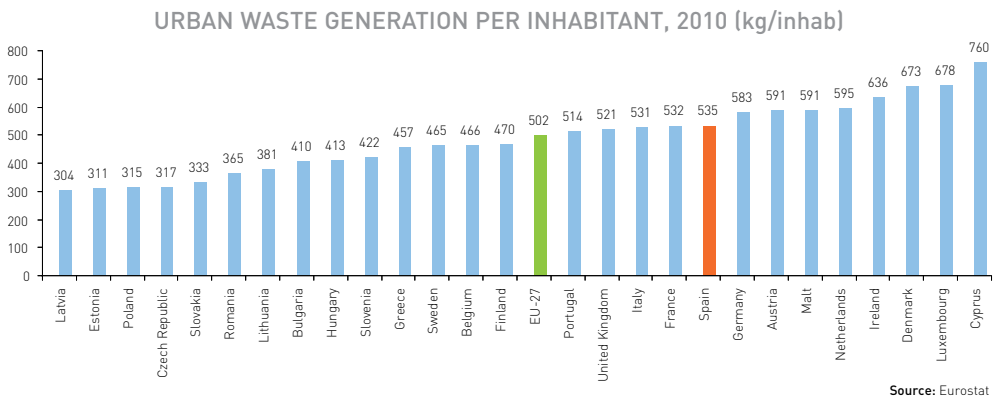
Urban waste generation in Spain continued to decline in 2010 to 535 kg/inhabitant



Across the EU-27, average urban waste generation per inhabitant totalled 502 kg in 2010.

In Spain, the average was 535 kg/inhabitant, 2.19% lower than in 2009. Between 2001 and 2010, urban waste generation in Spain fell by 18.2%, the largest reduction in the EU-27 for that period.

In 2010, Spain was ranked ninth in Europe by volume of urban waste generated per inhabitant, the same position held since 2008.



The table below shows the amount of urban waste collected, according to the breakdown available at the Ministry of Agriculture, Food and Environment. As can be observed, total waste generated decreased by 1.97% in 2009 in regard to 2008. As regards the type of waste, in 2009, 13.4% of waste was separately collected (paper, glass, lightweight packaging and organic matter) and 4.3% was taken to recycling centres.

#### URBAN WASTE COLLECTED IN SPAIN (TONNES)

	2005	2006	2007	2008	2009
Separately collected paper, glass lightweight packaging and organic matter	2,133,435	2,519,340	2,668,897	3,430,066	3,148,523
Mixed waste	19,657,827	20,431,260	19,993,461	19,858,348	17,770,790
Other separately collected waste	561,890	697,432	899,841	761,448	
Other separately collected waste (wood, clothing and batteries)					85,175
Waste taken to recycling centres					1,018,207
Waste collected in other ways: Municipal cleaning waste (Street cleaning, parks and gardens and other) and Waste from other flows (Markets, shops, bulky waste and other )					1,552,740

The 2009 data on urban waste compiled by MAGRAMA from data provided by Spain's regional governments only includes figures for the separate collection of paper, glass, lightweight packaging and organic matter and the figure for mixed waste. The information for the rest of municipal waste will be provided from this time onwards by the INE on an annual basis and will complete the data compiled by MAGRAMA.

Source: MAGRAMA.

#### NOTES

- The indicator shows urban waste generation, expressed in kilograms per inhabitant (kg/inhab), and refers to waste collected by municipal services (or by similar services contracted by local councils) and processed by waste management systems.. Most of this waste originated from households, although waste from similar sources, such as retail outlets, offices and public institutions, is also included.
- According to Law 22/2011, "waste" is considered to be any substance or object that its owner throws away or has either the intention or obligation to throw away. "Domestic waste" is considered any waste generated in households as a result of domestic activities and those similar to the above generated by services and industries. This category includes waste electrical and electronic equipment, clothing, batteries and accumulators, furniture and fittings, together with waste and rubble from minor building work and household repairs. The waste generated from cleaning streets, parks, recreational areas and beaches, dead domestic animals and abandoned vehicles will also be considered domestic waste.

#### SOURCES

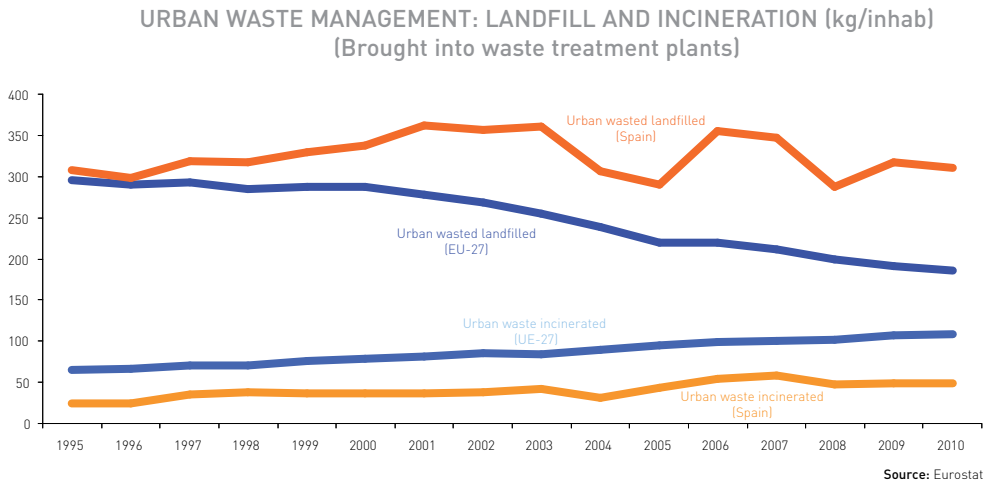
- Sub-Directorate General for Waste. Directorate-General for Environmental Quality and Assessment. Ministry of Agriculture, Food and Environment.
- Eurostat. Sustainable development indicators/Sustainable consumption and production/Resource productivity/ Municipal waste generated.

#### FURTHER INFORMATION

- <http://www.magrama.es>
- <http://www.ine.es>
- <http://epp.eurostat.ec.europa.eu/portal/page/portal/sdi/indicators/>

## Urban waste management: landfill and incineration

33% of urban waste generated in Spain is recycled



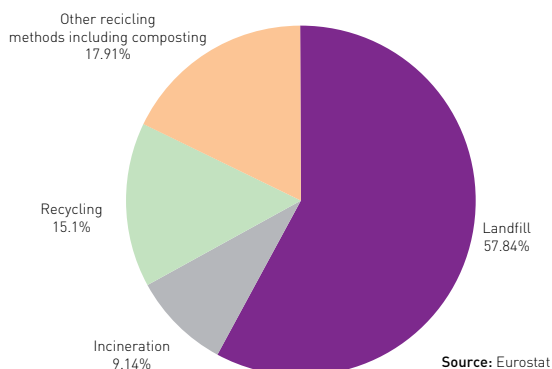
The downward trend in urban waste landfill continued in Europe, recording a decrease of 37.2% over the period 1995-2010, while incineration increased by 66.2% over the same period.

In Spain, the total amount of urban waste landfilled per inhabitant remained practically stable over the same period, rising by only 0.6%, while incineration increased by 104% over the same period.

In absolute terms, Spain incinerated 49 kg of waste per inhabitant in 2010, while the figure stood at 108 kg/inhabitant in the case of the EU. Meanwhile, Spain landfilled a total of 310 kg/inhabitant in 2010 compared to 186 in the EU. While the total amount of waste landfilled by the EU has witnessed an almost constant decrease since 1005, in Spain, except for a few fluctuations, figures have remained relatively high and there is no sign that a decrease in the amount of waste landfilled per inhabitant has begun.

Urban waste landfill per inhabitant represented 57.84% of total waste generated in 2010, while incineration accounted for 9.14% and recycling 33%. Recycling accounted for 39.6% of total urban waste per inhabitant in the EU-27 in 2010.

## URBAN WASTE MANAGEMENT (2010)



The table below shows the quantity of waste sent to urban waste treatment plants in Spain by treatment type (t/year). It does not include a breakdown of the number of inhabitants that generated the waste.

## URBAN WASTE PROCESSING IN TREATMENT AND DISPOSAL FACILITIES (t/year)

Facility type		2005	2006	2007	2008	2009	2010
TREATMENT	Packaging sorting plants	330,638	606,200	559,271	547,621	578,392	640,286
	Separately collected organic-matter composting plants	243,921	160,017	161,781	460,408	525,039	795,714
	Sorting and composting plants	6,455,248	6,991,541	7,249,622	8,199,049	9,108,845	7,669,958
	Sorting, biomethanisation and composting plants	1,123,818	1,168,565	1,041,153	1,579,922	3,393,374	3,103,218
DISPOSAL	Incineration plants *				2,057,017	2,240,224	1,972,305
	Landfill sites * (including waste refused by treatment plants)				16,125,342	17,437,656	15,833,489

The quantities of waste incinerated and landfilled includes waste refused (and waste generated by treatment plants) and they total 925,079 and 7,387,266, respectively.

Source: MAGRAMA

## NOTES

- The indicator shows the relationship between the amount of waste treated at the various facilities and the number of inhabitants in Spain.
- See notes for the previous indicator.

## SOURCES

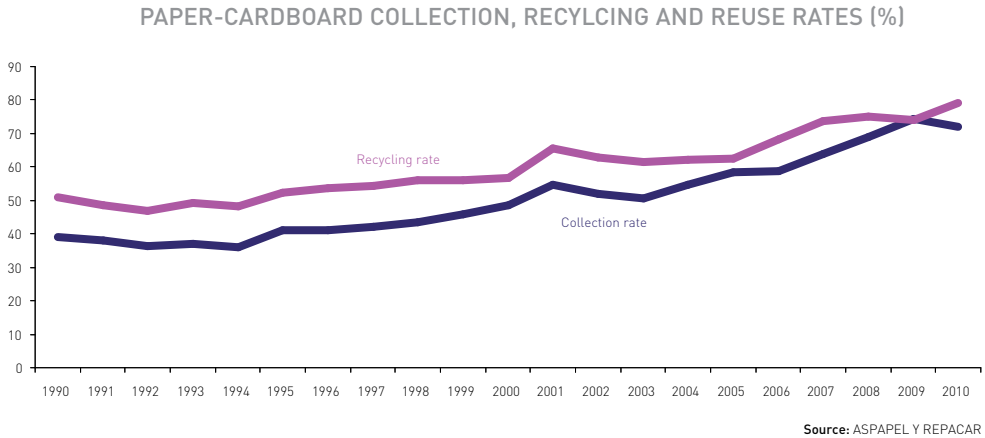
- Sub-Directorate General for Waste. Directorate-General for Environmental Quality and Assessment. Ministry of Agriculture, Food and Environment.
- Eurostat/Sustainable development indicators/Sustainable consumption and production/Resource productivity/Municipal waste generated/Municipal waste treatment, by type of treatment method.

## FURTHER INFORMATION

- <http://www.magrama.es>
- <http://www.ine.es>
- <http://epp.eurostat.ec.europa.eu/portal/page/portal/sdi/indicators>

## Paper and cardboard recycling

The paper and cardboard collection rate fell in 2010, but the recycling rate increased



In 2010, 4,637 million tonnes of paper and cardboard were recovered in Spain, which is a similar level to that registered in 2006. The collection rate, which remains on a par with Europe's most advanced countries in the recycling society, decreased by 3.4 points to 71.9%. In contrast, consumption of recycled paper and cardboard increased by 11.1% on the previous year to 5,103 million tonnes, a direct result of the 9.1% growth in the production of paper and cardboard, which amounted to 6,193 million tonnes.

The recycling rate rose from 74.4% in 2009 to 79.1% in 2010, once again exceeding the average rate for Europe and fulfilling the forecasts made by ASPAPEL.

In 2010, 8.2 kg of recovered paper were used in every 10 kg of paper produced.

According to the Survey on the Collection and Treatment of Waste carried out by the INE in 2009, the quantity of paper and cardboard collected per person per year stood at 23.5 kg (2.2% less than in 2008).

By autonomous community, the highest levels of separate collection were recorded in Navarre (52.8 kg), the Canary Islands (37.4 kg) and the Basque Country (35 kg).

According to the progress report on the European Declaration on Paper Recovery published by the European Recovered Paper Council (ERPC), the paper recycling rate in Europe stood at 68.9% in 2010, reversing the upward trend observed over the previous 15 years.

#### NOTES

- The collection rate, which is expressed as a percentage, indicates the ratio between the quantity of paper recovered and the quantity of paper and cardboard consumed. Used paper and cardboard are recovered for recycling by various means: industrial collection (from companies, publishing houses, printers and large retail outlets), separate collection (from blue containers and door-to-door collection from small retailers) and specific collection (from offices, public buildings, recycling points, etc.). After being cleaned and sorted into different grades, the recovered paper is used as a raw material by the papermaking industry to produce new paper.
- The recycling rate for waste paper and cardboard is calculated as the ratio between the quantity of paper recovered and apparent consumption of paper and cardboard. Apparent consumption is calculated by adding the quantity imported to the quantity produced and then deducting exports.
- The utilisation rate, which is expressed as a percentage, is calculated as the ratio between the quantity of paper recovered and the quantity of paper manufactured.
- In the Survey on the Collection and Treatment of Waste carried out in 2009 (INE, press release of 26 October 2011), separately collected waste is defined as the product of separate collection of fermentable organic matter and recyclable materials, as well as that of any other separate collection system that permits retrieval of recoverable materials contained in waste. It does not include waste recovered in screening and sorting plants.

#### SOURCES

- Spanish Association of Pulp and Paper Manufacturers (ASPAPEL).
- REPACAR, 2011. *REPACAR Annual Report 2010*.

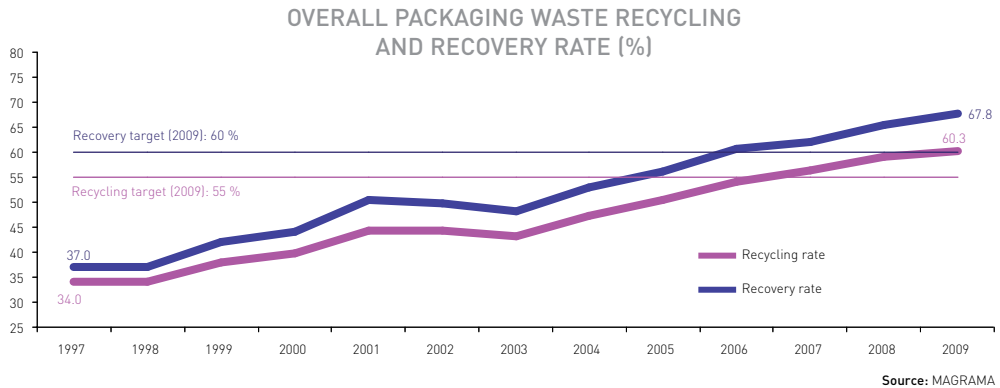
#### FURTHER INFORMATION

- <http://www.magrama.es>
- <http://www.ine.es>
- <http://www.repacar.org>
- <http://www.aspapel.es>
- <http://www.paperrecovery.org/>
- <http://www.cepi.org/>



# Packaging waste recycling and recovery

Packaging waste recycling and recovery rates in Spain exceed the 2010 targets



Since 2003, packaging waste recycling and recovery rates have displayed an upward trend and since 2006 have reached the target levels set for 2009.

If recycling and recovery is analysed by type of packaging, paper and cardboard record the highest rates at 76.7% and 82.1%, respectively, followed by metals, at 70.6% in both cases. According to Ecoembes, recycling targets were exceeded in 2009 in the case of paper and cardboard (76.7% over 60%), plastic (26.6% over 22.5%) and wood (56% over 15%).

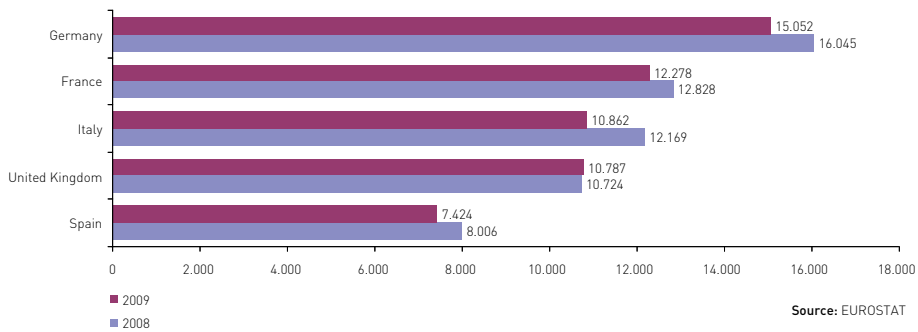
**PACKAGE WASTE RECYCLING AND RECOVERY RATES (%). 2009**

	Glass	Plastic	Paper and cardboard	Metals	Wood	Total
Recycling rate	56.5	26.6	76.7	70.6	56.0	60.3
Recovery rate	56.5	43.7	82.1	70.6	75.2	67.8

Source: MAGRAMA

At European level, Spain was ranked fifth in terms of packaging waste generation in 2009, as was the case in 2008, behind Germany, France, Italy and the United Kingdom. Packaging waste generation has decreased in all the countries in the EU-27 except four (Bulgaria, Slovakia, Sweden and the United Kingdom), which witnessed an increase. Italy recorded the largest decrease in the top five countries of 10.7% in 2009 on 2008, following by Spain with a 7.3% drop and Germany with a 6.2% decline.

### GENERATION OF PACKAGING WASTE (Thousand of tonnes)



Household packaging made of materials other than glass is managed by the Ecoembes Integrated Management System (IMS), which in 2010 recycled 1,214,727 million tonnes of packaging, 65.9% of all lightweight packaging (plastic bottles, cartons and cans) and paper and cardboard packaging managed by Ecoembes. In global terms, more than 12.9 million tonnes of packaging have been saved from landfill since the IMS became operational in 1998. Of this amount, more than 10.5 million tonnes have been recycled.

#### NOTES

- Ecoembalajes España, S.A. (Ecoembes) is a non-profit public limited company whose purpose is to design and implement systems with which to separate and recover used packaging and packaging waste.
- The recycling and recovery rate is calculated by comparing the number of tonnes recycled and recovered for their energy value (measured at the point of entry into the recycling and recovery process) with the total packaging waste generated (taken to be equal to the total amount placed on the market). It is assumed that the quantity of reusable packaging from previous years that becomes waste will balance out the reusable packaging placed on the market in that year and then subsequently reused.
- The data on packaging waste refers to domestic, commercial and industrial packaging.

#### SOURCES

- Sub-Directorate General for Waste. Directorate-General for Environmental Quality and Assessment. Ministry of Agriculture, Food and Environment.
- Ecoembalajes España S.A. (Ecoembes). *Packaging recycling in Europe. Eurostat Report 2009*.
- Eurostat. European commission.

#### FURTHER INFORMATION

- <http://www.magrama.es>
- <http://www.ecoembes.com>
- <http://epp.eurostat.ec.europa.eu>