WASTE AND MATERIAL RESOURCES

The European economy is based on a high level of resource consumption. This includes raw materials (such as metals, construction minerals or wood), energy and land. The main driving forces of Europe’s resource consumption are economic growth, technological developments and changing consumption and production patterns. About one third of resources used are turned into waste and emissions. Around four tonnes of waste per capita are generated every year in the EEA member countries. Every European citizen on average throws away 520 kg of household waste per year, and this figure is expected to increase.

Are we preventing the generation of packaging waste?

There is a general increase in per capita quantities of packaging being put on the market. This development is seen across the EU-27 Member States. It is not in line with the objective of the Directive on Packaging and Packaging Waste, which aims at reducing the production of packaging waste.

However, the EU target to recycle 25% of packaging waste in 2001 has been met and significantly exceeded. In 2007 the average recycling rate over the EU-27 reached 59%, already exceeding the 2008 target of 55%. Differences in performance of individual countries suggest further potential for improvement, however (see Figure 5).

Fig. 1: Packaging waste generation per capita and by country (Ver. 4.00).
Fig. 2: Packaging waste generation per capita and by country (Ver. 4.00)
Fig. 3: Generation of packaging waste and GDP in the EU-15 (Ver. 4.00)

Fig. 4: Generation of packaging waste and GDP in the EU 27 (Ver. 2.00)

Key assessment

There are large variations between Member States in the use of packaging per capita, ranging from 245 kg/capita in Ireland to 94 kg/capita in Greece and 41 kg/capita in Bulgaria (2007). The average 2007 figure for the EU-27 was 164 kg/capita. There are clear
differences between the EU-15 and newer Member States reflecting different levels of consumption of packaging. The variations within EU-15 countries are harder to explain. One explanation may be different market shares of reusable packaging; another different consumption and production patterns. It is also possible that some Member States may have uneven coverage of data collection or slightly differing definitions of packaging and understanding of which types of packaging waste need to be reported to DG Environment.

While there are significant year to year variations, the general trend in EU-15 shows that amounts of packaging are still rising. Packaging waste generation in the EU-15 saw slight decoupling from GDP (fig.3) between 1998 and 2007 growing by 17.2%, compared to a nearly 23% real growth in GDP over the same period. However, all the decoupling occurred in the first years of that period; since 2001 growth in packaging waste has actually been more rapid than growth in GDP.

The four main fractions of the packaging waste stream (glass, metals, paper & cardboard, plastics), meanwhile, have seen more sustained relative decoupling over the whole period, growing at half the rate of GDP. The apparent rapid growth in total packaging between 2001 and 2003 may have had methodological causes - especially concerning the coverage of wood packaging. In 1997 only 6 countries reported wood packaging; since 2003 most EU-15 countries have provided complete sets of data.

Trends in packaging waste generation per capita vary between the countries (fig 2). While some countries (e.g. Germany and Portugal) show a relatively constant increase, others (e.g. France, Austria) have been able to stabilise and even reverse the increases in generation. The trend is less clear in the data reported from Scandinavian countries due to the above mentioned changes in data reporting.

Do we manage the generated waste (packaging) in a sustainable way?
Specific assessment

Recycling is a key element in the management of packaging waste.
The minimum target of 25 % recycling of all packaging materials was achieved by all EU-27 members in 2006. Furthermore, 15 of the 27 Member States had already complied with the overall minimum recycling target for 2008 by 2007.

The total EU-15 recycling rate increased from 45 % in 1997 to 60 % in 2007. The EU-12 recycling rate increased from 34% in 2005 to 47% in 2007. As with consumption of packaging per capita, the total recycling rate in the Member States in 2007 varied greatly, from 26 % in Cyprus to 80 % in Belgium.

Table 1: Targets of the Packaging and Packaging Waste Directive

<table>
<thead>
<tr>
<th>G By weight</th>
<th>Targets in 94/62/EC</th>
<th>targets in 2004/12/EC</th>
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<tbody>
<tr>
<td>Overall recovery target</td>
<td>min. 50 %, max. 65 %</td>
<td>min. 60 %</td>
</tr>
<tr>
<td>Overall recycling target</td>
<td>min. 25 %, max. 45 %</td>
<td>min. 55 %, max.80 %</td>
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<tr>
<td>Year to achieve targets</td>
<td>30 June 2001</td>
<td>31 December 2008</td>
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To achieve the targets, several Member States have introduced producer responsibility and established packaging recycling schemes or introduced economic instruments (e.g. taxes, deposit systems). Other countries have improved their existing collection and recycling system.

Note: Greece, Ireland, Portugal and the EU-12 member states have individual derogations to meet the new targets. Depending on country, the targets will have to be reached 3 to 7 years later.


Learn more about waste by consulting maps and data for European countries:
http://www.eea.europa.eu/data-and-maps/figures#c15=all&c0=15&b_start=0&c5=waste
Fig. 8 - Changing household consumption patterns in EU-10 and EU-15.
Fig. 9 - Percentage of municipal waste that is incinerated in the EU-27, 1995 and 2007.

Fig. 10 - Generation of biodegradable municipal waste per capita.
Fig. 11 - Development in the number of landfills for non-hazardous municipal waste in four EU Member States

Fig. 12 - Separate collection of biodegradable waste fractions in the Flemish Region of Belgium. Municipalities are required to organise separate collection of either biowaste or garden waste (in combination with home composting of biowaste).
Fig. 13 - Separate collection of biodegradable waste in Hungary.

Fig. 14 - Management of municipal waste in Germany. Recovery is estimated as municipal waste generation minus municipal waste landfilled and incinerated.