Trends in Recycling in Europe

Özgür Saki
European Environment Agency
The European Environment Agency

- An EU institution situated in Copenhagen since 1994
- Provides the information necessary to enable policy makers to provide efficient and scientific legislation
- 32 member countries: EU-27, Turkey, Iceland, Norway, Liechtenstein and Switzerland
- 7 cooperating countries in the Western Balkan
What is SOER 2010?

**Thematic assessments**
- Understanding climate change
- Mitigating climate change
- Adapting to climate change
- Biodiversity
- Land use
- Soil
- Marine and coastal environment
- Consumption and environment
- Material resources and waste
- Water resources: quantity & flows
- Freshwater quality
- Air pollution
- Urban environment

**Assessment of global megatrends**
- Social megatrends
- Technological megatrends
- Economic megatrends
- Environmental megatrends
- Political megatrends

**Country assessments**
- Country profiles
- National and regional stories

**Common environmental themes**
- Climate change mitigation
- Land use
- Nature protection & biodiversity
- Waste
- Freshwater
- Air pollution

Each EEA member country (32) and EEA cooperating country (6) assessed all six environmental themes above.

European Environment Agency
Europe, like much of the industrialized world, is using an increasing amount of materials. The EU-27 average annual use of material resources is some 16 tonnes per person.

The overall trend in waste generation, including hazardous waste, is upwards.

Total waste generation in the EU-27, Turkey, Norway, Iceland, Croatia: 3 billion tonnes (2006)

Total hazardous waste generation: 88 million tonnes (2006)

Total municipal waste generation in the EU 27: 260 million tonnes (2008)

524 kg/cap municipal waste generation (2008), large differences between countries
Trend in Generation of Municipal Waste in Europe

Kg per capita

European Environment Agency
The long-term goal is for the EU to become a recycling society, that seeks to avoid waste and uses waste as a resource.

(Thematic Strategy on prevention and recycling of waste, 2005)
Recycling Society - Questions?

- How far have we reached to be a recycling society?
- What is the present state of recycling in the EU and in the EEA member countries?
- Which kinds of waste streams have been regulated with recycling targets?
<table>
<thead>
<tr>
<th>WEEE Category</th>
<th>Year</th>
<th>Recovery targets</th>
<th>Recycling targets</th>
<th>Collection targets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Packaging waste</td>
<td>2008</td>
<td>60%</td>
<td>55%</td>
<td></td>
</tr>
<tr>
<td>End-of-Life Vehicles</td>
<td>2006</td>
<td>85% incl. Reuse</td>
<td>80% incl. reuse</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>2015</td>
<td>95% incl. Reuse</td>
<td>85% incl. reuse</td>
<td>100%</td>
</tr>
<tr>
<td>Waste Electrical and Electronic Equipment</td>
<td>2006</td>
<td>70 – 80 % (differs acc. to WEEE categories)</td>
<td>50 – 80 % incl. reuse (differs acc. to WEEE categories)</td>
<td>Min. 4 kg per inhabitant per year</td>
</tr>
<tr>
<td>Batteries</td>
<td>2012</td>
<td></td>
<td></td>
<td>25%</td>
</tr>
<tr>
<td></td>
<td>2016</td>
<td></td>
<td></td>
<td>45%</td>
</tr>
<tr>
<td>Batteries, lead acid and accumulators</td>
<td>2011</td>
<td></td>
<td>50 – 75% efficiency (different targets for different battery types)</td>
<td></td>
</tr>
<tr>
<td>Tyres</td>
<td>2006</td>
<td></td>
<td></td>
<td>Zero landfill of tyres</td>
</tr>
<tr>
<td>Landfill of biodegradable municipal waste</td>
<td>2006</td>
<td></td>
<td>Reduction to 75% of the amount generated in 1995</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2009</td>
<td></td>
<td>Reduction to 50% of the amount generated in 1995</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2016</td>
<td></td>
<td>Reduction to 35% of the amount generated in 1995</td>
<td></td>
</tr>
</tbody>
</table>
## Recycling Targets, WFD

<table>
<thead>
<tr>
<th>New Targets</th>
<th>2015</th>
<th>Separate collection: At least for paper, plastic, metal and glass</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2020</td>
<td>recycling rates of 50% for household and similar wastes (at least paper, plastic, metal and glass)</td>
</tr>
<tr>
<td></td>
<td>2020</td>
<td>70% for construction and demolition waste</td>
</tr>
</tbody>
</table>
Key message 2

- The management of waste has improved, with many countries recycling and recovering more, but more efforts are needed if the EU is to become a 'recycling society'. Implementation of existing legislation remains crucial, especially on the illegal shipments of waste, illegal or sub-standard landfilling, and packaging and electric and electronic equipment waste management.

- The majority of this waste (51.5 %) is still sent to landfill, but an increasing amount is recycled or recovered (43.6 %) or incinerated (4.9 %).

Trend and Outlook of Municipal Waste Management in Europe
Landfilling of Municipal Waste by countries

- Switzerland
- Germany
- Netherlands
- Sweden
- Austria
- Denmark
- Belgium
- Norway
- Luxembourg
- France
- Estonia
- Italy
- Finland
- Spain
- Ireland
- Portugal
- Iceland
- Czech Republic
- Poland
- Hungary
- Slovenia
- Romania
- Slovakia
- Greece
- Turkey
- Cyprus
- Lithuania
- Malta
- Latvia
- Bulgaria

2003 vs 2008
Average recycling rate of packaging waste in the EU is 59%
Packaging waste management, EU-15
WEEE, 2006

Kg per capita per year

Private households collection target: 4 kg per capita per year

European Environment Agency
The European countries can be divided into three categories regarding recycling levels:

I: Countries with high or very high recycling rates on municipal waste, packaging waste, ELV and WEEE but larger variations on recycling level of construction and demolition waste.

II: Countries with medium recycling levels on municipal waste, packaging waste and for ELV and for some countries also for WEEE and construction demolition waste.

III: Countries with lower or quite low recycling levels of municipal waste and packaging waste. Most of these have very high levels of ELV and some also have high recycling levels on WEEE but a low amount of collection of WEEE.
The European Recycling Map, ETC/SCP 2010

Sum of recycling percentages

% of recycling of the waste types

% of recycling of the waste types

BG RO LT SK MT PL HU CY LV GR PT CZ FR EE ES UK IE FI SI IT DK LU NO SE NL BE DE AT

III
II
I

0 100 200 300

- 2007 Recycled MSW
- 2007 Recycled packaging
- 2007 Reused and recycled ELV
- Recycled C&D

- 2006 Reused and recycled WEEE
## Recycling Policies for Selected Waste Streams, ETC/SCP 2010

<table>
<thead>
<tr>
<th>Typologies of instruments</th>
<th>Policy Instruments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Administrative</strong></td>
<td>Landfill bans, incineration bans, material restrictions, eco-design requirements related to reuse/recycling, minimum recycled material content standards, source separation/collection requirements, waste prevention requirements, waste prevention targets, collection targets, landfill/incineration diversion targets, reuse targets, recycling targets, recovery targets</td>
</tr>
<tr>
<td><strong>Administrative/economic</strong></td>
<td>Producer take back requirements</td>
</tr>
<tr>
<td><strong>Economic/Market Based</strong></td>
<td>Deposit-refund systems, producer responsibility, taxes on virgin materials, taxes on hazardous substances, landfill taxes/charges, incineration taxes/charges, waste disposal taxes/fees/charges, recycling fees/charges, product taxes/charges, tradable recycling credits</td>
</tr>
<tr>
<td><strong>Informative</strong></td>
<td>Information provision requirements, eco-labels</td>
</tr>
</tbody>
</table>
The main observations regarding policy interventions and recycling and/or collection performance are summarised below:

- **Packaging waste**
  1. Setting higher recycling targets tends to lead to a better recycling performance;
  2. Material specific mandates for paper other than packaging have contributed to the achievement of higher results for paper packaging recycling.

- **WEEE**
  1. Longer experience in collecting WEEE;
  2. Engaging municipalities, and to a large extent, distributors in collection activities.

- **MSW**
  1. Ban of landfilling of specific parts of MSW, such as mixed waste with a considerable content of bio waste and combustible waste;
  2. Taxation on incineration and landfill;
  3. Setting recycling targets specific for MSW.
European Recycling Policies in relation to Actual Recycling Achieved, ETC/SCP 2011

• BMW
1. Landfill bans on all or part of BMW;
2. Measures to enhance the separate collection of paper waste are the policy interventions most commonly used by countries achieving a high level of BMW recycling;
3. Landfill diversion targets are commonly seen in less performing countries;
4. One third of the countries use measures to enhance the collection of garden and green kitchen waste and the recycled amount per capita is generally quite high in these countries.

• Construction and demolition waste
1. Landfill tax in itself is a strong driver;
2. Landfill tax in combination with other initiatives such as a source separation mandate, specific recycling targets or a landfill ban is an even stronger driver;
3. Mandatory use of source separation seems to be a strong driver in countries without the use of a landfill tax.
Economic importance of Recycling

- Generally, recycling works best if a market for the recycled materials exists or can be created.
- Recycling had been favoured by rising prices for many secondary and primary materials in recent years.
- Recycling markets suffered during the economic crisis but seem now to be recovering slowly.
Total turnover of recycling in the EU
Recycling, a key element in the Green Economy

- Recycling means less use of virgin materials and thereby creates a better opportunity for the decoupling of material use from economic growth;
- Recycling means that resources are kept in a close-loop process and represents a more circular economy instead of a linear economy, where the resources are depleted and wasted;
- A large part of recycling is closely linked to non-renewable resources, first of all metals, and in that way recycling supports less use of virgin non-renewable resources.
- Recycling creates permanent green jobs. 301,000 people were employed in the recycling sector in the EU in 2007 compared with 174,000 in 2000.
- Recycling can also ensure that the EU maintains secure supplies of rare or precious metals that are necessary for the production of new technologies, for example, e-mobility, information and communication technologies and renewable energy.
Thank you for your attention

www.eea.europa.eu

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