




Resource efficiency and low carbon economy

# Recycling of municipal waste



Indicator	Indicator past trend		Selected objective to be met by 2020	Indicative outlook of the EU meeting the selected objective by 2020
	EU	EEA		
Recycling of municipal waste			50 % of selected materials in household and similar waste to be recycled by each EU Member State — Waste Framework Directive	

The amount of municipal waste being recycled has been steadily increasing. The outlook for reaching the 2020 target is mixed, with the above level of recycling already achieved by some Member States and others on course to do so. However, the target is some way off for others

The Seventh Environment Action Programme (7th EAP) contains the objective that waste is safely managed as a resource. This should help Europe to extract more value from the resources it uses, reduce environmental impacts associated with waste management and create jobs. Further increasing recycling rates of municipal waste (household and similar waste from other sources) is an important step in this regard.

The amount of municipal waste being recycled has been steadily increasing in Europe, thanks to investments in appropriate collection and handling, financial incentives to move away from landfilling of waste and landfill bans. The performance of EU Member States on the recycling of municipal waste varies, although the comparability of data is hindered by variation in data collection and definitions. Despite a strong performance from some countries and clear progress being made in nearly all since 2004, in a number of Member States significant efforts are still needed to achieve the 2020 target.

For further information on the scoreboard methodology please see Box I.1 in the [EEA Environmental indicator report 2016](#)

# Setting the Scene

The 7th EAP states that, by 2020, waste should be ‘safely managed as a resource’, ‘landfilling [is] limited to residual (i.e. non-recyclable and non-recoverable waste)’ and ‘energy recovery [is] limited to non-recyclable materials’ (EU, 2013). The overarching logic guiding EU policy on waste is the waste hierarchy, which prioritises waste prevention, followed by preparation for reuse, recycling, other recovery and finally disposal, including landfilling as the least desirable option. This briefing presents trends on recycling of municipal waste. An improvement in the proportion of waste that is recycled indicates that waste management is moving up the waste hierarchy. Recycling allows the generation of more value from resources and creates jobs. It can also reduce the demand for raw materials and environmental impacts associated with meeting this demand (AIRS\_PO2.1, 2016).<sup>1</sup>

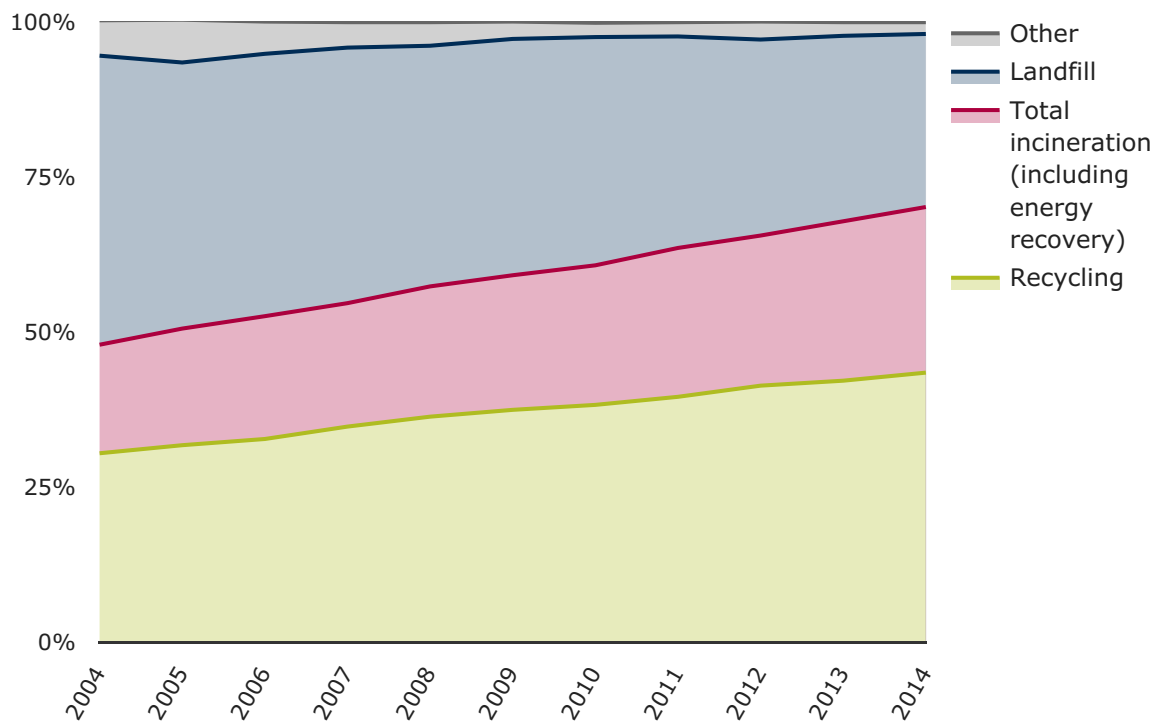
## Policy targets and progress

The EU has introduced multiple waste policies and targets since the 1990s. These include strategies, such as the Thematic Strategy on the Prevention and Recycling of Waste (EU, 2005), and framework legislation such as the Waste Framework Directive (EU, 2008). The Waste Framework Directive sets a target for 50 % of at least four fractions (i.e. paper, glass, metals, plastics) of municipal waste to be prepared for reuse or recycled by 2020 in EU Member States. Countries can choose from four alternative calculation methods to measure progress towards the target.

In December 2015, the European Commission published ‘Closing the loop — An EU action plan for the circular economy’ (EC, 2015), also known as the Circular Economy Package. The package sets out a large number of initiatives, and proposes new targets for municipal waste of 60 % recycling and preparing for reuse by 2025 and 65 % by 2030. These are based on only one calculation method (the one used in Figure 2 of this briefing) with the option of derogations on the timescale for some countries.

As can be seen in Figure 1, for the EU-28 the overall rate of recycling (material recycling, composting and digestion) increased from 30 % in 2004 to 43 % in 2014. This improvement is a combination of a reduction in the amount of municipal waste generated and an increase in the total quantity undergoing material recycling, composting and digestion. This increase is viewed as one of the success stories of environmental policy in Europe so far.

Figure 1. Proportion of municipal waste treated by different methods, EU



**Note:** The treatment shares relate to waste generated. Recycling of municipal waste includes material recycling and composting/anaerobic digestion. Data for 2004-2006 exclude Croatia. 'Other' includes, inter alia, mass losses during pre-treatment, storage and waste generated but not collected.

**Data**

**sources:** Eurostat. [Municipal waste by waste operations \(env\\_wasmun\)](#)

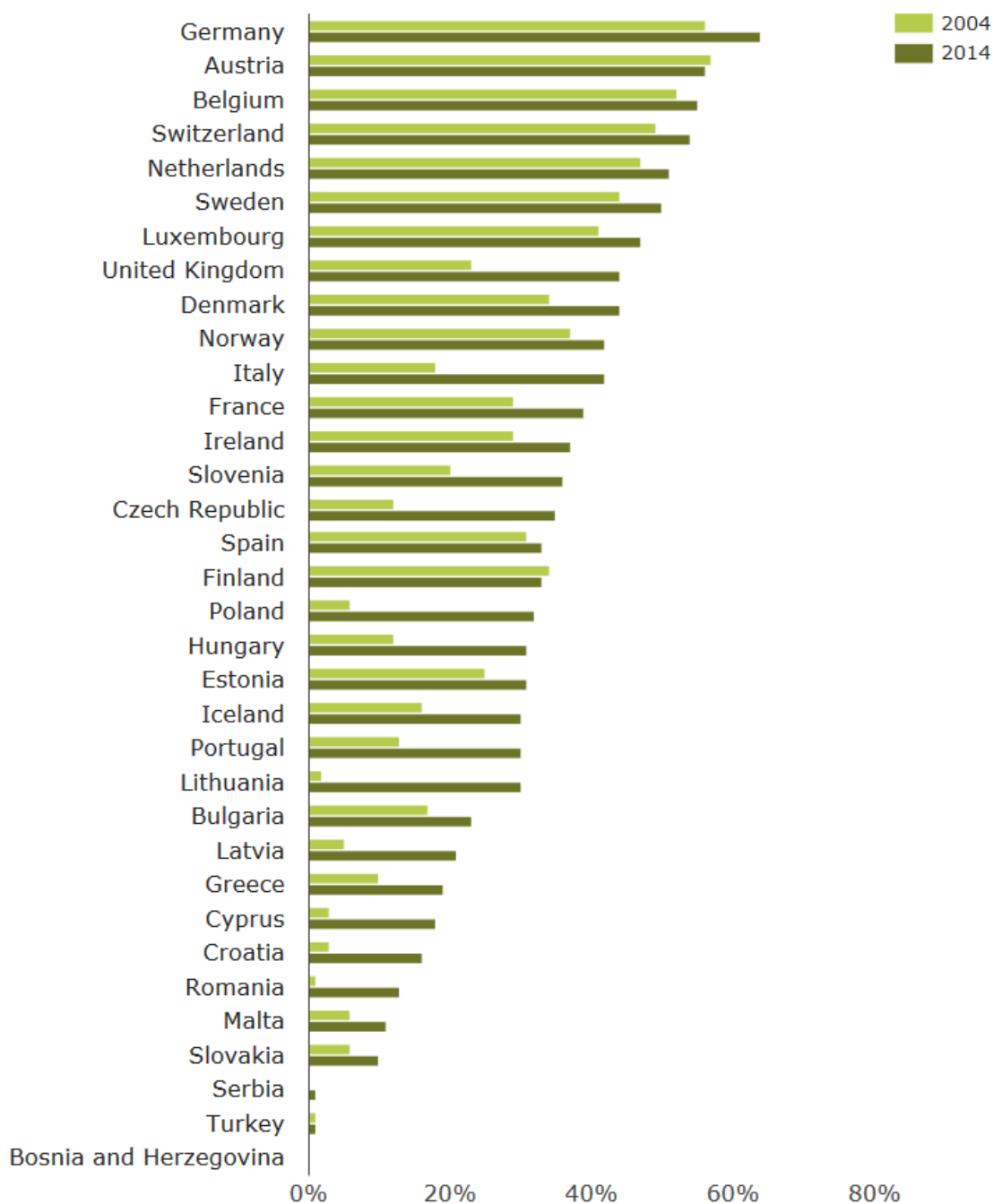
Figure 1 shows the trend in municipal waste recycling in the context of other municipal waste treatment methods. It is apparent that, as a whole, the EU is moving away from landfilling but that incineration is also growing, with a 44 % increase between 2004 and 2014, compared with a 37 % increase for recycling (including composting and digestion).

## Country level information

Despite high (and sustained) levels of municipal waste recycling in some countries and strong improvement in many others, the low rates of recycling and slow progress made in some countries suggest that not every country will achieve the Waste Framework Directive target by 2020.

## Annual Indicator Report Series (AIRS)

**Figure 2. Municipal waste recycling rate (including composting and digestion) by country**



**Note:** The recycling rate is calculated as the percentage of municipal waste generated that is recycled and composted. Changes in reporting methodology mean that 2014 data are not fully comparable with 2004 data for Austria, Cyprus, Malta, Slovakia and Spain. 2005 data were used instead of 2004 data for Poland because of changes in methodology. On account of data availability, instead of 2004 data, 2003 data were used for Iceland, 2007 data for Croatia, and 2006 data for Serbia; and instead of 2014 data, 2013 data were used for Greece and Ireland, and 2012 data for Turkey. Data for Cyprus, Germany, Luxembourg, Poland and Spain are estimates.

**Data sources:** a. Eurostat. [Municipal waste by waste operations](#)

b. Czech Ministry of the Environment. [Waste Management Information System](#)

c. The Environment Agency of Iceland. [Waste Management Information System](#) d. EEA – Indicator WST005

## Annual Indicator Report Series (AIRS)

EEA countries achieved an average total recycling rate of 34 % in 2014, compared with 24 % in 2004. In the EU-27, it increased from 31 % to 44 % over the same period. There were large differences in performance among those countries with the highest and lowest recycling rates. Germany, Austria, Belgium, Switzerland, the Netherlands and Sweden recycled at least half of their municipal waste in 2014. The highest increase in recycling rates between 2004 and 2014 occurred in Lithuania, Iceland, Poland, Italy, Cyprus, the United Kingdom and the Czech Republic (increases of 20–29 percentage points). Overall, in 15 out of 32 countries, the increase in recycling rates was at least 10 percentage points over this period. However, in six countries the proportion of recycled municipal waste barely changed (Spain, Belgium, Latvia, the Netherlands, Slovakia, Malta and Switzerland (increases of fewer than 5 percentage points) and in three countries (Finland, Austria and Turkey) it decreased.

The recycling rates shown in Figure 2 cannot be used to assess EU Member States' progress against the target of 50 % of waste to be prepared for reuse and recycling set by the Waste Framework Directive, because Member States can choose between four different methods to calculate compliance with the target. Figure 2 shows recycling rates calculated following the most demanding method, i.e. method 4.

Progress in enhancing recycling rates is primarily due to trends in the recycling of materials, with biowaste recycling performing less well. Nineteen countries achieved fairly substantial increases in their material recycling rates, but there was comparatively little change in national biowaste recycling rates (EEA, 2013).

There is a clear link between increasing recycling rates and declining rates of landfilling. In countries with high municipal waste recycling rates, landfilling is declining much faster than recycling is growing, as waste management strategies usually move from landfilling towards a combination of recycling and incineration, and in some cases also mechanical–biological treatment (MBT) (EEA, 2013).

Almost without exception, the countries that are performing better in terms of recycling have a wider range of measures and instruments in place than the poorer performing countries (EEA, 2013). Measures have included landfill bans on biodegradable waste or non-pre-treated municipal waste; mandatory separate collection of municipal waste types, especially biowastes; and economic instruments such as landfill and incineration taxes and waste collection fees that strongly encourage recycling. Producer responsibility, binding recycling targets and obligations to make separate collections have certainly also played a role. Although the key drivers behind better municipal waste management are clearly EU and national policies and targets, regional and local policies within countries also play a significant role (EEA, 2015).

### Outlook beyond 2020

The 7th EAP describes a number of steps that are required to achieve its objective of waste being managed as a resource. The Circular Economy Package (EC, 2015), includes a number of proposed targets and measures beyond 2020, which can move the EU towards this vision:

- a common EU target of preparing 65 % of municipal waste for reuse and recycling by 2030;
- a common EU target of preparing 75 % of packaging waste for reuse and recycling by 2030;
- a binding landfill target to reduce landfill to a maximum of 10 % of municipal waste by 2030;
- a ban on landfilling of separately collected waste;
- the promotion of economic instruments to discourage landfilling ;
- simplified and improved definitions and harmonised calculation methods for recycling rates throughout the EU;
- concrete measures to promote reuse and stimulate industrial symbiosis — turning one industry's by-product into another's raw material;
- economic incentives for producers to put greener products on the market and support recovery and recycling schemes (e.g. for packaging, batteries, electrical and electronic equipment and vehicles).

The success of these targets and measures will be key to the medium- to long-term prospects for achieving an innovative circular economy in which nothing is wasted, as envisaged by the 7th EAP.

### About the indicator

This briefing focuses on the recycling of municipal waste. Despite the fact that it represents only around 7 – 10 % of total waste generation in the EU, municipal waste is very visible and its prevention has the potential to reduce environmental impact, not only in the consumption and waste phases but also over the whole life cycle of the products consumed. Municipal waste consists to a large extent of waste generated by households, but it may also include similar wastes generated by small businesses and public institutions that are also collected by municipalities.

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Recycling of waste is defined as any recovery operation by which waste materials are reprocessed into products, materials or substances, whether for the original or other purposes. It includes the reprocessing of organic material (e.g. by composting or digesting) but does not include energy recovery and reprocessing into materials that are to be used as fuels or for backfilling operations (Eurostat, 2015).

The recycling rate is calculated as the percentage of municipal waste generated that is subsequently recycled (including composting and digesting). There are limitations in the comparability of data between countries and over time. There are also variations in what countries classify as municipal waste and, in some cases, these definitions have changed over time. In addition, there is also variation in the calculation method, depending on whether or not the weight of material collected but discarded during the recycling process is included.

Finally, the indicator shows the recycling rate of municipal waste calculated using a consistent method, although Member States can choose between four different methods to monitor recycling rates in order to meet the target of 50 % of waste to be prepared for reuse and recycling (EEA, 2015).

### Footnotes and references

EC, 2005, Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions 'Taking sustainable use of resources forward: A thematic strategy on the prevention and recycling of waste' (COM(2005) 666 final).

EC, 2015, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions 'Closing the loop — An EU action plan for the circular economy' (COM(2015) 614 final) ([http://ec.europa.eu/environment/circular-economy/index\\_en.htm](http://ec.europa.eu/environment/circular-economy/index_en.htm)), accessed 14/10/16.

EEA, 2013, Managing municipal solid waste — A review of achievements in 32 European countries, EEA Report No 2/2013, European Environment Agency.

EEA, 2015, Waste — Municipal solid waste generation and management, SOER briefing, European Environment Agency (<http://www.eea.europa.eu/soer-2015/countries-comparison/waste#note3>), accessed 14/10/16.

EU, 2008, Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain directives (OJ L 312, 22.11.2008, p. 3–30).

EU, 2013, Decision No 1386/2013/EU of the European Parliament and of the Council of 20 November 2013 on a General Union Environment Action Programme to 2020 'Living well, within the limits of our planet', Annexe A, paragraph 43(d) (OJ L 354, 28.12.2013, p. 171–200).

Eurostat, 2015, 'Recycling of waste' (<http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Recycling>), accessed 14/10/16

#### AIRS briefings

1. AIRS\_PO2.1, 2016, Resource efficiency, European Environment Agency

Environmental indicator report 2016 – In support to the monitoring of the 7<sup>th</sup> Environment Action Programme, EEA report No30/2016, European Environment Agency