Country fact sheet

Municipal waste management

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Italy

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European Topic Centre on Waste and
Materials in a Green Economy

Context

This country profile was prepared within the EEA's work on municipal waste, resulting in the following outcomes:

- 32 country profiles (this document) – The country profiles were originally produced by the ETC/SCP and were published by the EEA in 2013. The ETC/WMGE updated them for the EEA under its 2015 and 2016 work programme.

- An EEA briefing on Municipal waste management across European countries

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Related country profiles

Country information on waste prevention programmes can be found at:
http://www.eea.europa.eu/publications/waste-prevention-in-europe-2015

For country profiles on material resource efficiency policies, please visit:
http://www.eea.europa.eu/publications/more-from-less/

Contents

Highlights

- The separate collection rates of municipal solid waste (MSW) are increasing in most of the Italian regions and for most waste fractions. Both material and organic recycling are contributing to the increase in total recycling. Regional differences are, however, huge: in 2014 the national 2008 separate collection target of 45 % was achieved by 11 out of 20 Regions and Italy as a whole reached the target. In the same year, the 2012 separate collection target of 65 % was only met by the Trentino Alto Adige and Veneto regions.
- Recycling rates for biological municipal waste (BMW) are increasing and an increasing amount of diverted from landfill. In 2014, eight regions met the 2018 national BMW target, while other regions were still far from achieving the 2008 one. In 2009, the 2006 BMW target of the EU Landfill Directive was achieved by Italy as a whole, while the 2009 target was not. However, in 2014 Italy landfilled 33 % of BMW produced in 1995, which is lower than both the 2009 and 2016 EU targets.
- The landfill tax, introduced in 1996, has contributed to the diversion of waste from landfill. The effect, however, may have been limited because the average tax rate, although it has increased since 2009, it is still low and may not provide sufficient incentives to choose an alternative to landfilling;
- A new municipal waste tax, *Tassa Rifiuti* (TARI) was introduced in 2013, as a component of a unified municipal tax. The amount of the tax and its implementing rules are to be established by municipalities. A pay-as-you-throw (PAYT) system is still used by a few municipalities.

1 Introduction

1.1 Objective

Based on historical municipal solid waste (MSW) data for Italy and EU targets linked to MSW in the EU Waste Framework Directive (WFD), the Landfill Directive and the Packaging and Packaging Waste Directive, the analysis undertaken includes:

- the historical MSW management performance based on a set of indicators;
- uncertainties that might explain differences in country performance, which may relate more to variations in reporting methodology than differences in management performance;
- indicators relating to the country's most important initiatives taken to improve the management of MSW; and
- possible future trends.

2 Italy's municipal solid waste management performance

The most important piece of Italian waste legislation was issued in 1997 – the Legislative Decree 22/97. It shaped the national waste management system, defined the responsibilities of the actors involved, introduced targets for the separate collection of municipal waste, established the National Packaging Consortium, and provided for the progressive replacement of the old waste tax with a new waste tariff. The Decree was, then, repealed and replaced by Legislative Decree 152/2006 that included most of its provisions.

The generation of MSW peaked in Italy in 2007 at 32.5 million tonnes and has since decreased to 29.6 million tonnes in 2014 (Eurostat, 2016a). This is due to both lower consumption and the economic slowdown.

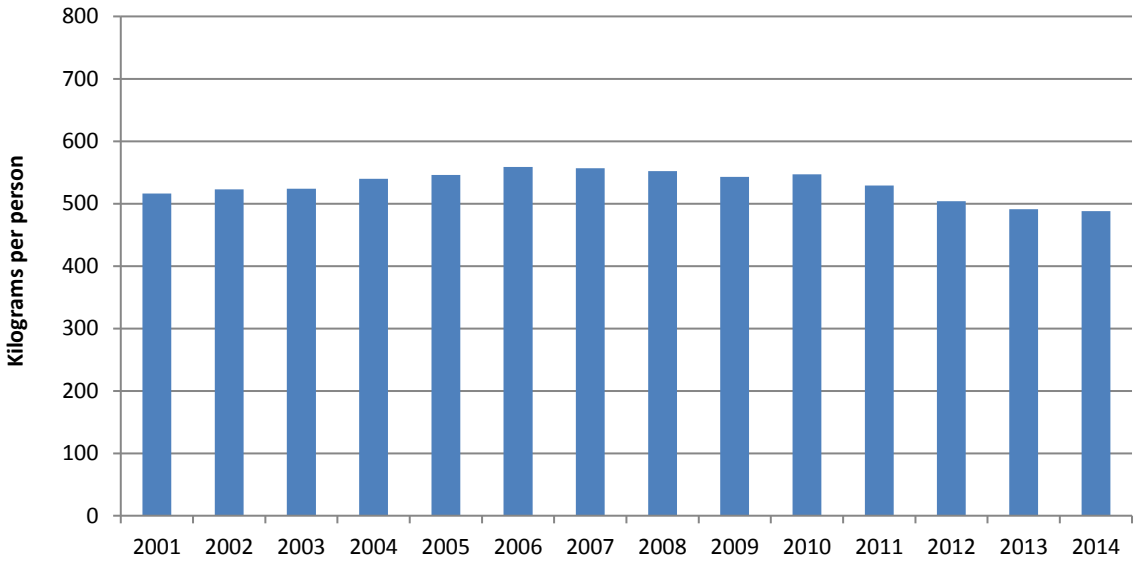
2.1 Municipal solid waste indicators

The following indicators illustrate the development of the Italian MSW generation and management in 2001–2014. All percentage figures have been calculated by relating the waste managed to the generated amount – rather than to the managed amount. Relating it to the total managed amount of MSW would generally result in higher rates for all waste management paths.

Compared to the 2013 edition of this report, this uses revised Eurostat data on MSW generation and, apart from the paragraph on regional differences in recycling, Eurostat data on waste recycling are used, rather than considering data on the separate collection of municipal waste as a proxy for recycling.

Figure 2.0 shows the development of MSW generation per person in Italy from 2001 to 2014. There was a slight increase in MSW generation per person from 2001 to 2006, from 516 kilograms per person to 559 kilograms, followed by a slight decrease in the second half of the decade to 488 kilograms in 2014, which is close to the EU average of 474 kilograms per person.

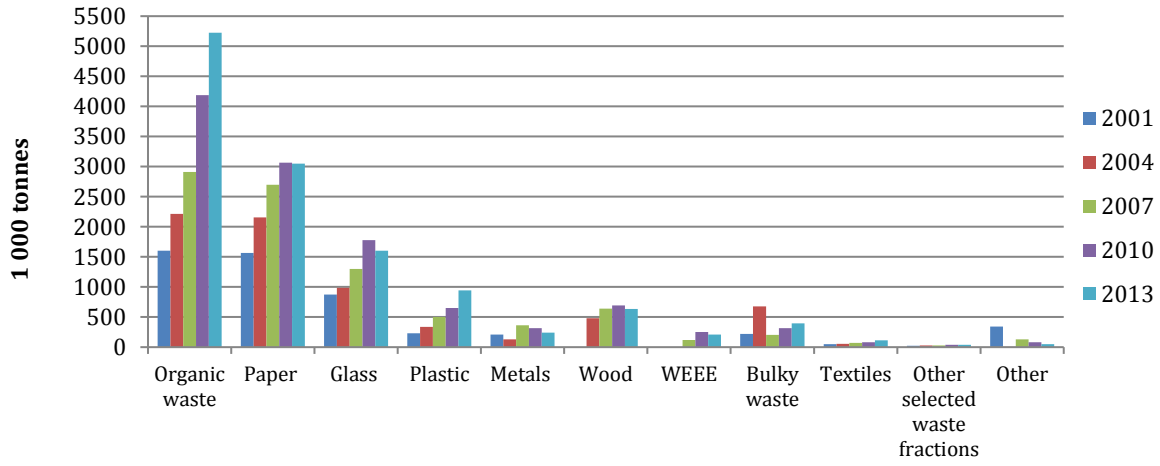
Figure 2.0 Italy, municipal solid waste generation per person, 2001–2014



Source: Eurostat, 2016a

According to ISPRA (2015), which reports 29.6 million tonnes of MSW generated in 2014 – + 0.3 % compared to 2013 – and 488 kilograms per person, substantially unchanged from 2013, there are remarkable differences in per person MSW generation across regions; in 2014, MSW generation ranged from 349 kilograms in Basilicata to 636 kilograms in Emilia Romagna.

Figure 2.1 Italy, separate collection of different waste fractions, 2001-2013



Source: ISPRA, 2012 and 2014 and ETC/RWM, 2008.
Note: Other selected waste fractions include e.g. batteries and accumulators, out-of-date medicines, paints, and vegetable oils.

Italy has traditionally landfilled most of its MSW, though the landfill rates decreased between 2001 and 2014 from 68 % to 31 % of MSW generated and from 19.9 to 9.3 million tonnes in absolute terms (Eurostat, 2016a). Once again, however, there are significant differences among regions. In 2014, for example, Friuli Venezia Giulia landfilled 6 % of its generated MSW, while Sicily landfilled 84 % (ISPRA, 2015). Regions that show lower landfill levels generally combine high separate collection rates with an adequate capacity for MSW processing using different waste treatment options and a market for recycled materials.

The level of separate collection is increasing in most of Italian regions, with a national average of 45.2 %, 13.4 million tonnes, in 2014, a rise of 3 % compared to 2013.

Figure 2.1 illustrates, in absolute terms, the separate collection of different waste fractions between 2001 and 2013 (ETC/RWM, 2008 and ISPRA, 2012 and 2014). It shows that the separate collection of organic waste has increased by a factor of 3.2 in the 2001–2013 period and separate collection of biodegradable waste as a whole – organic waste, paper, wood, and textiles – represented on average of 69 % of the total over the same period.

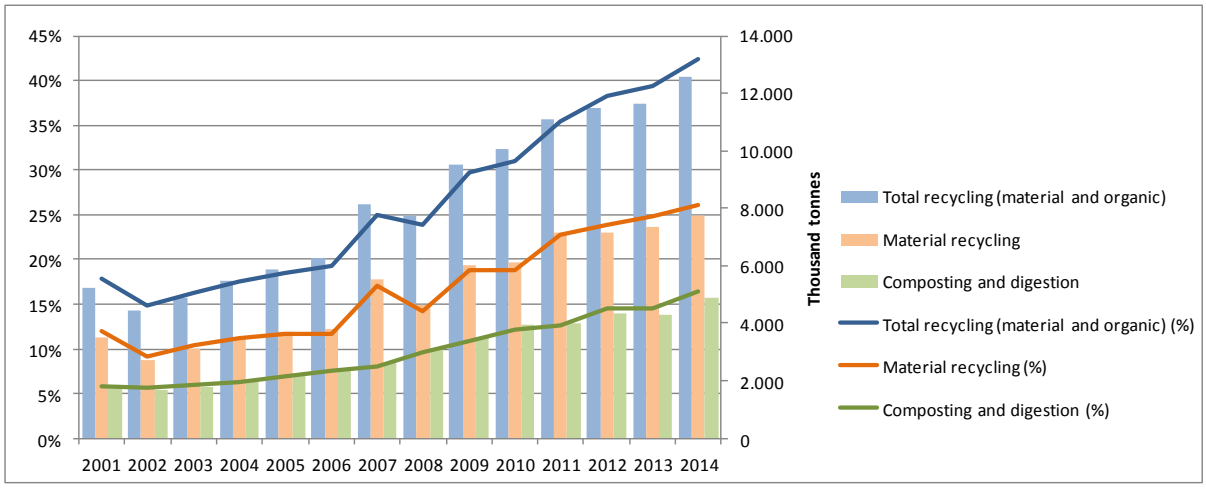
Below other selected indicators are used to illustrate the development of MSW management in Italy.

2.1.1 The recycling of municipal solid waste, 2001-2014

Figure 2.2, based on data from Eurostat (2016a), shows the development of recycling of MSW in Italy related to total recycling, material recycling and composting and other biological treatment in 2001–2014.

Total recycling, which was 18 % in 2001, reached 42 % in 2014. Both material recycling and organic recycling have increased between 2001 and 2013, rising from 12 % to 26 % and from 6 % to 16 % respectively. With regard to organic recycling, from 2005 onwards data on composting include anaerobic treatments (Eurostat, 2013). These trends are reflected in the figures related to total recycling.

Figure 2.2 Italy, recycling of municipal solid waste 2001–2014, per cent and tonnes



Source: Eurostat, 2016a.

The EU's 2008 WFD includes a target for certain fractions of MSW: 'by 2020, the preparing for re-use and the recycling of waste materials such as at least paper, metal, plastic and glass from households and possibly from other origins as far as these waste streams are similar to waste from households shall be increased to a minimum of overall 50 % by weight'. EU Member States may

choose between four different methodologies to calculate compliance with the target[1]. Italy has chosen calculation method 2, and has reported a recycling rate of 38.5 % in 2011 and of 41.1% in 2012 according to this method (ISPRA, 2016; EC, 2014). The recycling rates shown in this paper correspond to method 4, the only method for which time series data exist. In 2015, the European Commission proposed new targets for municipal waste of 60 % recycling and preparing for reuse by 2025 and 65 % by 2030, based on only one calculation method, and with the option of time derogations for some countries (EC, 2015b).

Overall, Italy will have to increase the recycling rate by 9 percentage points in the 2012–2020 period according to the chosen methodology, corresponding to 1.1 percentage point per year. Within the period 2001–2014, as well as in the 2007–2014 period, the country, on average, increased its recycling rate, calculated using data reported to Eurostat, method 4, by about 2 percentage points per year. While the results for the two methodologies are not comparable, these numbers give some indication that Italy has a chance to meet the target if efforts on increasing the recycling rate are continued in the coming years.

2.1.2 Landfilling of biodegradable municipal waste

According to the EU Landfill Directive (1999/31/EC), Member States are to reduce the amount of biodegradable municipal waste (BMW) landfilled to 75 % of the total amount generated in 1995 by 2006; to 50 % by 2009; and to 35 % by 2016.

Although Italy, which landfilled 82 % of its BMW in 1995, could have obtained a 4-year derogation period for the targets, it decided not to request one. Moreover, instead of transposing the percentage-based targets set out in the Landfill Directive, Italy adopted targets based on the quantity/weight of BMW landfilled per person, which are to be reached at an Optimal Management Areas (ATO) level or provincial level, if the ATO is not delimited. That decision was based on two core reasons: the lack of reliable data on the quantity of biodegradable municipal waste landfilled in 1995 and the need to implement improved monitoring at the local level (EEA, 2009).

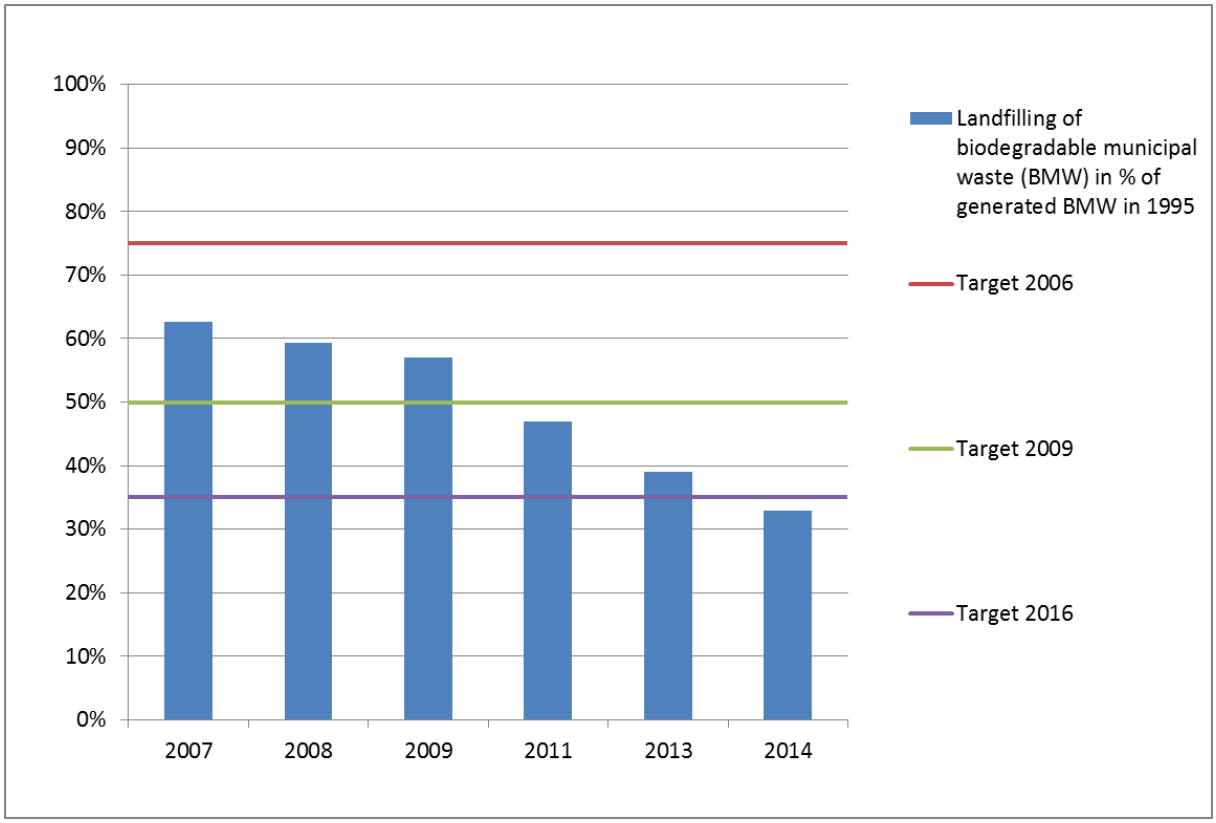
Targets have been defined for 2008, 173 kilograms per person; 2011, 115 kilograms per person; and 2018, 81 kilograms per person, since Italy incorporated the Landfill Directive into national law in January 2003, 18 months after the deadline. As such, the targets follow the intervals of the Directive with a delay of two years.

Figure 2.3 shows that the 2006 target of the EU Landfill Directive has been met in 2007, while the 2009 one was not achieved within the deadline. In fact, in 2009 Italy landfilled 57 % of the BMW produced in 1995 (ISPRA, 2011). However, according to ISPRA (2015), in 2014 Italy landfilled 5 598 936 tons of BMW, equal to 33 % of the BMW generated in 1995, which is lower than both the 2009 and the 2016 targets.

[1] Commission Decision 2011/753/EU allows countries to choose between four different calculation methods to report compliance with this target. Member States have the option of considering four alternative waste streams and fractions:

1. paper, metal, plastic and glass household waste;
2. paper, metal, plastic, glass household waste and other single types of household waste or of similar waste from other origins;
3. household waste;
4. municipal waste (the method used in this document).

Figure 2.3 Italy, landfilling of biodegradable municipal solid waste, 2007, 2008, 2009, 2011, 2013 and 2014, % of biodegradable municipal waste generated in 1995



Source: ISPRA, 2015, 2014, 2013 and 2011; EC, 2012.

Considering the national per person targets, on average, in 2014, 92 kilograms per person of BMW were landfilled, which is lower than the 2011 target, althought there are substantial differences between regions. In particular, in 2014 eight regions met the 2018 target in advance, namely Abruzzo, Campania, Friuli Venezia Giulia, Lazio, Lombardy, Trentino Alto Adige, Piemonte and Veneto, while other regions, such as Sicily and Molise, were still far from meeting the 2008 target (ISPRA, 2015).

2.1.3 Regional differences in municipal solid waste recycling, 2010–2014

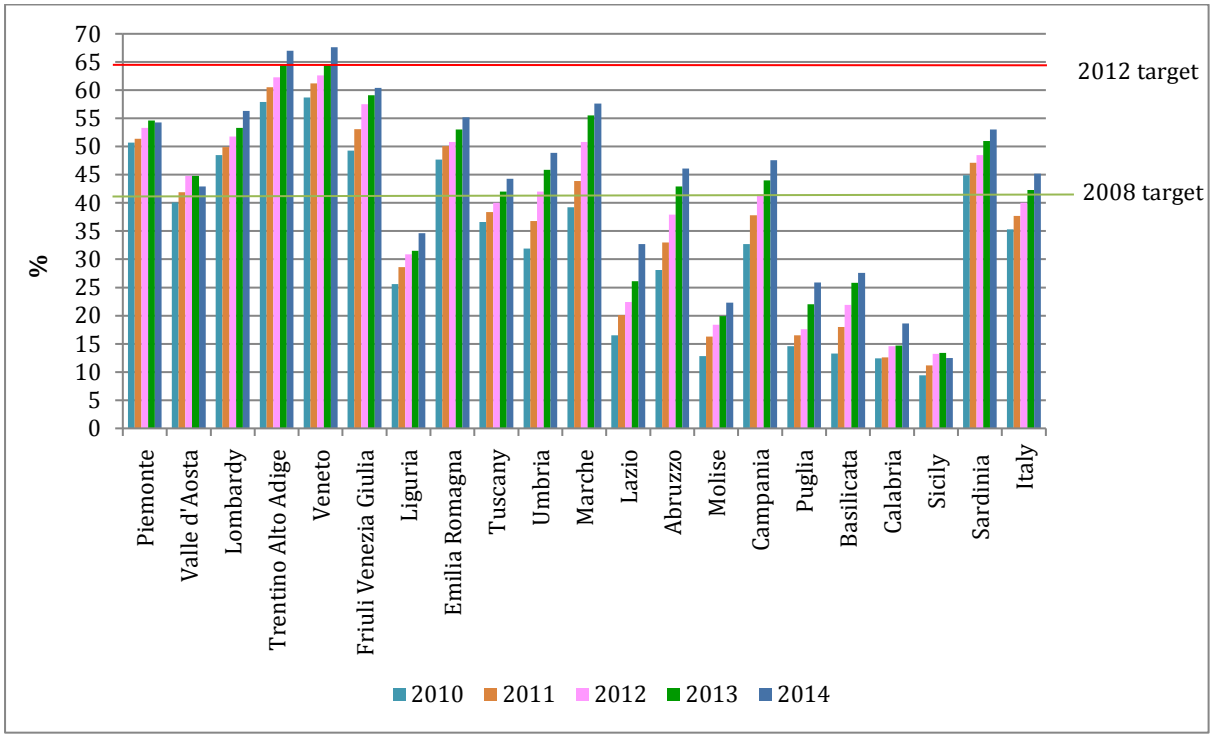
There are 20 Regions in Italy, which are characterised by remarkable socio-economic differences. In 2014, total population ranged from 128,000 in Valle d'Aosta to almost 10 million in Lombardy (Eurostat, 2015a). Population density in 2013 ranged from 39 persons per square kilometre in Valle d'Aosta to 426 persons square kilometre in Campania (Eurostat 2015b). In 2011, gross domestic product (GDP) per person as a percentage of the EU average ranged from 63 % in Campania to 147 % in the autonomous province of Bozen-Alto Adige (Eurostat, 2015c).

Figures 2.3, 2.4, and 2.5 show regional differences in the development of MSW recycling since 2010. By 2013, all the regions had achieved a 100 % coverage of MSW collection (Eurostat, 2016b).

Figure 2.3 shows the rate of separate collection of municipal waste in Italian regions from 2010 to 2014 and the actual national separate collection targets introduced by Legislative Decree 152/2006 (ISPRA 2015; 2014). The higher separate collection rates have been achieved by some regions of the north –Veneto, Trentino Alto Adige and Friuli Venezia Giulia in 2014. In the center and south, Marche and Sardinia are characterised by very positive performances, 57.6 % and 53 % respectively, thanks to the spread of separate collection systems including kerbside schemes and a high level of

separate collection of organic waste – 26 % of total MSW are separately collected in 2013 in Sardinia (Arpas, 2015).

Figure 2.3 Italy, separate collection of municipal waste by region, 2010–2014 and separate collection national targets related to municipal waste generation



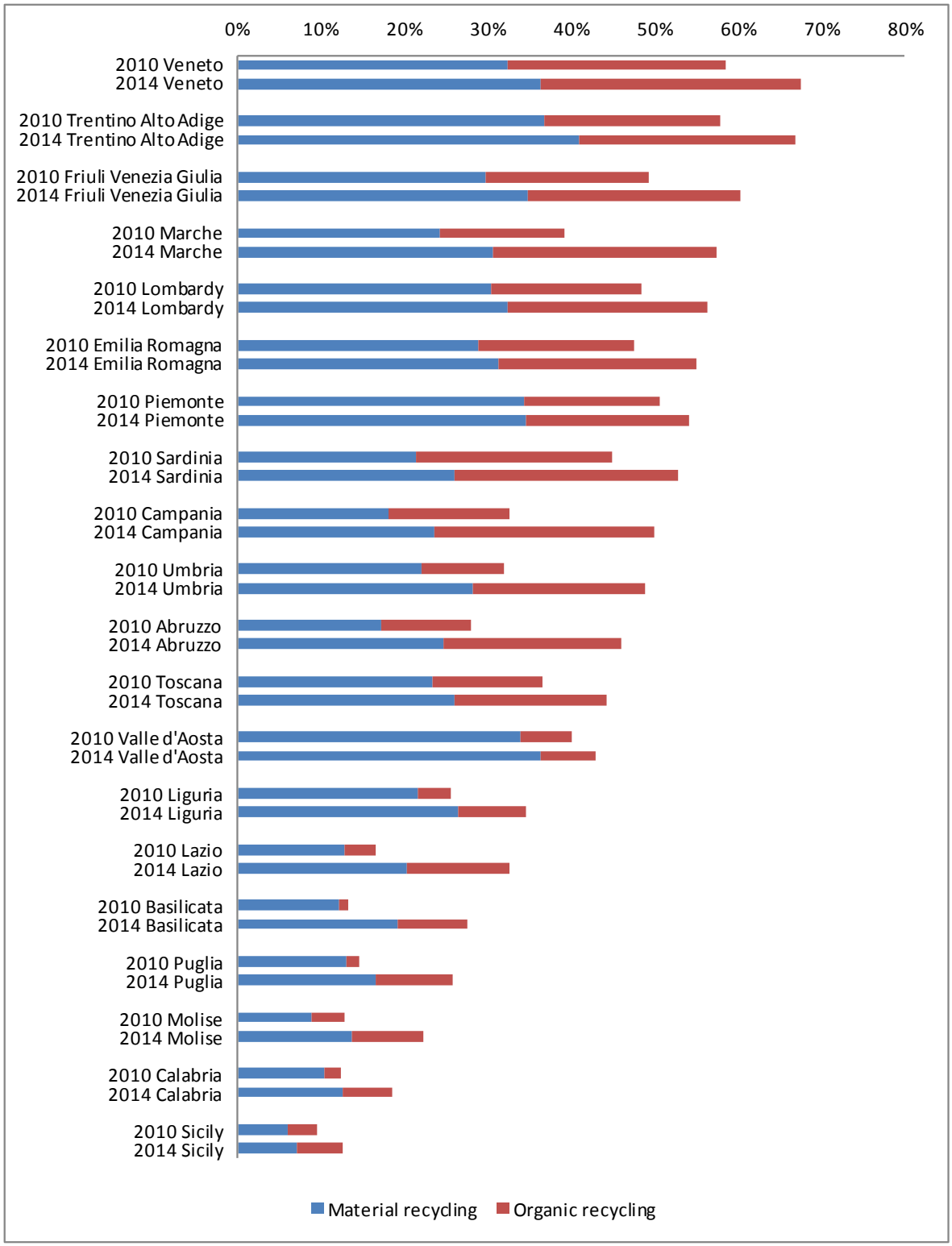
Source: ISPRA, 2015; 2014.

Figure 2.4 shows regional differences in the development of MSW recycling in 2010 and 2014, with reference to total recycling, material recycling and organic recycling. Because of a lack of regional data on actual recycling, the data on separate collection of municipal waste, namely total collection, material collection and organic waste collection, have been used as proxies of total recycling, material recycling and organic recycling and have been compared to data on MSW generation.

Therefore, in this analysis, they are referred to total recycling (SC), material recycling (SC) and organic recycling (SC), where SC stands for separate collection, so that they can be distinguished from data on the actual level of recycling. Figure 2.5 shows regional differences among the main components of material recycling (SC), namely of paper, glass, plastic and wood, in the same years.

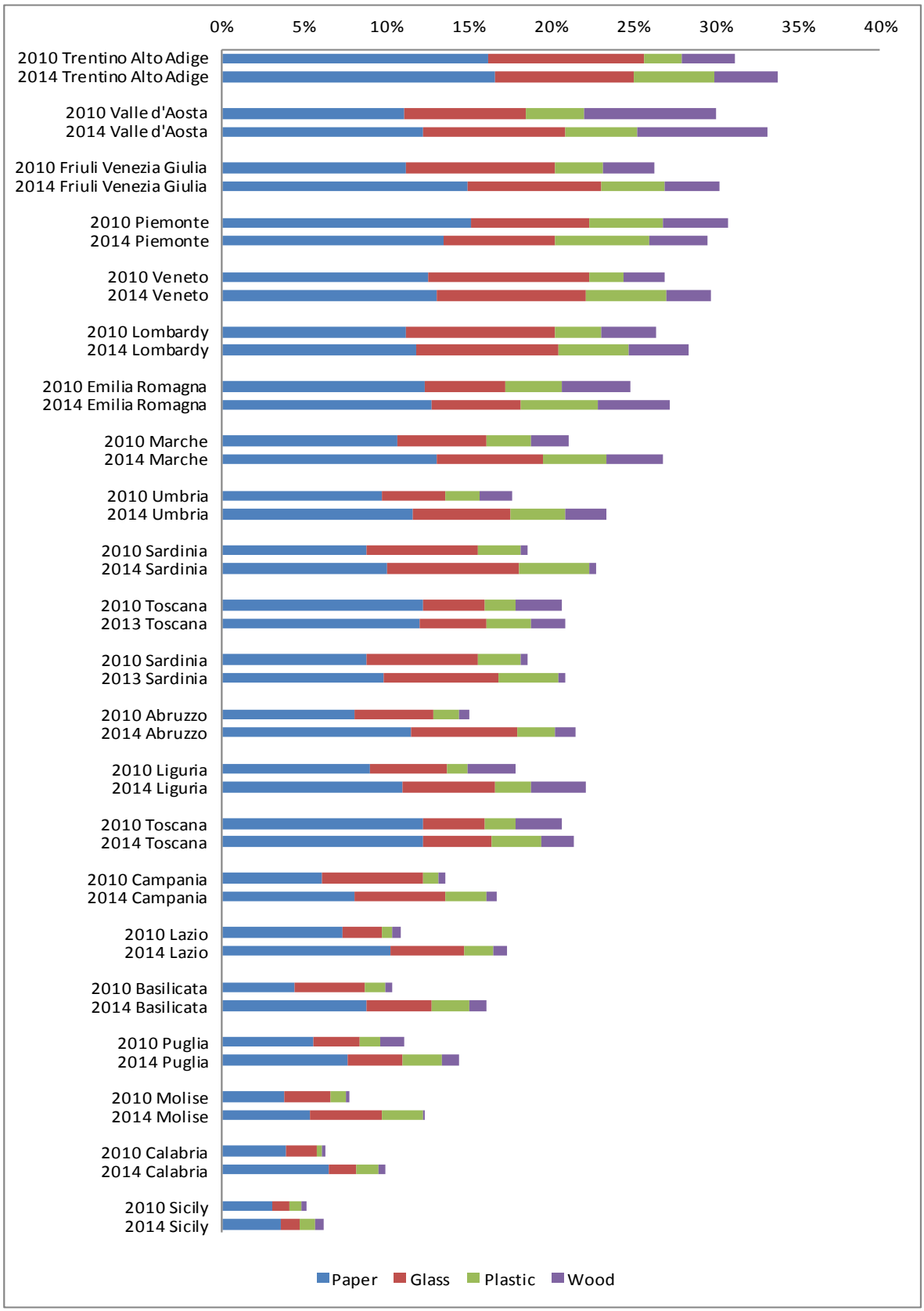
In 2014, total recycling (SC) ranged from 13 % in Sicily to 68 % in Veneto, material recycling (SC) from 7 % in Sicily to 41 % in Trentino Alto Adige and organic recycling (SC) from 5% in Sicily to 31 % in Veneto. The highest increases in 2014 total recycling (SC) rates compared to 2010, can be found in Abruzzo and Marche, up 18 percentage points; Umbria and Campania, up 17 percentage points; and Lazio, up 16 percentage points. This highlights that there is still extensive room for improvement of recycling in the central and southern regions.

Figure 2.4 Italy, regional differences in municipal solid waste total recycling (SC), material recycling (SC) and organic recycling (SC) related to municipal waste generation, 2010 and 2014



Source: calculations based on ISPRA, 2015; 2014; 2012.

Figure 2.5 **Italy, regional differences in material recycling (SC) of municipal solid waste: paper, glass, plastic, and wood related to municipal waste generation, 2010 and 2014**



Source: calculations based on ISPRA, ISPRA, 2015; 2014; 2012.

Looking at material recycling (SC), in 2014, the recycling of paper ranged from 4 % in Sicily to 17 % in Trentino Alto Adige, that of glass from 1 % of Sicily to 9 % in Lombardy, Valle d'Aosta and Veneto. The highest and the lowest plastic recycling rates can be found in Piemonte, 6 %, and Sicily and Calabria, both 1 %. The best and worst performing regions with regard to wood recycling were Valle d'Aosta, 8 %, and Calabria, Molise, and Sardinia, each 0 %.

2.1.4 The relationship between landfill tax levels and recycling levels of municipal solid waste

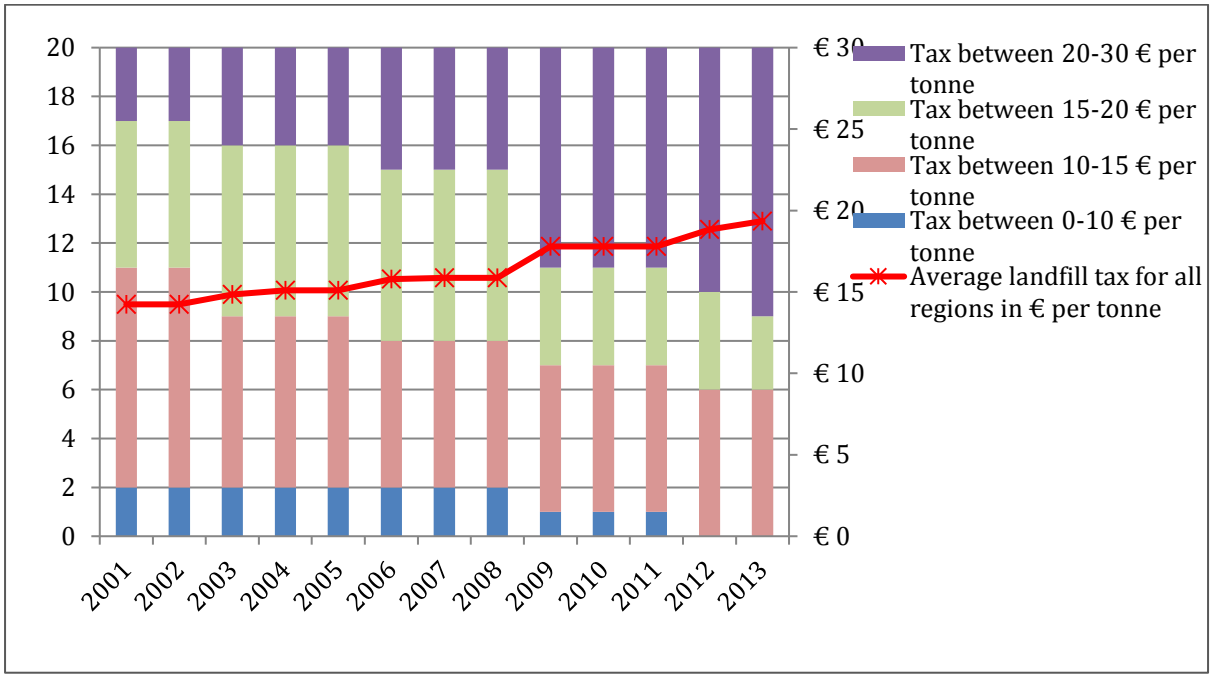
A landfill tax was introduced in Italy in 1996, based on Law 549/1995. The Law, which defines the upper and the lower levels of the tax, is applied at a regional level. The tax is paid directly to the regions by landfill operators.

The heterogeneity in the tax levels applied by regions is quite high, ranging, as an average, between 1999 and 2013, from EUR 6.9 per tonne in Valle d'Aosta to EUR 25.8 per tonne in Umbria and Veneto (Nicolli and Mazzanti, 2013).

The average landfill tax for all the regions increased from EUR 14.23 per tonne in 2001 to EUR 19.35 per tonne in 2013 (Figure 2.6). The number of regions applying the highest tax level, EUR 20–30 per tonne, from 2001 to 2013 rose from 3 to 11, while, in the same period, the number of regions applying the lowest tax level, EUR 0–10 per tonne, decreased from 2 to 0 (Figure 2.6). Nonetheless, the actual average level of the tax is among the lowest in western Europe.

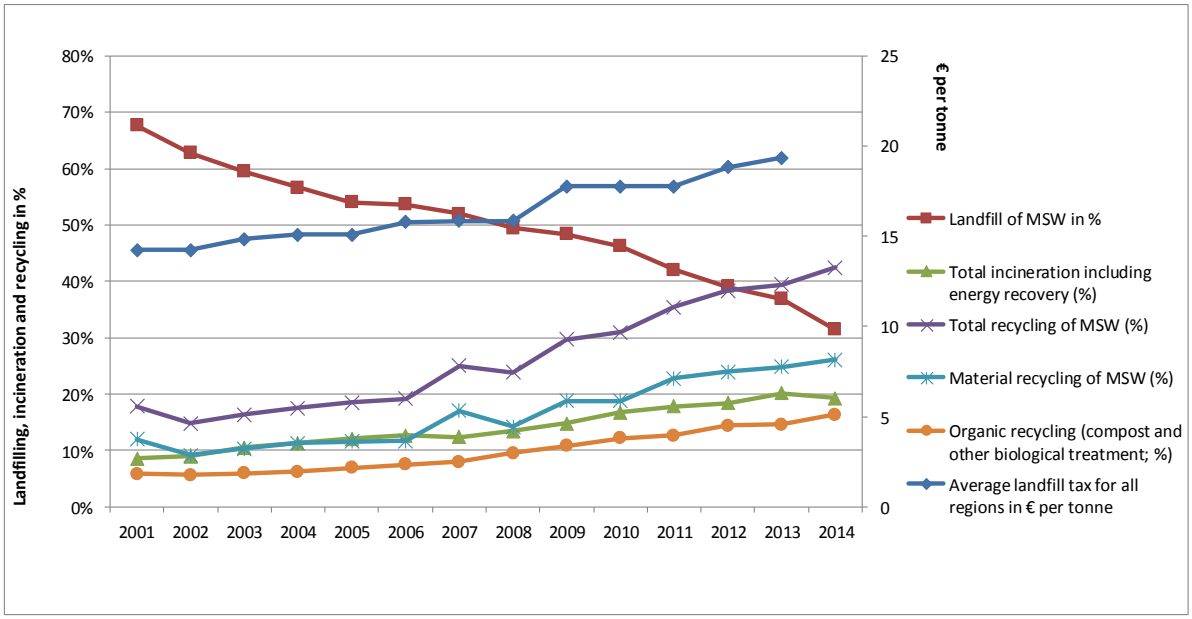
The increase of the landfill tax coupled with the decrease in the generation of municipal waste since 2007 and higher separate collection rates resulted in a strong reduction in the amount of landfilled waste and a significant increase in total recycling and incineration. (Figure 2.7).

Figure 2.6 Italy, distribution of taxes across regions, number, and average level of tax, EUR per tonne, 2001–2013



Source: Eurostat, 2016a, Nicolli and Mazzanti, 2013

Figure 2.7 Italy, development of landfilling, incineration, total recycling, material recycling and organic recycling of municipal solid waste and landfill tax, 2001–2014, per cent. Average level of tax of all regions of Italy, EUR per tonne



Source: Eurostat, 2016a, Nicolli and Mazzanti, 2013

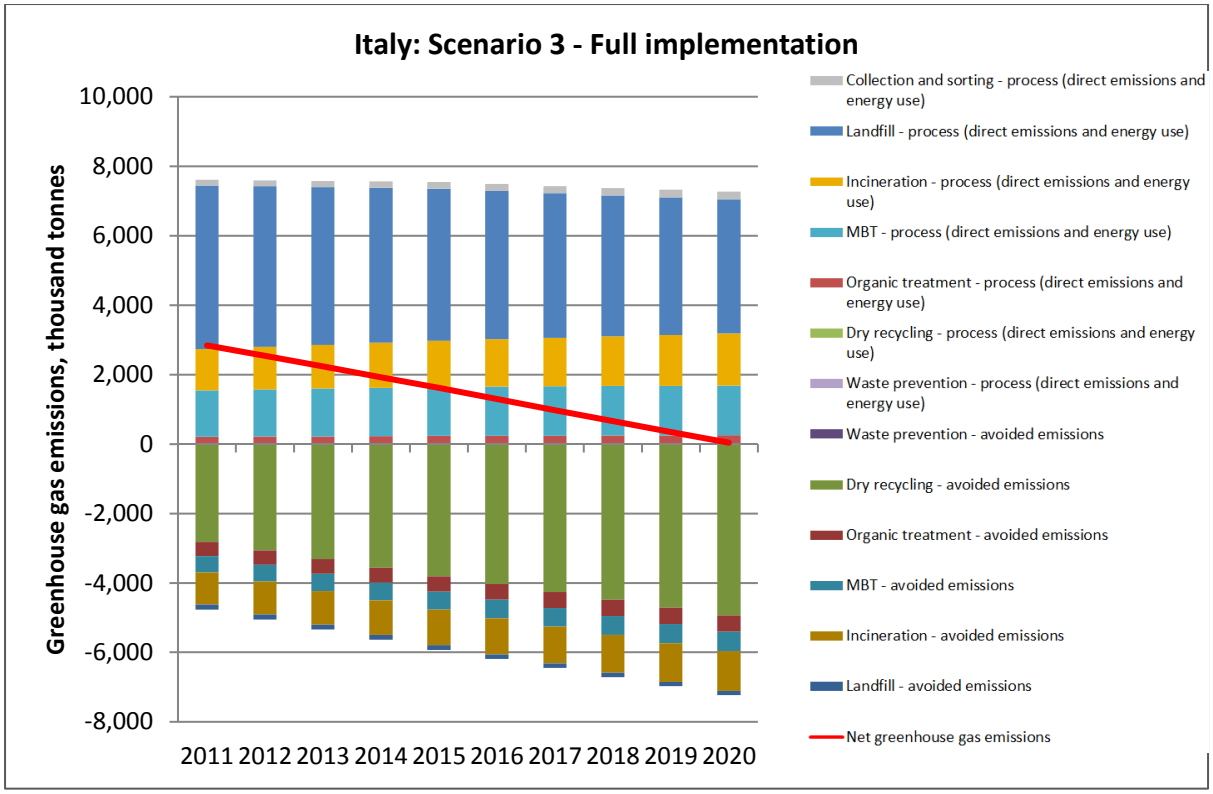
2.1.5 Environmental benefits of better municipal solid waste management

Figure 2.8 shows a scenario for the development of greenhouse gas emissions from MSW management in Italy. The scenario assumes an increase of municipal waste generation of 14 % between 2010 and 2020. The calculation of emissions is based on data and assumptions contained in the European Reference Model on Municipal Waste Generation and Management. The approach taken in the model is rooted in life-cycle thinking, in that it considers not only direct emissions, but also avoided emissions associated with the recycling of materials or the generation of energy from waste management processes. The more detailed methodology is described in Gibbs *et al.* (2014b). The level of greenhouse gas emissions depends on the amount of waste generated and the treatment it undergoes each year.

Figure 2.8 shows direct emissions, avoided emissions and net emissions resulting from the management of MSW. All the emissions (positive values) represent direct operating emissions for each waste management option. The phases of the waste management chain covered include waste prevention; material recycling; composting and anaerobic digestion; mechanical biological treatment (MBT) and related technologies; collection and sorting; and incineration and landfill.

For avoided emissions (negative values), the calculations integrate the benefits associated with energy recovery and material recycling of paper, glass, metals, plastics, textiles and wood, and bio-treatment of food and garden waste from MSW. The modelled scenario assumes full compliance with existing EU legislation on waste management that all Member States are obliged to implement (Gibbs *et al.*, 2014c).

Figure 2.8 Italy, greenhouse gas emissions from municipal solid waste management in Italy, 2011–2020



Source: ETC/WMGE, calculation based on the European Reference Model on Waste.

Note: Results presented in this figure should not be used for the compilation of greenhouse gas reporting for the Intergovernmental Panel on Climate Change (IPCC) national inventory report, or be compared with IPCC figures, as the methodology employed here relies on life-cycle thinking and, by definition, differs substantially from the IPCC methodology. MBT means mechanical-biological treatment.

Based on the modelled scenario with full policy implementation, net greenhouse gas emissions from the treatment of municipal waste in Italy are expected to decrease in the period 2011–2020. The reduction in net emissions will mainly be due to increased MSW recycling, which results in more and more avoided greenhouse gas emissions, as well as decreasing emissions from landfills. While direct emissions from landfill are decreasing throughout the modelled period, the direct greenhouse gas emissions from municipal waste management are still dominated by emissions from landfill.

Greenhouse gas emissions from landfill are caused by the breakdown of organic wastes accumulated in landfill over past decades. In the model, which calculates landfill impacts over a 100-year period, the longer-term emissions from any given waste are attributed to the year in which that waste is deposited (Gibbs *et al.*, 2014b). Therefore, the positive effect of diverting BMW from landfill shows in the figures as an immediate reduction in greenhouse gas emissions from landfill. According to the model, towards 2020 greenhouse gas emissions from waste management in Italy will increasingly originate from waste incineration and the MBT processing.

2.2 Uncertainties in the reporting

Some uncertainties or differences in how countries report the recycling of MSW can result in different recycling levels. This applies, for example, to the following issues:

- the extent of packaging waste from households and similar packaging from other sources that are included or not included in the reported recycling of MSW;

- the definition of municipal waste used by the country, such as the inclusion/exclusion of home composting;
- the methodology used to report the inputs/outputs of MBT and sorting plants.

Italy includes packaging waste from households in the reported amounts of municipal waste and includes home composting as well. Waste treated in MBT plants is reported based on outputs from the treatment.

ISPRA (2013; 2012) distinguishes, within each collected MSW fraction, between municipal packaging and municipal non-packaging waste[2] (Table 2.1). The former data can be compared with the amounts of recycled packaging waste as reported to Eurostat (2015d). It emerges with regard to the 2008–2011 period that approximately 50 % of the recycled packaging waste appears to be from municipal sources.

Table 2.1 Italy, separate collection of municipal packaging waste, 2008-2011, '000 tonnes

Year	Paper and cardboard	Glass	Plastic	Metals	Wood	Total
2008	1 303.3	1 314.9	502	195.3	201.1	3 516.6
2009	1 263.3	1 569.1	505.7	187.9	201.8	3 727.8
2010	1 271.9	1 480.9	556.7	159.4	201.1	3 670.0
2011	1 203.1	1 426.5	698.6	158.7	203.2	3690.2

Source: ISPRA, 2013; 2013

2.3 Important initiatives taken to improve municipal solid waste management

The section outlines the most important initiatives taken by Italy to improve MSW management[3].

A landfill tax in Italy was introduced in 1996, based on Law 549/1995 and its subsequent amendments intended to reduce waste production and foster material and energy recovery. The Law defines the upper and the lower levels of the tax, currently EUR 1–10 per tonne for inert waste and EUR 5.17–25.82 per tonne for hazardous and non-hazardous waste, which is applied at a regional level. According to the Law, the tax is based on the amount of solid waste landfilled.

As discussed, the landfill tax level varies significantly between regions, even among those characterised by high recycling and low landfill rates. For example, in 2013, Friuli Venezia Giulia, with 59 % separate collection and 7 % landfilling (ISPRA 2014), applied a landfill tax of EUR 25.8 per tonne, while Lombardy. with 53 % separate collection and 6 % landfilling (ISPRA 2014), applied a landfill tax of EUR 10.5 per tonne (Nicolli and Mazzanti, 2013).

The National Framework Law on waste was issued in 1997 (Legislative Decree 22/97), incorporating into Italian law three of the main EU directives on waste: the WFD, the Directive on Hazardous Waste and the Directive on Packaging and Packaging Waste. The Decree also introduced a number of innovations.

[2] Another national source (the National Packaging Consortium, ANCI-CONAI), reports similar data on municipal packaging waste collection. For example, with regard to 2011, ISPRA (2013) underlines that ANCI-CONAI data on municipal packaging waste collection is only slightly lower than its own one (-1,6 %).
[3] The section is mainly based on ETC/SCP, 2014.

- It defined the responsibilities among the actors of the national waste management system. In particular, *regions* hold the responsibility for drawing up waste management plans; regulate waste management, including separate collection of municipal waste; promote waste prevention and integrated waste management; authorise waste disposal and recovery operations; and define criteria to be used by provinces to identify areas that are not suitable for the development of waste disposal or recovery plants. *Provinces* identify areas that are suitable for disposal plants and have monitoring and inspection powers. *Municipalities*, within optimal management areas (ATO), organise municipal waste collection and management, regulating several of the related aspects such as municipal waste collection and transport; hazardous municipal waste management, etc.
- It set the following targets for separate collection of municipal waste to be achieved at ATO level – the percentages are related to municipal waste generation)
  - 15 % by 1999;
  - 25 % by 2001;
  - 35 % by 2003.
- The Decree established specific provisions on the management of packaging waste (see below).

Legislative Decree 36/2003 transposed the Landfill Directive. It required regions to elaborate and approve a proper programme for reducing the amount of biodegradable waste going to landfills, integrating the regional waste management plan, in order to achieve specific targets at ATO level or provincial level if the ATO is not delimited. The targets to be reached are:

- before 27 March 2008: landfill of BMW must be reduced to below 173 kilograms per person per year;
- before 27 March 2011: landfill of BMW must be reduced to below 115 kilograms per person per year; and
- before 27 March 2018: landfill of biodegradable municipal waste must be reduced to below 81 kilograms per person per year.

Legislative Decree 152/2006 (Environmental Code) repealed and replaced Legislative Decree 22/97, but retained all its main provisions. The Environmental Code establishes that the integrated management of municipal waste should be based on *ATO*s, to be identified in regional plans, taking into account of specific criteria. The ATOs are generally represented by provinces. Pursuant to Law 191/2009 regions are responsible for organizing the integrated management of municipal waste within ATOs.

According to the Environmental Code, each ATO has to become self-sufficient with regard to the disposal of municipal waste within 5 years of its establishment. Moreover, each ATO is responsible for ensuring the separate collection of the following minimum percentages of municipal waste:

- 35 % by 31 December 2006;
- 45 % by 31 December 2008;
- 65 % by 31 December 2012.

If an ATO did not achieve the targets, it should pay a financial penalty consisting of a cumulative addition of 20 % on the special tax on the price paid for the final disposal of waste. The payment was to be divided among the municipalities whose bad performances did not allow the ATO to meet the target.

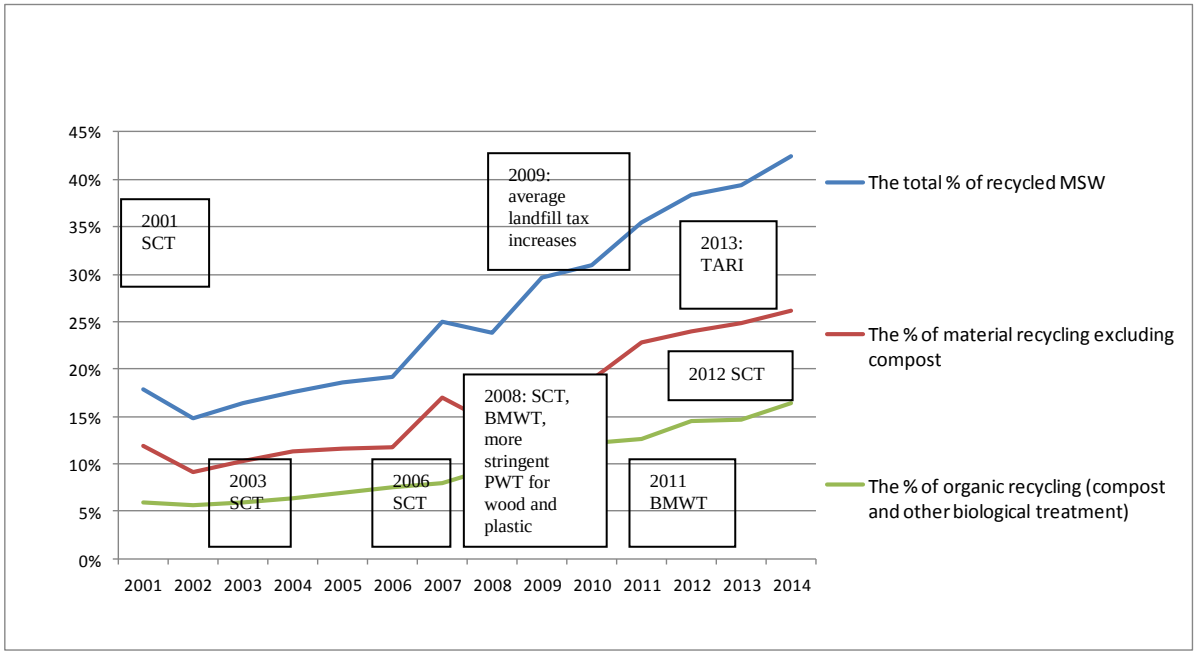
As municipalities have been required to organize municipal waste collection services since 1941, they were also allowed to raise a waste management tax. The tax has evolved over the years with regard to its name, calculation method and related deadlines for application. The waste tax (TARI), which has been applied since January 2014, is a component of a unified municipal tax, the *Imposta comunale unica* (IUC) (Law 147/2013). The amount of the tax and its implementation rules are established by municipalities. Pursuant to Law 147/2013, the variable part of TARI can be calculated both taking

into account the multiple criteria established by the so-called standardized method (Presidential Decree 158/1999) or based on PAYT. In 2014, of more than 1 892 surveyed municipalities, 23 % of the total, only 5 % applied the PAYT method (ISPRA, 2015).

Packaging waste and waste from electrical and electronic equipment (WEEE) are among priority waste streams, addressed by national legislation, that are particularly significant in terms of municipal waste.

With regard to packaging waste, Legislative Decree 22/97, later replaced by the Environmental Code, provided for more stringent packaging waste targets than the EU ones for plastic – 26 % instead of 22.5 % stipulated in the Directive, and wood – 35 % instead of 15 % stipulated in the Directive, to be reached by 2008. Moreover, it established the National Packaging Consortium (CONAI), with the aim of coordinating the activities of six material consortia for the recovery of aluminium, glass, paper, plastic, steel and wood. Packaging producers and commercial users are to take part in CONAI, which is self-financed through an environmental fee, which is mainly used by the material consortia to pay a compensation fee to municipalities for the take back of packaging waste from separated waste collection.

Figure 2.9 Italy, recycling of municipal solid waste and important policy initiatives, 2001–2014



Note: SCT: separate collection target; BMWT: biodegradable municipal waste target; PWT: packaging waste target

The new WEEE Directive (2012/19/EU) has been transposed in Italy by Legislative Decree 49/2014, which includes the collection and reuse/recycling/recovery targets. Italy currently has 17 collective schemes that manage WEEE from households, which take part in a single national organisation: the WEEE Coordination Centre (WCC). Together with the National Association of Italian Municipalities (ANCI), the WCC defines the general conditions for the take-back of WEEE collected from households by the competent collective systems.
Some regions generally provide for separate collection of bio-waste, often based on kerbside collection schemes. In Veneto, between 2001 and 2013, the number of municipalities that separately collected bio-waste increased from 390 to 575, out of a total of 581, and the number of municipalities

which separately collected the organic waste through kerbside schemes rose from 281 to 476 (ARPAV, 2010 and 2014).

Some regions have also introduced special measures aimed at fostering separate collection or recycling operations. In the Marche region, for example, the landfill tax to be paid by municipalities is progressively reduced, based on the amended Regional Law 15/97, depending on the rate by which the national separate collection targets are exceeded (ARPAM, 2015). In Emilia-Romagna, which in 2010 reached 19 % organic recycling, in order to promote the use of compost, farmers receive subsidies of EUR 150–180 per hectare (EEA, 2009).

2.4 Future possible trends

It is important for Italy to strengthen separate collection and increase the recycling rates of MSW especially in the southern and central regions. In 2014, in Veneto and Trentino Alto Adige total recycling (SC) was repectively 68 % and 67 % of generated municipal waste (ISPRA 2015). On the other hand, in the same year, Sicily landfilled 84 % of its generated municipal waste (ISPRA, 2015). The outstanding results for separate collection achieved by some southern and central regions, for example, 53 % in Sardinia and 58 % in Marche of MSW separate collection in 2014 (ISPRA 2015) and large cities, such as Salerno and Benevento, in Campania, with respectively 65 % and 64 % of MSW separate collection in 2014 (Legambiente Campania, 2014) can be used as examples of good practice.

The landfill tax has contributed to the diversion of waste from landfill. The effect, however, may have been limited because the tax, although it has slightly increased on average since 2009, is still low compared to other European countries and may not provide a sufficient incentive to choose an alternative to landfilling. The increase of the tax, foreseen by Decree 152/2006 in cases where ATOs do not meet the targets on separate collection, could foster waste management solutions other than landfilling.

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