Country profile

More from less — material resource efficiency in Europe

2015 overview of policies, instruments and targets in 32 countries

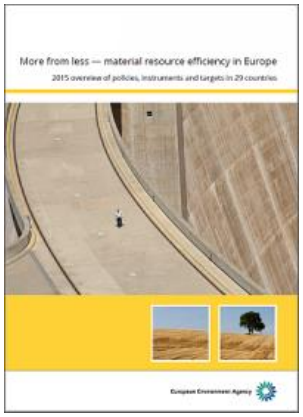
Italy

May 2016

European Environment Agency

This country profile is based on information collected by Carmela Cascone and Alessio Capriolo from the Italian National Institute for Environmental Protection and Research. This document should not be seen as an official list of government priorities and is not necessarily an exhaustive list of all national material resource efficiency policies, objectives, targets or activities in place. The information is current as of June 2015.

This country profile was prepared as part of the 2015 EEA review of material resource efficiency policies, that aimed to collect, analyse and disseminate information about the development and implementation of material resource efficiency policies in EEA member and cooperating countries. The work resulted in the following outcomes.



32 short country profiles (this document) – self assessments prepared by countries, describing the current status of material resource efficiency policies including key strategies and action plans, policy objectives, instruments, targets and indicators, and the institutional setup. Countries were also invited to share reflections on the future direction of resource efficiency policies.

EEA report *More From Less – material resource efficiency in Europe* – prepared by the EEA and ETC/WMGE, the report analyses trends, similarities and differences in policy responses, showcases selected policy initiatives from the countries, and offers some considerations for the development of future policies.

The EEA report *More from less – material resource efficiency in Europe* and the 32 country profiles are available at: http://www.eea.europa.eu/resource-efficiency

For information about trends and policies on municipal waste management in the participating countries, please visit: http://www.eea.europa.eu/publications/managing-municipal-solid-waste

Information about EU Member States' waste prevention programmes can be found at: http://www.eea.europa.eu/publications/waste-prevention-in-europe-2015

For information on climate- and energy-related policies, including those on energy efficiency, in the participating countries, please visit: http://www.eea.europa.eu/themes/climate/ghg-country-profiles

Italy, facts and figures

Source: Eurostat

GDP: EUR 1,612 billion (11.5 % of EU-28 total in 2014)

Per person GDP: EUR 26,400 (in purchasing power standard)
(96 % of EU-28 average per person in 2014)

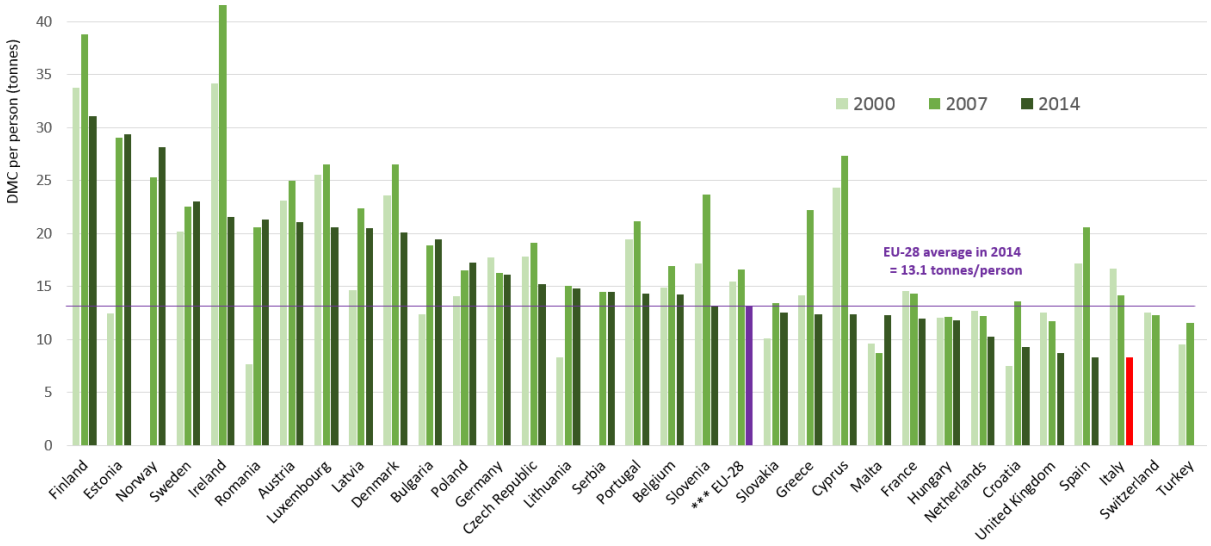
Use of materials:
503 million tonnes DMC (7.6 % of EU-28 total in 2014)
8.3 tonnes DMC/person (63 % of EU-28 average in 2014)
Resource productivity 3.05 EUR/kg (154 % of EU-28 average in 2014)

Structure of the economy:
agriculture: 2.2 %
industry: 23.9 %
services: 73.9 % (2014 est.)

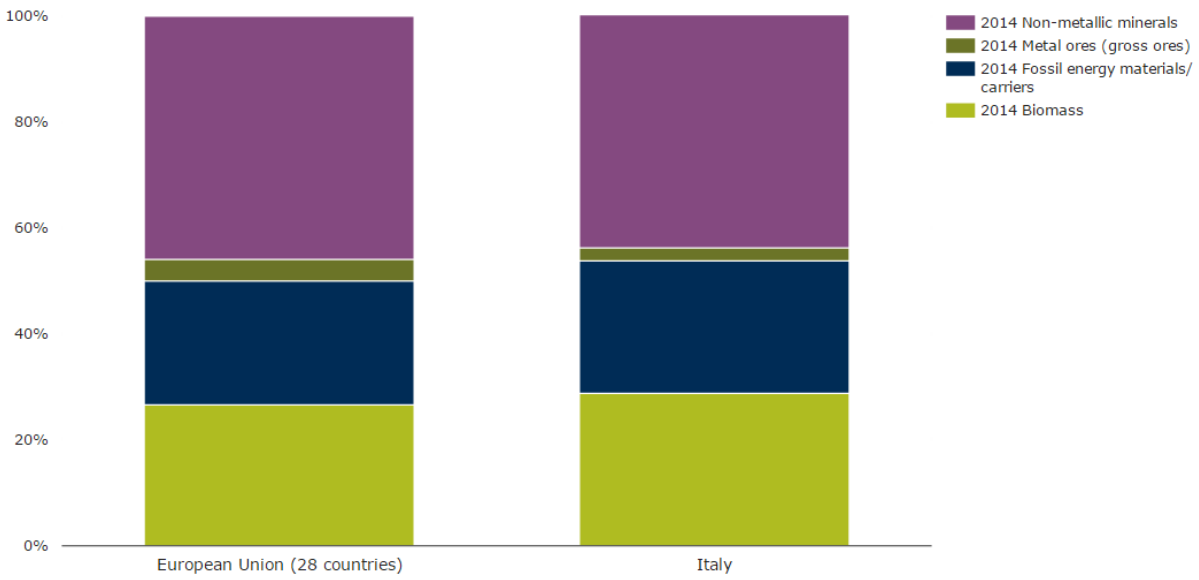
Surface area: 302,100 square kilometres (6.8 % of EU-28 total)

Population: 60.8 million (12.0 % of EU-28 total)

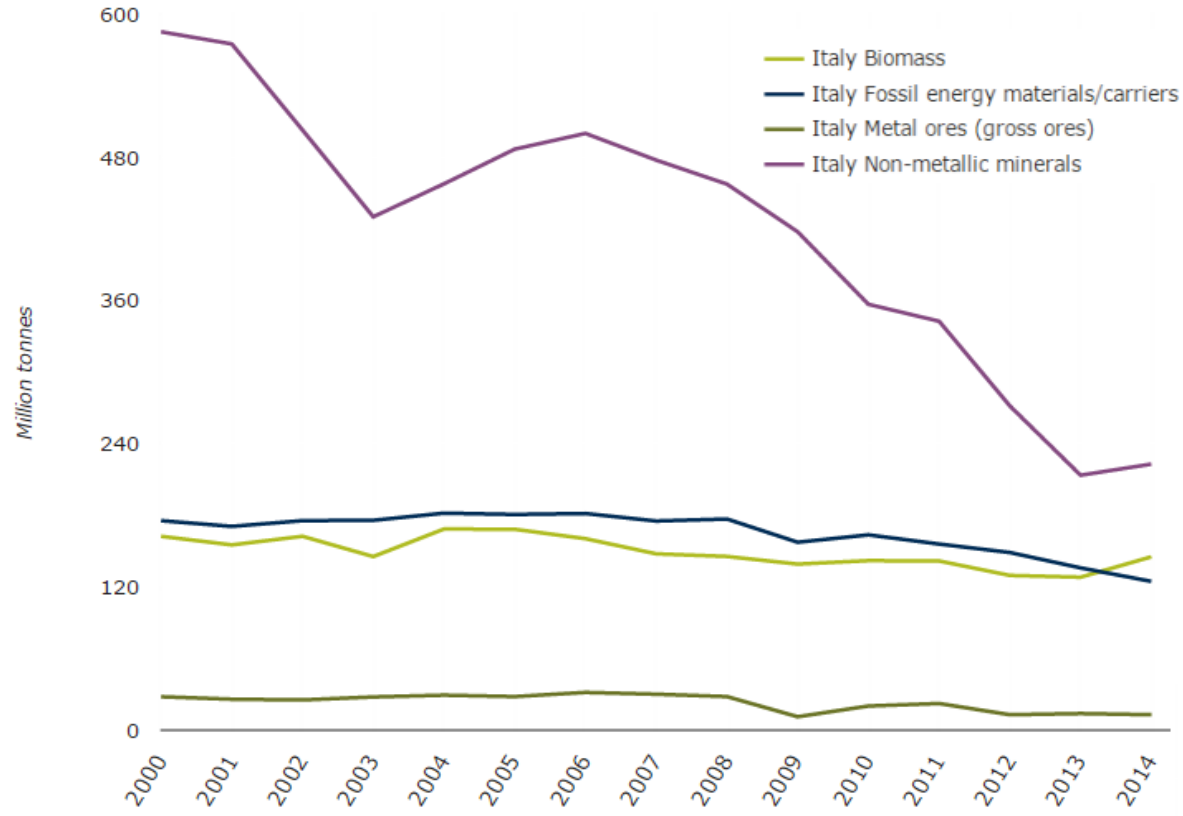
Use of materials (DMC) per person, participating countries and EU-28 (2000, 2007 and 2014)



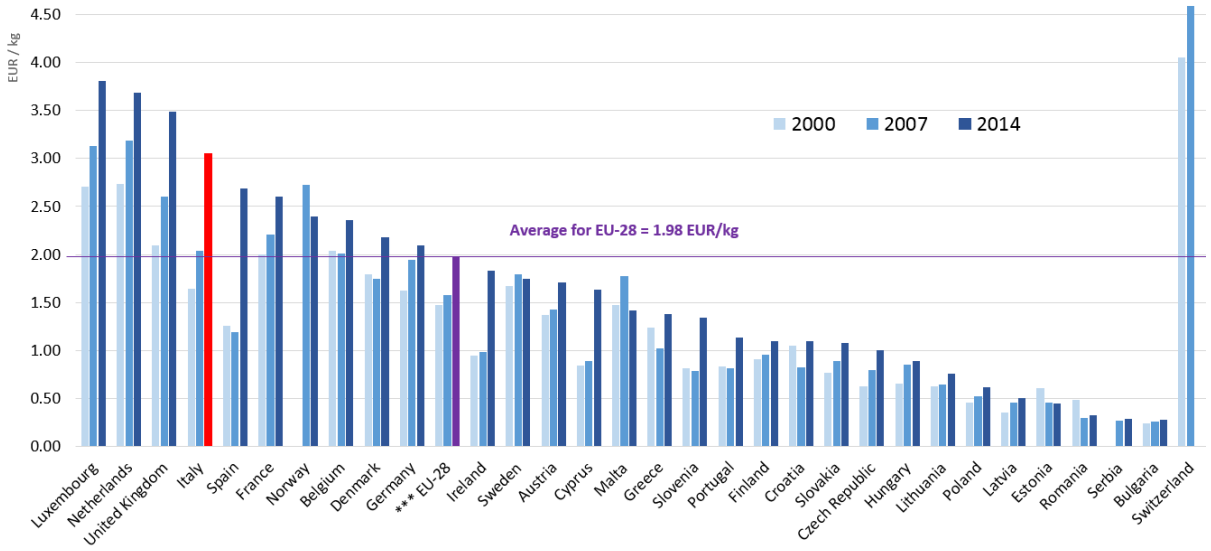
Domestic material consumption by category, EU-28 average and Italy (2014)



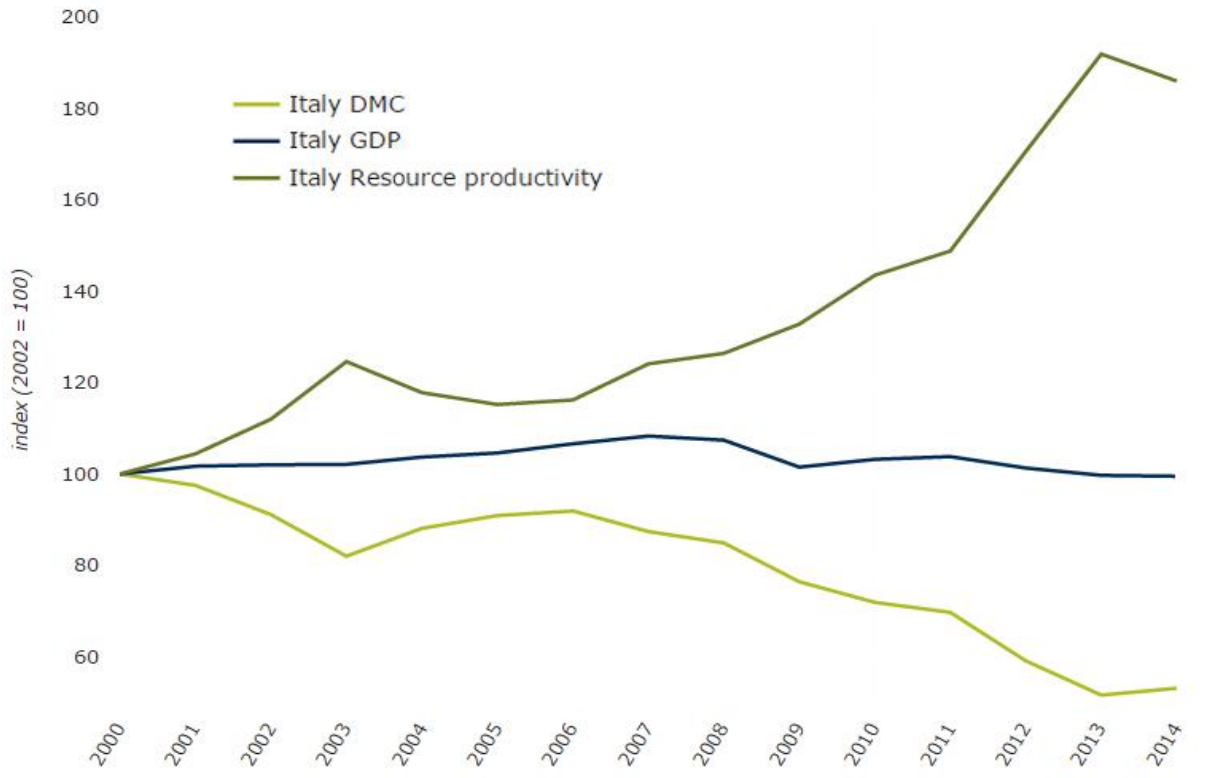
Trends in material consumption, Italy by category (2000–2014)



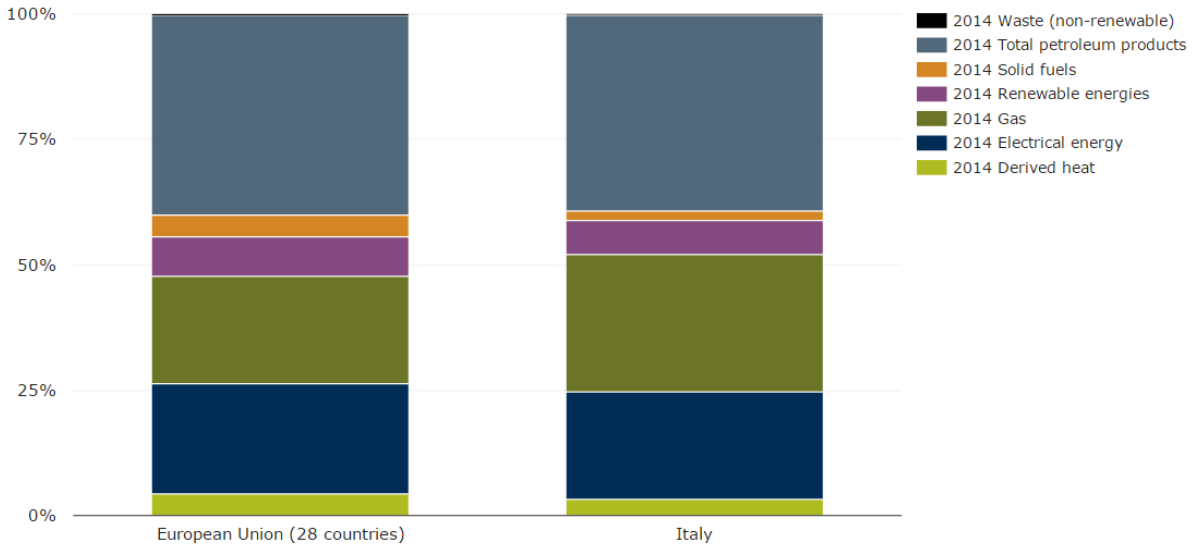
Resource productivity (GDP/DMC), participating countries and EU-28 (2000, 2007 and 2014)



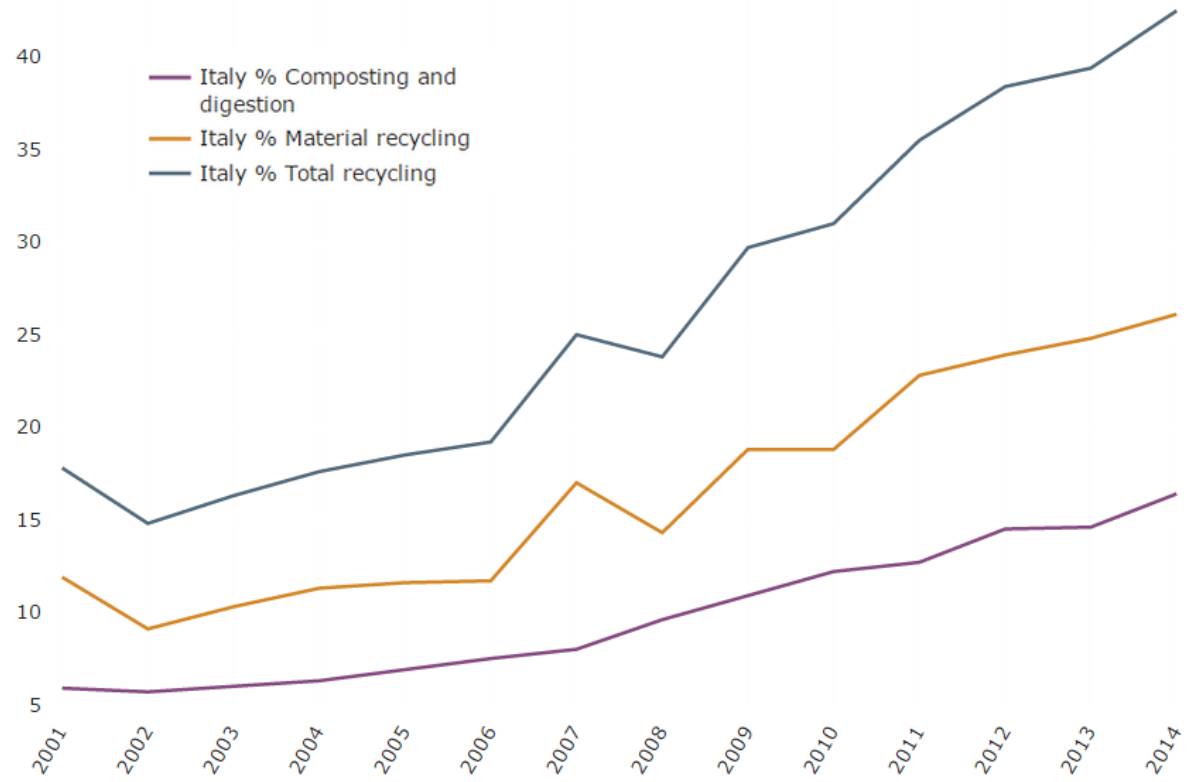
GDP, DMC and resource productivity trends, Italy (2000–2014)



Share of final energy consumption by fuel type, EU-28 and Italy (2014)



Recycling of municipal waste, Italy (2001–2014)



Introduction

Italy does not have a dedicated strategy or action plan for material resource efficiency. The topic is covered in other policies.

Scope of material resource efficiency

There is no specific definition of the term 'resource efficiency' or of the scope (which resources are addressed). Policy documents generally refer to sustainable or long-term use of natural resources.

In the 2002 Sustainable Development Strategy the total material requirement is analysed on pages 55 and 56; some consumption profiles are shown in Figures 6.1 and 6.2, and some data on material input per unit of service are represented in Table 6.1. On pages 62 and 63 there is some information about waste production and management (see also Graph 6.5 and Table 6.2).

The only distinction made is between mineral and living resources (such as the animals in the Action Plans on Terrestrial Faunistic Resources and Biodiversity in the Environmental Action Strategy for Sustainable Development in Italy). Genetic resources are referred to in some documents (Chapter 3 of the Italian National Biodiversity Strategy and the National Plan on Agricultural Biodiversity).

Driving forces of material resource efficiency

Main driving forces include:

- competitiveness and economic interests;
- employment;
- the requirements of the EU.

Priority material resources, sectors and consumption categories

Priority materials

Among material resources biomass and waste could be identified as priorities since they are mentioned in almost all the mentioned policies and plans.

National resource efficiency policies address natural resources such as biodiversity, water, soil, food and minerals (Italian National Biodiversity Strategy and Environmental Action Strategy for

Sustainable Development in Italy); for each one the identified priority approaches regard knowledge, sustainable management and critical consumption, main threats.

In Table 4.2 of the Environmental Action Strategy for Sustainable Development in Italy specific objectives, indicators and targets about protection and sustainable use of nature and biodiversity, soil and sea are shown for each category of natural resources. Table 6.2 gives objectives, indicators, targets and activities for the sustainable use of natural resources and waste management.

The National Action Plan on Green Public Procurement (GPP) identifies 11 categories of services (page 11) as the priority sectors for intervention, chosen in light of the environmental impact and volume of public spending involved.

The National Plan on Agricultural Biodiversity deals with the conservation and management of genetic resources (from animals, plants, microorganisms, forestry and fishery) for biodiversity preservation.

Priority industries and economic sectors

Priority sectors include energy (the National Energy Strategy and Italian Action Plan for Energy Efficiency address sustainable use of resources for energy purposes); construction (the National Programme of Waste Prevention and the Bill on Land Use have targets for reducing waste production and resource consumption); the manufacturing industry (the National Action Plan on GPP, National Plan to Prevent Food Waste and National Programme of Waste Prevention aim to improve the efficiency of supply chains).

Priority consumption categories

The priority consumption categories are food and agriculture (implemented in the National Plan to Prevent Food Waste and National Plan on Agricultural Biodiversity); housing (Italian Action Plan for Energy Efficiency, National Energy Strategy and Bill on Land Use).

Policy framework

National strategies or action plans for material resource efficiency

There is neither a specific strategy nor an action plan in Italy. Both the broad topic of 'natural resources' and the narrower 'material resources and/or raw materials' are mentioned in several plans and strategies:

- Italian National Biodiversity Strategy (7 October 2010) (http://www.minambiente.it/pagina/strategia-nazionale-la-biodiversita);

- Environmental Action Strategy for Sustainable Development in Italy (2 August 2002) (http://www.minambiente.it/pagina/strategia-dazione-ambientale-lo-sviluppo-sostenibile-italia-0);
- Action Plans on Terrestrial Faunistic Resources (since 2001) http://www.minambiente.it/pagina/conservazione-e-gestione-della-fauna-e-della-flora
- Regional Environmental Action Plans (since 2009) (see institutional website of each Italian region). Three regions have generic environmental action plans with broadly similar content relating to waste management and material recycling; others have specific plans on energy, waste or GPP;
- Information and statistics on Agenda 21 can be found at http://www.sinanet.isprambiente.it/it/sia-ispra/filarete/banca-dati/censimento-dei-processi-di-agenda-21-locale;
- National Action Plan on GPP (10 April 2013) (http://www.minambiente.it/pagina/il-piano-dazione-nazionale-il-gpp-pan-gpp);
- Local (provincial) Waste Action Plans based on national and regional waste management targets (see institutional websites).

National policies and strategies addressing material resource efficiency among other topics include:

- National Energy Strategy (8 March 2013), addressing biomass among other topics (http://www.sviluppoeconomico.gov.it/images/stories/normativa/20130314_Strategia_Energetica_Nazionale.pdf);
- Italian Action Plan for Energy Efficiency (24 July 2014) (http://www.efficienzaenergetica.enea.it/politiche-e-strategie-1/politiche-e-strategie-in-italia/paee/paee-2014.aspx);
- National Plan to Prevent Food Waste (5 June 2014), focusing on food waste management and prevention (http://www.minambiente.it/comunicati/giornata-mondiale-dellambiente-ministro-galletti-presenta-piano-contro-lo-spreco);
- National Plan on Agricultural Biodiversity (14 February 2008), covering genetic resources (http://www.minambiente.it/sites/default/files/archivio/allegati/biodiversita/piano_nazionale_biodiversita_interesse_agricolo.pdf);
- National Programme of Waste Prevention (7 October 2013) (http://www.minambiente.it/comunicati/presentazione-del-programma-nazionale-di-prevenzione-dei-rifiuti);
- Bill on limiting land consumption and reusing built up land (2 December 2013) (http://www.minambiente.it/sites/default/files/archivio/comunicati/ddl%20contenimento%20consumo%20suolo.PDF);
- Regulation establishing the criteria for the definition of the environmental cost and the cost of the resource for the various water uses (24th February 2015) (http://www.minambiente.it/sites/default/files/dm_24_02_2015_39.pdf);
- Bill S. 1676. - "Environmental provisions to promote green economy and measures to reduce the excessive use of natural resources" approved by the Chamber of Deputies and amended by the Senate - Note Chamber of Deputies: 2093-B (17 novembre 2015) (http://www.camera.it/leg17/126?pdl=2093-B).

The circular economy and closing material loops

National and regional policies generally refer to 'reducing material inputs, minimising waste, improving resource management, changing consumption patterns of civil society and improving production processes'.

The National Programme of Waste Prevention presents reduction targets for certain waste streams, including food, paper, packaging, and electrical and electronic devices.

Environmental provisions to promote green economy and measures to reduce the excessive use of natural resources (Bill S. 1676 - Note Chamber of Deputies: 2093-B) include government plans, agreements and incentives for the purchase of products resulting from post-consumer materials. The percentage of recycled and post-consumer recycled materials can be certified by authorised bodies. Tools and incentives (including tax) for the trade and purchase of products and product components must be established and used to facilitate extended product life cycles.

General policy objectives for material resource efficiency

There are official goals as defined in the Bill on Land Use, the Regulation on Environmental Cost and Bill S. 1676 and general policy objectives such as 'to ensure energy efficiency', 'to promote sustainable economic growth', 'to achieve decoupling of environmental pressures from economic growth', and 'to enhance the green economy as a factor of development and growth'.

There is no emphasis on categories of environmental pressure.

Waste management is mentioned in the National Energy Strategy (waste recycling and incineration), in the National Plan to Prevent Food Waste (reducing food waste), in the National Action Plan on GPP (waste management) and in the Environmental Action Strategy for Sustainable Development in Italy (resource consumption and waste production (Chapter 6) and quality of the environment and of urban life (Chapter 5).

Institutional set-up and stakeholder involvement

Institutional set-up for material resource efficiency policies

Several ministries are involved, above all the Ministry of Environment, Land and Sea; the Ministry of Economic Development; the Ministry of Agriculture, Food and Forestry; and the Ministry of Infrastructure and Transport. The Ministry of Health is also involved in environmental issues related to public health, but it does not have a leadership role for resource efficiency.

About the role of the regions:

The constitutional reform of 2001 stated that the general legislative power belongs to the State and Regions, on an equal footing; following the issues of concurrent legislation as listed in Article 117.3: a) international relations with the European Union and the regions; b) foreign trade; c) protection and job security; d) education, the autonomy of educational institutions and with the exception of education and vocational training; e) professions; f) scientific and technological research and innovation support for productive sectors; g) protection of health; h) power; i) sports system; l) civil protection; m) the government of the territory; n) ports and civil airports; o) the transmission grids and navigation; p) regulation of communication; q) production, transport and distribution of energy; r) supplementary pension and financial statements; s) harmonization of public accounts and coordination of public finance and the tax system; t) enhancement of cultural and environmental promotion and organization of cultural activities; u) savings banks, rural banks, regional credit companies; v) land and agricultural credit institutions of a regional nature.

Regions have legislative powers regarding topics of concurrent legislation, except for the determination of the fundamental principles, defined by law of the State.

Some regional initiatives can be mentioned:

- The Region Sicily within the PO-ERDF 2014/2020 aims to the protection and enhancement of natural and cultural resources. In the document (http://commenta.formez.it/ch/OpenFesr?id_speech=86) two different areas are distinguished: the first relating to the availability and quality of the environmental services; the second relating to the natural and cultural resources that are both a value in itself worthy of protection and fundamental development assets in Sicily also with reference to the tourism industry.
- The Emilia-Romagna, as part of the Interreg MED Programme 2014-2020, sets as its overall objective the promotion of sustainable growth in the Mediterranean region by encouraging innovative practices and reasonable use of resources (energy, water, marine resources) and favoring 'social integration by an integrated territorial cooperation (Interreg MED Programme 2014-2020)
- The Lombardy Region, in the Rural Development Programme 2014-2020 (http://www.agricoltura.regione.lombardia.it/cs/Satellite?c=Redazionale_P&childpagename=DG_Agricoltura%2FDetail&cid=1213681652035&packedargs=NoSlotForSitePlan%3Dtrue%26menu-to-render%3D1213276891208&pagename=DG_AGRWrapper) has made available 170 million Euros for the efficient use of resources
- The Sardinia Region, in the Rural Development Programme 2014-2020 (http://www.regione.sardegna.it/speciali/programmasvilupporurale/sites/default/files/allegati_upload/Scheda%20informativa%20sul%20PSR%20Sardegna%202014-2020.pdf), has as its objectives relating to the priority "Resource efficiency and climate", to increase conservation and carbon sequestration mainly supporting afforestation, agroforestry, prevention and recovery of damaged forests, improving resiliency and value of forest ecosystems and their conservation. In addition, the cooperation measure will promote the strengthening of sustainability through the European Partnership for Innovation and cooperation to adapt to and mitigate the effects of climate change.

The Region of Liguria, in the Rural Development Programme 2014-2020, on priority "resource efficiency and climate" aims to achieve conservation and carbon sequestration mainly by supporting the prevention and restoration of damaged forests, the resilience and environmental value of forest ecosystems and their conservation, also encouraging services friendly to environment and for the protection of forests. Finally, it plans to invest about EUR 7.2 million from public and private funds for the production of renewable energy.

Process to ensure stakeholder participation

Stakeholder participation is encouraged through public information workshops and seminars, questionnaires to identify and take into account the needs of public and private stakeholders and civil society, and voluntary agreements to ensure the broad support of stakeholders.

Suggestions for international support mechanisms to exchange experience

EEA and European Commission initiatives; and United Nations programmes, frameworks and protocols.

Policy instruments

Policy instruments commonly used for material resource efficiency

Among the policy instruments considered central to improving material resource efficiency are:

• **Economic/financial instruments:** the Regulation on Environmental Cost and the Cost of the Resource for Various Water Uses approves criteria for assessing environmental and resource costs as set out in Appendix A, Guidelines for the definition of the environmental cost and the resource cost for different water uses; Chapter 3 of the Guidelines sets criteria for cost internalisation.

• **Regulatory instruments:** in the Bill on Land Use, Article 3 defines a progressive reduction, in quantitative terms, of soil loss nationwide; Article 4 includes provisions for orienting commons towards urban regeneration; Article 5 sets a prohibition on land-use change in agriculture.

Examples of good practice

The Institute for Environmental Protection and Research (ISPRA) is involved in different topics on sustainable development, including:

- a census on the implementation of Agenda 21 in Italy (http://www.sinanet.isprambiente.it/it/sia-ispra/filarete);
- a website dedicated to environmental certification, with the EMAS list of registered organisations and the Ecolabel catalogue of certified products, certified services and accredited laboratories (http://www.isprambiente.gov.it/it/certificazioni);
- a database of good local sustainability practices (http://www.sinanet.isprambiente.it/it/gelso);
- a database, indicators and Urban Areas Report. The urban environment is known as a major cause of continuous human pressure on the environment and the place with the highest imbalances, with serious consequences on the lives of citizens, who perceive the state of the environment as the factor with the greatest impact on their quality of life (Eurobarometer 58.0 and Flash Eurobarometer 123) (http://www.ost.sinanet.isprambiente.it/Report_indicatorismry.php);
- freight and passenger traffic in the main Italian ports from 1998 to 2007, and data on freight and passenger traffic from 2000 to 2009 in 23 national port authorities and other ports such as Monfalcone, Porto Nogaro, Chioggia, Barletta, Monopoli, Fiumicino and Gaeta, displayed on a geographical map (http://www.mais.sinanet.isprambiente.it/ost/);
- a report (requested by the Ministry of Environment, Land and Sea) on decarbonisation and 'resource efficient use ' including assumptions on measures related to circular economy
- The Department of Nature Protection of ISPRA participated in the PROFORBIOMED project (http://www.isprambiente.gov.it/en/projects/sustainable-development/proforbiomed/proforbiomed).

Within the PROFORBIOMED project the use of woody biomass is being promoted among local stakeholders for heat and power purposes, thereby reinforcing the message of the Bioenergy Cluster (case study in the territory of Viterbo) to develop biomass and bioenergy for a greener and more prosperous local and rural economy. Development of the territorial framework, strengthening of stakeholder involvement and the building up of clusters, agreements and commitments between local and regional administrations and other stakeholders, and permanent structures all serve to boost rural areas. The creation of strong, permanent links among stakeholders will encourage future co-operation and support the sustainability of activities. The project has also produced a position paper titled Favouring the Cascade Use of Wood Forest Products (https://aisfdotit.files.wordpress.com/2015/01/ifm_5_2014_pettenella.pdf), about cascading use of wood as stated in the EU Forest Strategy (EC 2013). The 'cascade' principle implies the use of wood materials according to potential added value, with raw forest materials used for building, furniture and other products with a long lifespan, while bioenergy comes from waste wood, wood residues or recycled products. The energy use of wood (after recycling opportunities to produce other products have been exhausted) is thus considered the least valuable option among several uses.

Dissemination of the results of these activities has been achieved through documentary videos: Foreste d'Italia (http://www.youtube.com/watch?v=ttqZAqnzsKU) and Forest, Wood, Energy – A FILIÈRE (http://www.isprambiente.gov.it/it/documentari-ispra/documentari).

The message of the videos is about the possibility of storing the wood for months, even years if necessary, for later reuse; this is not possible with other renewable energy sources such as solar or wind, making biomass is particularly interesting resource with considerable potential.

Other initiatives on sustainable development are carried out by the Sustainable Development Foundation (http://www.fondazionesviluppososteni bile.org/), a non-profit think-tank based in Rome aimed at encouraging the transition towards a green economy. At national level the Foundation is the reference organisation for the States General of the Green Economy, a multi-stakeholder engagement process aimed at promoting solutions towards a green economy in Italy through a platform of policy recommendations elaborated according to a bottom-up approach. At the international level, the Foundation is a member of the United Nations Global Compact, an organisational stakeholder of the Global Reporting Initiative (GRI), and is an associate of the International Solid Waste Association (ISWA) and Transport and Environment in Brussels.

Targets and indicators

Targets for material resource efficiency

A number of strategies and initiatives have concrete goals set within a timeline.

The National Biodiversity Strategy provides a report on its implementation and effectiveness every two years. For this purpose a set of preliminary indicators has been prepared, consisting of 10 state indicators that aim to represent and assess the state of biodiversity in Italy and 30 assessment indicators to evaluate the effectiveness of national measures in achieving the objectives of the Strategy. Some of the indicators measure the sustainable use of natural resources (http://www.minambiente.it/sites/default/files/archivio/allegati/biodiversita/dpn_I_rapporto_snb_2011_2012.pdf; (http://www.minambiente.it/sites/default/files/archivio/allegati/biodiversita/snb_set_preliminare_indicatori_strategia.pdf).

The Environmental Action Strategy for Sustainable Development in Italy provides targets for increasing energy production from renewable sources; reducing national emissions of greenhouse gases; and conservation, protection and sustainable use of biotic and abiotic natural resources. Indicators to measure defined goals have been set. In Table 4.2 specific objectives, indicators and targets about protection and sustainable use of nature and biodiversity, soil and sea are shown for each category of natural resources. Objectives and indicators on quality of the environment and urban life are listed in Table 5.1. In Table 6.2 objectives, indicators, targets and actions for the sustainable use of natural resources and waste management are presented. Objectives, indicators, targets and actions for sustainable waste management are shown in Table 6.3. Table 7.1 shows the list of key environmental indicators for sustainable development as defined by Barcelona European Council in 2002. An open list of key environmental indicators for sustainable development as defined by Barcelona European Council in 2002 is provided in Table 7.2.

The National Action Plan on GPP has general goals for recycling and energy efficiency. For recycling, it aims to harmonise with Ministerial Decree 203/2003 in the field of intervention under the GPP Action Plan. This national regulation introduced an obligation for all public bodies and companies in which the majority of the capital is public, to procure manufactured items and goods made with recycled post-consumption materials entered in the Recycling Register, amounting to at least 30 % of their annual requirement. On energy efficiency the goal is to reduce the consumption of fossil fuel energy through greater energy efficiency and the use of renewables and to increase public demand for highly energy-efficient products, technologies and energy services, as well as making buildings eco-friendly. Some regional laws have more detailed targets.

The National Energy Strategy provides targets for energy efficiency and renewable energy, such as reducing consumption and improving the mix in favour of renewables. In particular, a 24 % reduction in primary consumption is expected in comparison to the inertial trend to 2020, surpassing the European 20 % reduction targets, mainly thanks to energy efficiency measures. In terms of the mix, a 19–20 % share of renewable energy in gross final consumption is expected. The share is equal to 23 % of primary energy consumption, with a 76–86 % reduction from fossil fuels. In addition, renewables are expected to reach or exceed the level of gas as a source in the electricity sector, accounting for approximately 35–38 % of consumption. All these targets are aspirational.

Mandatory targets are contained in laws such as the Bill on limiting land consumption and the Regulation establishing criteria for the definition of environmental costs.

Indicators to monitor use of materials and resource efficiency

Most of the indicators used to monitor material resource use and improvements in material resource efficiency can be found in the ISPRA Environmental Yearbook (http://annuario.isprambiente.it/), for example sites of mining and energy resources, potential use of underground water resources, water resources management and eco-efficiency in agriculture.

Optional questions

Which way should resource efficiency go in the future?

Future activities should be more detailed and focused on specific objectives and outputs, keeping in mind the original objectives of the working group. As a suggestion, potential next steps for the group could be to:

- provide a clear differentiation in the definitions of ‘natural resources’ and ‘material resources’;
- initiate best practice networks and partnerships among EU agencies and with other non-European environmental agencies in the communication of objectives, methodologies, indicators and targets relating to the Catalogue of Material Resource Efficiency as a

contribution to the development of global networks to support the sustainable use of resources;
- further refine strategies, specify indicators and propose technical, legal and economic instruments for examining and managing mainstream material flows;
- elaborate integrated environmental and economic accounting systems;
- promote national reform programmes dealing with resource efficiency policies.

Reflections on the country's trends in the use of materials and resource efficiency

Use of materials (DMC) per person, participating countries and EU-28 (2000, 2007 and 2014)

DMC per person in the EU-28 almost decreased after 2007 while in Italy the trend has been decreasing since 2000; the decrease was considerable since DMC per person has halved in the period 2000–2014.

Domestic material consumption by category, EU-28 average and Italy (2014)

DMC by category in 2014 shows similar levels for all categories in EU-28 and Italy, with the exception of Metal ores (gross ores) which is almost half (63%) than the EU-28 value.

Trends in material consumption, Italy by category (2000–2014)

Trends in material consumption show a reduction in all categories between 2000 and 2014, with the greatest reductions in Non-metallic minerals and Metal ores which are respectively 38% and 46% in 2014 compared to 2000 values.

Resource productivity (GDP/DMC), participating countries and EU-28 (2000, 2007 and 2014)
Resource productivity has increased both in the EU-28 (34%) and in Italy but in the latter the amount of growth is much more greater (86%) comparing 2014 to 2000 values.

GDP, DMC and resource productivity trends, Italy (2000–2014)

Charting DMC, GDP and Resource productivity shows a decoupling between DMC (53% - it has halved compared to 2000 value) and resource productivity variables (186% - it almost doubled) while GDP has been quite steady since 2000.

Final energy consumption by fuel type, EU-28 and Italy (2014)

Energy consumption by fuel type in 2014 is just slightly lower in Italy than in the EU-28 for most fuels except for Gas, which is 6% higher in Italy, and Solid fuels which are almost half (45%) than EU-28.

Recycling of municipal waste, Italy (2001–2014)

Recycling of municipal waste has increased (2,39) in Italy since 2001 even if the trend is quite discontinuous: Composting and digestion has tripled (2,78) in 2014 compared to 2001 and Material recycling has doubled (2,19).