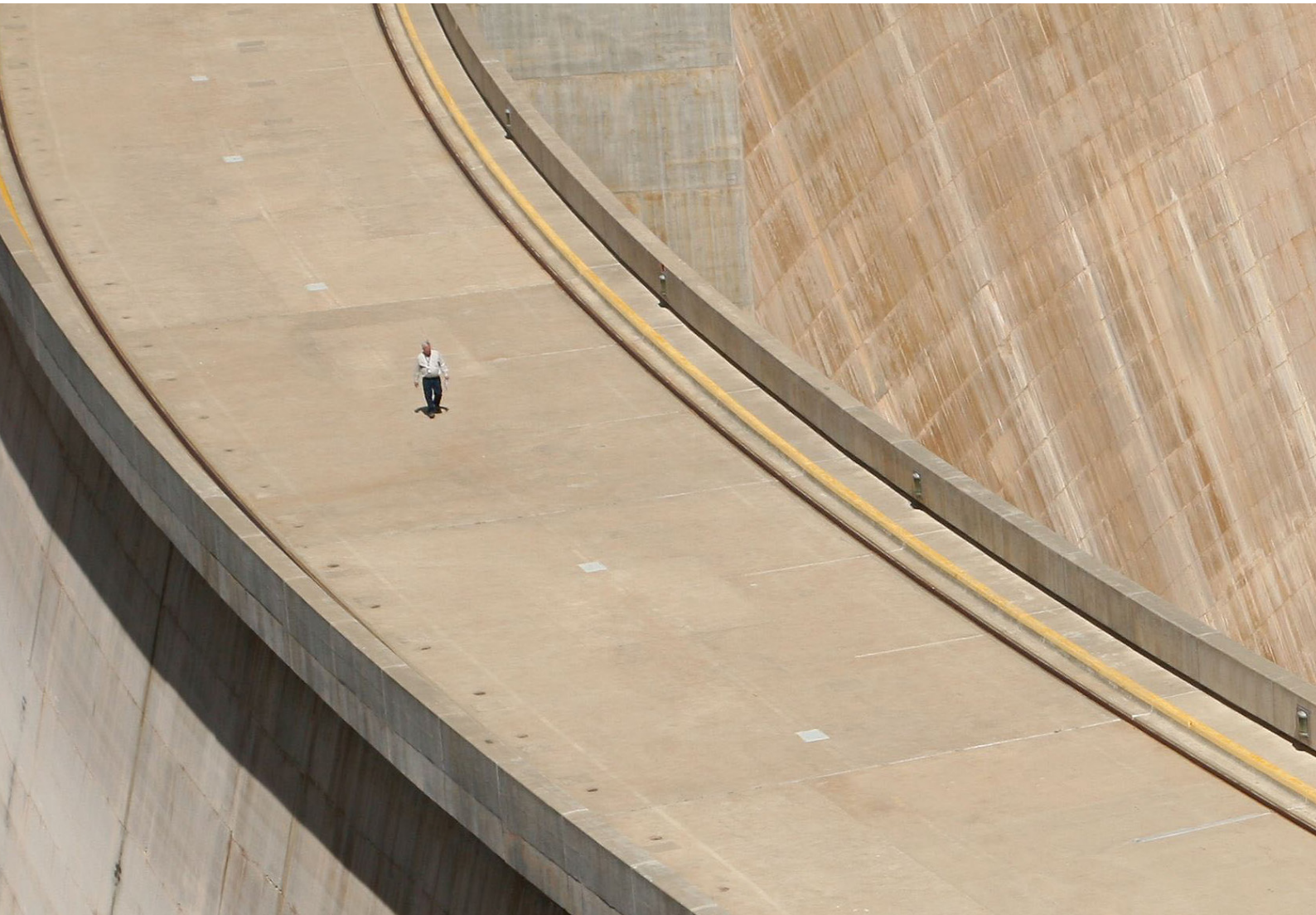


More from less — material resource efficiency in Europe

2015 overview of policies, instruments and targets in 32 countries



Hungary 

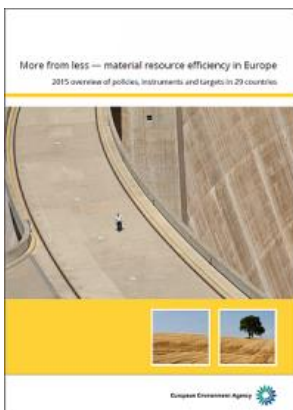
May 2016

This country profile is based on information collected from Ministry of Agriculture, Ministry of National Development, Ministry of Interior, Ministry for National Economy, Herman Ottó Institute.

Coordinating body: Ministry of Agriculture.

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 December 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>

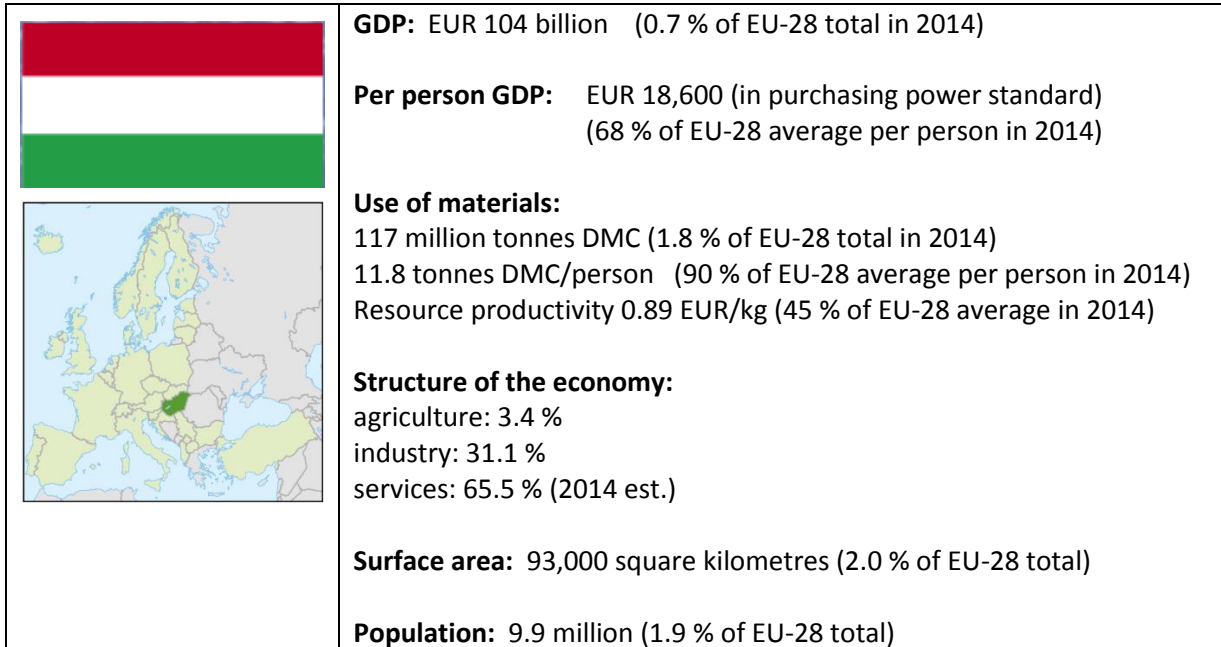
For information about trends and policies on municipal waste management in the participating countries, please visit: <http://www.eea.europa.eu/publications/managing-municipal-solid-waste>

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

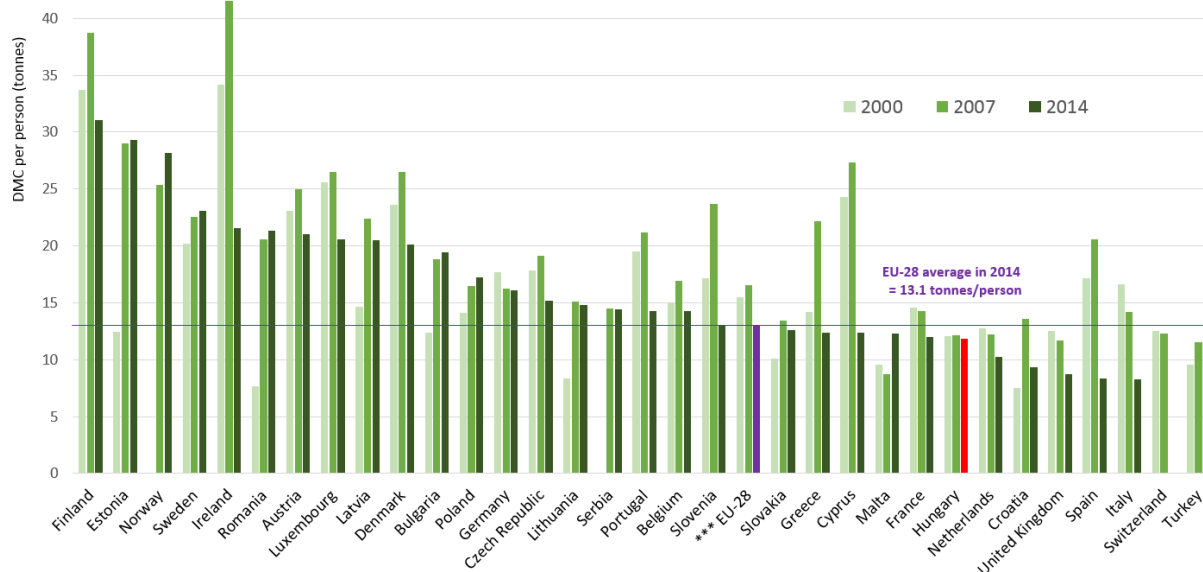
For information on climate- and energy-related policies, including those on energy efficiency, in the participating countries, please visit: <http://www.eea.europa.eu/themes/climate/ghg-country-profiles>

Hungary, facts and figures

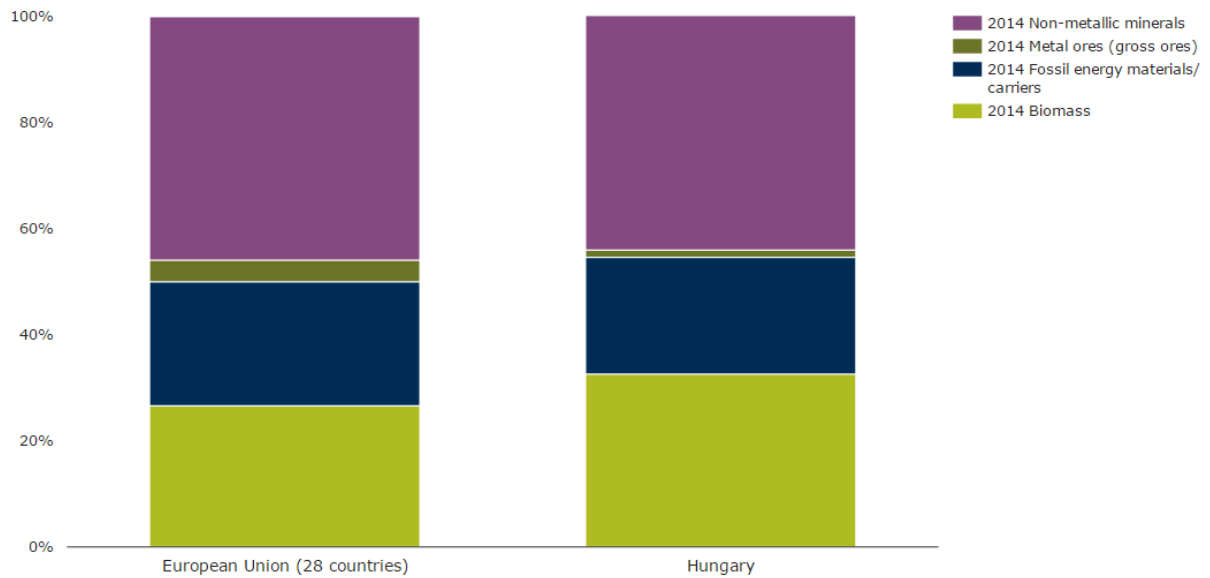
Source: Eurostat



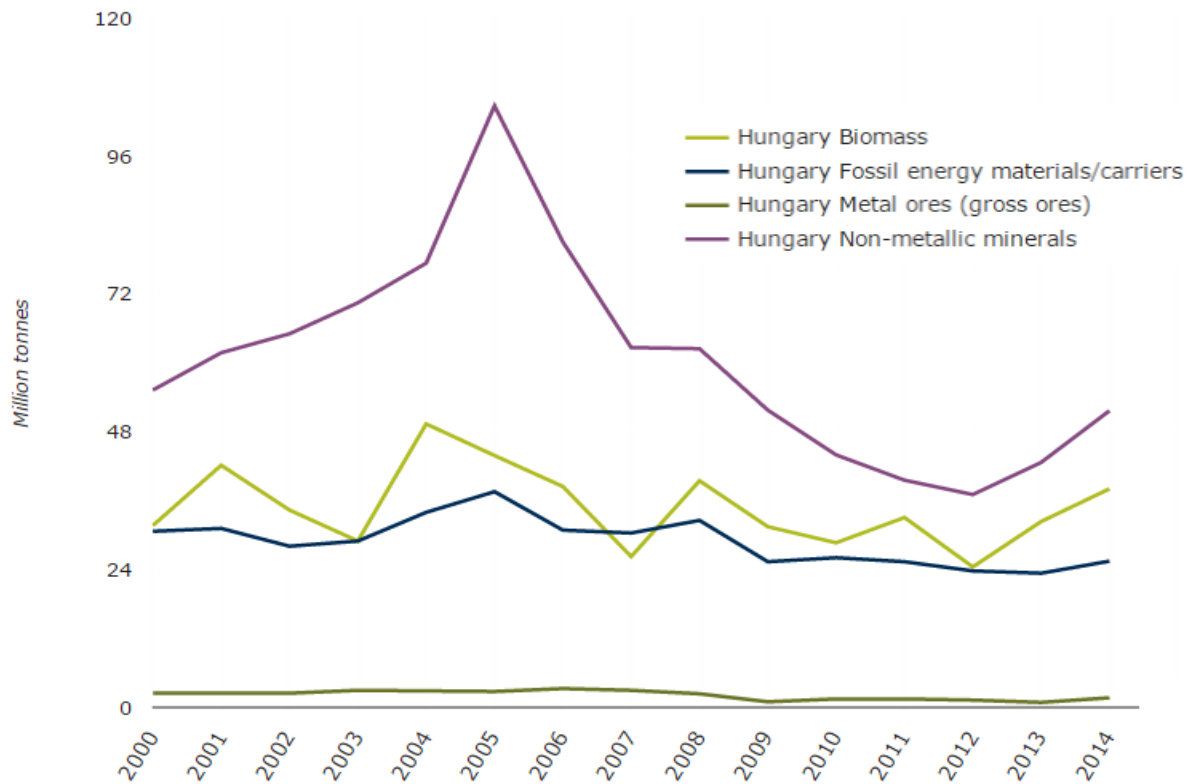
Use of materials (DMC) per person, participating countries and EU-28
(2000, 2007 and 2014)



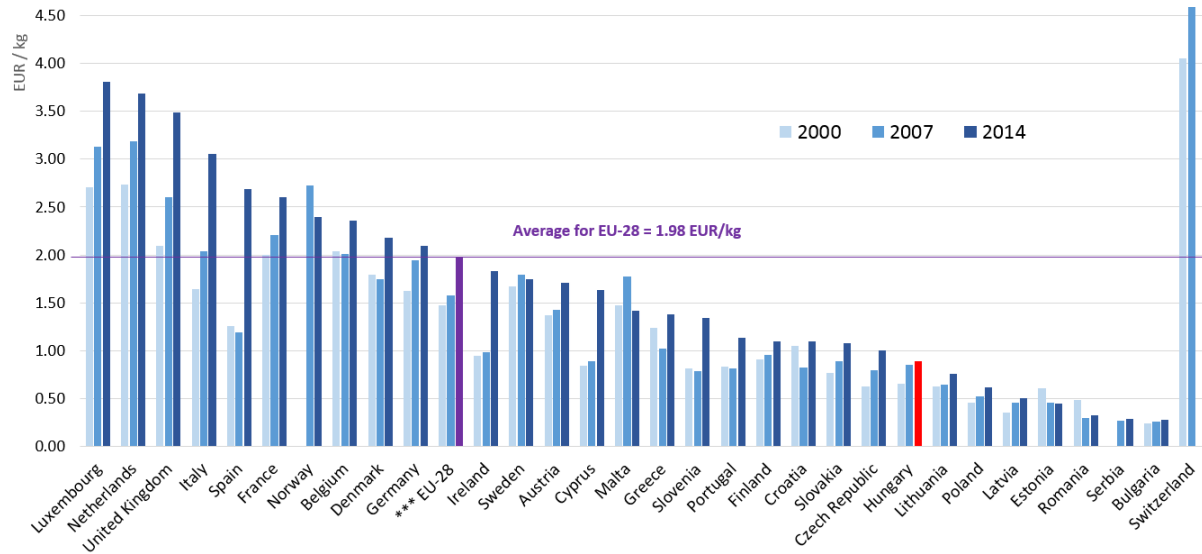
Domestic material consumption by category, EU-28 average and Hungary (2014)



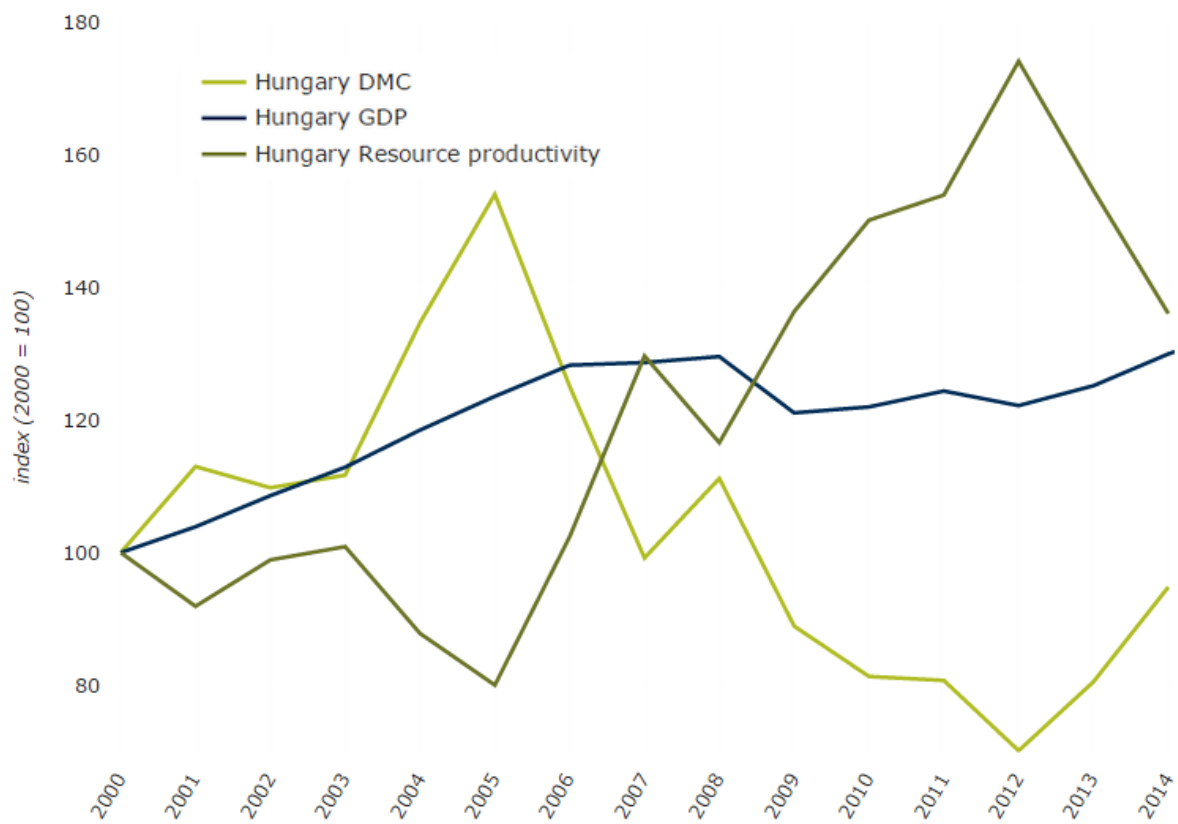
Trends in material consumption, Hungary by category (2000–2014)



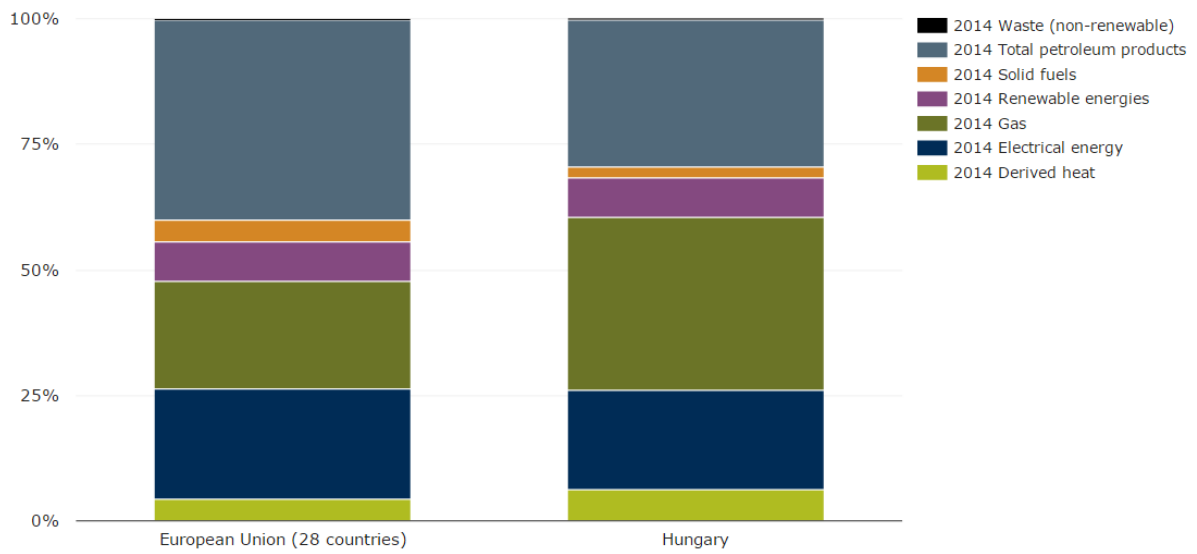
**Resource productivity (GDP/DMC), participating countries and EU-28
(2000, 2007 and 2014)**



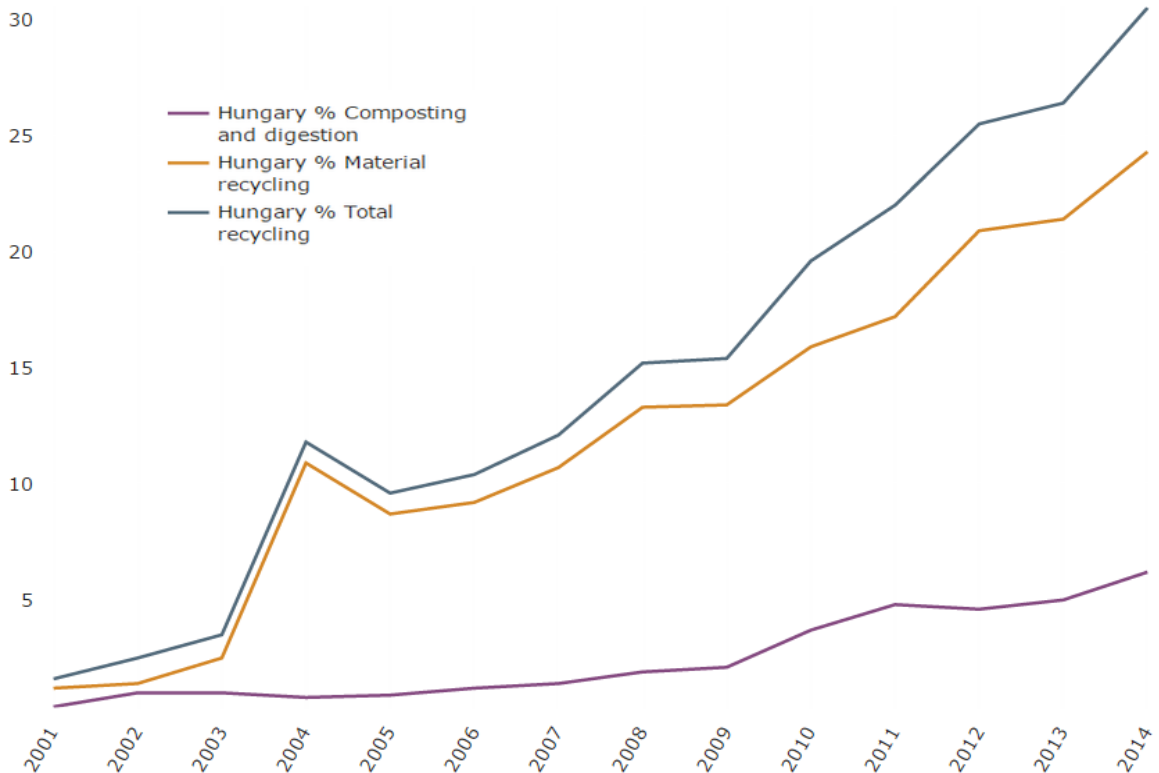
GDP, DMC and resource productivity trends, Hungary (2000–2014)



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



Recycling of municipal waste, Hungary (2001–2014)



Introduction

Hungary has no strategy exclusively dedicated to natural resource efficiency; however, several national strategies and action plans address the topic.

The 4th National Environment Programme (4th NEP) is the overarching environmental policy giving high priority to resource efficiency. In addition, resource efficiency is highlighted in other sectoral policies, for example the National Environmental Technology Innovation Strategy (NETIS), National Waste Management Plan (NWMP) and Waste Prevention Programme (WPP), National Framework Strategy on Sustainable Development (NFSSD), National Forest Programme (NFP), National Energy Efficiency Action Plan and Renewable Energy Action Plan 2010–2020 (NREAP) (non-exhaustive list).

Scope of material resource efficiency

Regarding resource efficiency, the **Hungarian Fundamental Law** requires that the government and political community protect, sustain and preserve natural resources for future generations. There are several strategies and action plans that deal with resource efficiency. These are listed in the relevant section of this document.

The 4th NEP is based on the **broad interpretation of natural resources**. This Programme deals with raw mineral materials, biological and genetic resources, soil, arable land, water and energy resources, ecosystems and the full scale of their services to natural resources.

The **National Nature Conservation Master Plan** (NNCMP), is an independent policy strategy integrated with the NEP. It defines priority targets and selects lines of action for every state agency.

NETIS is determined to provide a crucial framework for ensuring the implementation of the EU 2020 Strategy, with special regard to the Innovation Union flagship initiative. With the adoption of NETIS the Hungarian government expresses its determination to mainstream the concept of green economy that requires environmental technology innovation.

Water management

Regarding resource efficiency, according to Paragraph 2 of Act 57 of 1995 on water management, government obligations related to water and water facilities include among other things:

- the establishment of a national concept for water management as well as a programme of specific legislative measures for achieving good status of water bodies, and furthermore approval of the development of national programmes in accordance with the 4th NEP;
- organising enforcement of the water management authority's public functions;
- fulfilling tasks related to water management resulting from international cooperation;
- designating potential sources of drinking water and maintaining them in a useable condition;
- preparing the River Basin Management Plan;
- Undertaking qualitative and quantitative inventory of water resources.

In Chapter V of the Act – Management of water resources – the law states some findings on the sustainable use of water (in accordance with Section 7 of Paragraph 17 of the Act):

- During the establishment of pricing policy, the principle of cost recovery has to be applied (differentiating the needs of households, manufacturers and agriculture, at least). Taking into consideration the costs arising in connection with the protection of the environment and water resources, the polluter-pays principle has to be applied. While determining actual prices, the process has to take into account the social, natural and economic consequences of the principle.

Forest management

The **NFP**, in line with international forest- and forestry-related commitments and legally non-binding agreements as well as relevant European Union (EU) policies, outlines the framework and main strategic goals of sustainable forest management. The forestry sector is an important component of the green economy, providing a wide range of ecosystem services (economic, ecological and social) to society in the frame of the NFP.

The **National Forest Strategy** is currently being developed. In the field of sustainable forest management, Hungary has the opportunity to support high added-value, productive investments that increase energy and material efficiency. The primary target is to spread more innovative technology in Hungary, ensuring high added value and sustainable utilisation of domestic wood.

Energy policy

The **National Energy Strategy 2030** defines Hungary's long-term energy policy targets and aims to answer national and global challenges, taking into account the EU's energy-related objectives, such as improving energy supply security and energy-efficiency, and achieving low levels of greenhouse gas emissions. The most important aims laid down in the Strategy are to ensure Hungary's long-term security of supply, competitiveness and sustainability. In order to achieve these aims, it is highly important to increase energy efficiency, energy savings and the share of renewable energy use, to modernise power plants and to further connect to regional energy infrastructure.

The goal of the **National Renewable Energy Action Plan (NREAP)** is to contribute to the greatest possible extent to relevant government objectives for the national economy, such as job creation, the substitution of natural gas imports and growth in competitiveness through the application of renewable energy technologies. The NREAP sets out – in accordance with national interests – to increase the renewable energy ratio of total gross energy consumption to 14.65 % by 2020, thereby exceeding the obligatory minimum target of 13 %. The government's intention is to emphasise that the production and use of renewable energy are central to economic development. The NREAP review is in progress.

Soil quality protection and soil conservation

The main goal and mission of soil conservation is described in Act CXXIX of 2007 on protection of arable land. It defines the concept of soil protection, which implies the preservation and improvement of soil fertility and quality, as well as the prevention of physical, chemical and biological degradation of soil. All the state functions related to soil conservation are carried out by the Ministry of Agriculture through the national soil conservation authority.

The functions of the soil conservation authority include:

- operation of the official databases of the soil conservation authority;
- operation of a nationwide Soil Information and Monitoring System (TIM) for sequential monitoring of environmental status and changes in soil quality;
- establishment of a nationwide legal, economic and technical regulatory and incentive system, based on measurements, observations and experiences, that prevents the deterioration of soil quality;
- support for activities related to the prevention of soil degradation and the remediation of unfavourable soil conditions resulting from degradation;
- management of the development and dissemination of technologies for the protection of the environment, the prevention of arable land degradation and for soil quality improvement, as well as supporting associated research and development activities.

Driving forces of material resource efficiency

For Hungary, the rationalisation of resource management is an important issue since **the country is poor in raw materials, relies on energy and material imports, and is increasingly dependent regarding certain resources**. The conscious, efficient and effective management of resources, the **avoidance of overexploitation and the mitigation of environmental impacts** resulting from use are key issues from social, environmental, supply security and competitiveness points of view.

Greater resource efficiency in production and clean, environmentally conscious production has **competitive advantages** in itself (4th NEP). The importance of environmentally sound technologies that protect the environment, pollute less and use resources in a more sustainable manner has to be emphasised (NETIS).

Ecosystem services provided by natural resources are **direct and indirect benefits for society**, produced by natural and human-regulated ecosystems. Amongst the benefits there are provisioning services (food, animal feed, raw material), natural cycle regulating services (climate stabilisation, pollination, flood control), supporting services (nutrient cycling, soil formation), and cultural services (recreation, education, art inspiration) (NFSSD).

In the field of forest management, it is important to support an **increasing supply of wood**, and to promote the sustainable use of wood as a climate-friendly, renewable material. The programme strongly supports close-to-nature forest management methods as effective tools for resource efficiency (NFP).

Regarding **security of supply, sustainable energy management** must strike a balance between environmental (resource-efficient, climate-neutral), social (secure, accessible, non-harmful to health) and economic (cost-effective) considerations (National Energy Strategy 2030).

Increasing the employment rate and competitiveness of the country is also a major economic and social driver (National Reform Programme 2015 of Hungary, NRP2015). The NRP2015, consistent with the 11 thematic objectives of Hungary's Partnership Agreement on using EU structural and investment funds for growth and jobs in 2014–2020, includes an objective related to the protection of the environment and the promotion of resource efficiency. It emphasises that the focus of development is on strengthening the **environmental protection of agriculture** and the development of **water resources for agriculture and rural development**, thereby implementing the Water Framework Directive, the development of wastewater management systems, and the development of the **urban environment**. Developments regarding **waste management** support the competitiveness of small and medium-sized enterprises (SMEs) and employment, and are thus closely connected to the NRP2015.

Priority material resources, sectors, and consumption categories

Priority materials

The overarching national strategy, the 4th NEP, does not set priorities for each resource. Every area has to define its own priorities in the field of resource efficiency. Some of them have already established detailed strategies, as follows.

Hungary aims to increase the level of **waste recycling and recovery**. The NWMP mentions **nine focal areas**: municipal waste; non-hazardous production waste; non-hazardous agricultural and food industry waste; sewage sludge; construction and demolition waste; hazardous waste, in particular high-priority hazardous waste streams; packaging waste; biodegradable waste; and waste tyres.

In NETIS, **renewable energy** is mentioned in the context of efficiently using a range of renewable energy sources. The main development areas are: heat pumps; waste heat capturing; integrated (cascade) heat-energy recovery systems; geothermal energy use; solar energy in households; sustainable use of biomass and the waste/by-products of food production; small wind turbines; developing options for energy storage; and development of photovoltaic technologies, installations and equipment.

Water (freshwater quality) and wastewater management are also important areas. Hungary can securely meet demands for water resources, though a number of regions and water resource types face water shortage. Access to scarce water resources can be limited by reducing fixed quantities and securing marketability. The marketability results in the exclusion of the least efficient water use (Draft of Danube River Basin Management Plan, 2015).

Management of the different natural resource areas has to be complementary, with none subordinate to any other. The objectives of different areas must be coordinated in a proper way because activities in these areas interact very closely with each other.

Priority industries and economic sectors

The 4th NEP and NETIS highlight the importance of stimulating green/sustainable public procurement, especially concerning eco-innovation, ecodesign for sustainable goods and services, energy and resource efficiency, and non-hazardous technology and products. There are nine areas in NETIS (horizontal-type technological innovations; waste; water; air; noise and vibration; agriculture and soil protection; remediation; renewable energy; and construction) where reaching set targets could facilitate the shift to a green economy. Resource efficiency and material and energy management all have to be taken into consideration to reach those targets. The reason for selecting these priority areas lies with their common feature of substantial room for amelioration, with opportunities for considerable positive change, particularly for **waste, energy efficiency, water and soil**.

The economic development programme of the Hungarian government (New Széchenyi Plan) responds to the challenges Hungary is facing, and ensures a growth scenario that can be sustained over the long term. The New Széchenyi Plan refers to the development of the **green economy**, including **renewable energy, energy efficiency, environmental technologies and green industry**.

The **Waste Prevention Programme (WPP)** – included in the NWMP – defines **five key areas** of intervention: 1) reduction of construction and demolition waste; 2) reuse; 3) green public procurement; 4) environmentally conscious production and business operations; and 5) awareness raising.

As a specialised sector, we can mention the **construction sector**. Some 40 % of energy use in Hungary is related to buildings and two-thirds of this goes to heating and air conditioning. In relation to this the National Energy Strategy sets out to reduce the energy use of buildings by 30 % by 2030. The National Building Energy Strategy (NBES) enables a permanent and sustainable reduction in energy use. The NBES considers the whole life cycle of buildings and supports environmentally friendly, sustainable, resource-efficient technologies and building materials.

Priority consumption categories

The 4th NEP includes the objective to increase the demand for sustainable lifestyles, sustainable consumption patterns and a reduction in the environmental impact of consumption. In addition to that – and given equal priority – it sets targets linked to the various resources in line with other strategies, such as decreasing the energy consumption of households.

Policy framework

National strategies or action plans for material resource efficiency

Some relevant strategies have already been mentioned above. The 4th NEP provides the legal framework for resource efficiency (27/2015 (VI.17) Parliamentary Decision). The Programme aims to improve resource efficiency in different sectors, defines specific targets and facilitates a life-cycle approach. The main strategic objectives are protection and sustainable use of natural assets and resources, improving resource efficiency and promoting the green economy. The Programme includes improvements in the promotion of the green economy. The aim is to facilitate an efficient management of natural resources and sustainable use of resources while considering the prevention of pollution and the loading/regeneration capacity of the environment. According to the provisions of the Programme, particular attention should be paid to the decoupling of socio-economic development from environmental pressures – the well-being of the population should be increased in a way that facilitates the reduction of relevant environmental impacts. <http://mkogy.jogtar.hu/?page=show&docid=a15h0027.OGY>

The NNCMP contributes to the efficiency of land use. It emphasises the need to protect the landscape through the regulatory requirements of spatial planning and municipal planning tools. The **NETIS** deals with specific issues such as product technologies, process technologies, know-how, procedures, goods and services, equipment, and organisational and managerial procedures. http://kornyezettechnologia.kormany.hu/admin/download/b/4f/50000/NETIS_English.pdf

The NETIS is connected to the EU thematic Strategy on the Sustainable Use of Natural Resources, which provides a broad strategy to reduce the negative environmental impacts of using natural resources. The vision and objectives of the Strategy are to:

- foster environmental industry and technology;
- increase the share of environment-related innovations and competitiveness;
- make a paradigm shift from an end-of-pipe approach to prevention;
- increase effectiveness;
- decrease primary material use;
- increase reuse/recycling and improve resource-efficient services.

The **NFSSD** 2012–2024 addresses resource efficiency in the context of the green economy and supports investments in resource efficiency. <http://nfft.hu/assets/NFFT-ENG-web.pdf>

In the NWMP 2014–2020, one of the focus areas is the selective collection of construction waste and the improvement of resource efficiency during planning. The Waste Prevention Programme (WPP) forms part of the NWMP.

There are other strategies and policies that include resource efficiency:

- the New Széchenyi Plan for green development (http://palyazat.gov.hu/new_szechenyi_plan);

- The National Building Energy Strategy (NBES) 2015–2020, for sustainable resource use in the building sector (<http://www.kormany.hu/download/d/85/40000/Nemzeti%20E%CC%81pu%CC%88letenergetikai%20Strate%CC%81gia%20150225.pdf>);
- the National Energy Strategy 2030, for sustainable use of energy resources (<http://2010-2014.kormany.hu/download/7/d7/70000/Hungarian%20Energy%20Strategy%202030.pdf>);
- The National Energy Efficiency Action Plan until 2020 (http://www.kormany.hu/download/1/25/80000/III%20Nemzeti%20Energiahatekonysagi%20Cselekvesi%20Terv_HU.PDF);
- The National Renewable Energy Action Plan 2010–2020 (http://2010-2014.kormany.hu/download/6/b9/30000/RENEWABLE%20ENERGY_REPUBLIC%20OF%20HUNGARY%20NATIONAL%20RENEWABLE%20ENERGY%20ACTION%20PLAN%202010_2020.pdf);
- The Mineral Resources Utilization and Stock Management Action Plan 2013 (http://2010-2014.kormany.hu/download/c/6a/c0000/%C3%81CsT_02%2012.pdf);
- Draft of Danube River Basin Management Plan 2015 (RBMP 2015 - Draft) for sustainable water management (http://www.vizugy.hu/vizstrategia/documents/375DB968-DE9D-447E-AE23-F416F7CC4F5A/OVGT2_VITAANYAG_I.pdf);
- The National Reform Programme 2015 of Hungary, under the Europe 2020 Strategy (http://ec.europa.eu/europe2020/pdf/csr2015/nrp2015_hungary_en.pdf);
- The National Forest Program of Hungary 2006-2015 (<http://erdo.kormany.hu/download/9/5a/20000/Nemzeti%20Erdoprogram%20a%202006-2015%20kozotti%20idoszakra.pdf>).

The circular economy and closing material loops

Mandatory targets and measures included in EU legislation, such as mandatory waste recovery, are also obligatory in Hungary, and several strategies – including the 4th NEP, NETIS and the NWMP – include the circular economy concept.

Further voluntary approaches also exist, as Hungary identifies the circular economy as a high-priority issue, supporting the paradigm shift:

- from an end-of-pipe approach to prevention and reduced use of primary materials;
- to increased effectiveness, reuse/recycling and improved resource-efficient services.

As mentioned in the previous section, NETIS deals with specific issues, such as:

- product technologies including those that generate low or no waste and promote the prevention of pollution;

- process technologies including cleaner production technologies, moving from end-of-pipe technologies, know-how, procedures, goods and services, equipment, and organisational and managerial procedures.

The Hungarian legal system's most important task is to enforce the waste hierarchy based on the EU Waste Framework Directive, especially with regard to waste prevention and recycling.

General policy objectives for material resource efficiency

Hungary's sustainability policy involves **a group of political measures** aimed at developing resources for our descendants and stimulating investment with this in mind, as well as curbing decisions that would result in resource depletion.

National resource management must include not only restrictions, but also measures to ensure the sustainability of long-term resource supply in the case of exhaustible, non-living natural resources (mineral and energy resources), for example by establishing strategic inventories or inventory accumulation capacity, and securing multiple sources of supply. Well-being is impossible without natural resources of an appropriate quantity and quality.

The **4th NEP** establishes a framework in line with European and international initiatives and:

- sets the objective of motivating further reductions in resource consumption and thrift;
- minimises environmental impacts resulting from the extraction and use of resources, preventing environmental damage;
- by promoting the reuse and recycling of resources, supports the recycling of consumed resources into the economy;
- enhances innovation;
- builds on partnership and cooperation between the state and actors in the economy as well as other actors and ensures joint consideration of various interests.

The **NFSSD** says that environmental carrying capacity must be applied as a barrier to the economy, and sets a number of goals for natural resources.

- **Biodiversity and renewable natural resources:** conservation of Hungary's biodiversity, which is completely unique in Europe, of the landscape and natural resources, and prevention of the depletion of ecosystem services are all imperative. Maintaining the fertility of the soil, reducing the rate of building on natural areas, as well as using renewable resources on the basis of sustainable yield, are of great importance.
- **Reduction of environmental loads affecting humans:** emissions endangering human health and quality of life must be controlled and appropriately regulated.
- **Non-renewable natural resources:** rational and frugal management of mineral resources and energy sources is required.

NETIS sets several targets, based on specific areas.

- Horizontal-type technological innovations:
 - sustainable resource management;
 - improvement of resources efficiency;
 - application/use of key technologies to decrease the environmental burden of relevant sectors.
- Waste:
 - reduce waste production;
 - less hazardous waste;
 - selective collection of municipal waste;
 - recycling of paper, plastic and glass waste, recycling of demolition waste;
 - decrease organic content of municipal waste before disposal.
- Water:
 - decrease specific water use in industry and agriculture;
 - wastewater recycling as a nutrient and energy source;
 - ensure high-quality drinking water supply.
- Air:
 - improve the air quality of urban environments by decreasing transport-originated air pollution, especially emissions of particulate matter (PM₁₀);
 - decrease air pollution from households.
- Noise and vibration:
 - decrease the noise pollution in settlements;
 - vibration protection, with special attention to transport.
- Agriculture and soil protection:
 - decrease the environmental load from agriculture;
 - soil protection;
 - improve the efficiency of water use;
 - decrease the use of pesticides (enhancing sustainable pesticide use);
 - reduce soil pollution;
 - reduce waste production.
- Remediation:
 - remediation of pollution in different sectors (soil, water) and monitoring;
 - give priority to 'green' remediation.
- Renewable energy:
 - efficient use of different renewable energy resources.
- Construction industry:
 - environment-friendly construction;
 - sustainable resource management;
 - energy-efficient buildings.

Institutional set-up and stakeholder involvement

Institutional set-up for material resource efficiency policies

The development and implementation of policies on resource efficiency are coordinated at ministerial or inter-ministerial level, mainly by the Ministry of Agriculture (nature protection and biodiversity, waste management, eco-innovation), the Ministry of National Development (climate change, energy), Ministry of Interior (water) and the Ministry for National Economy (raw materials, industry). In addition to coordination at the ministerial level, agencies are set up for specific themes (Herman Ottó Institute, National Waste Management Directorate of the Environmental Protection Agency OKTF) and research institutes also support policy making and strategy development. There are also non-governmental organisations (NGOs) and universities dealing with resource efficiency issues.

Process to ensure stakeholder participation

We involve interested stakeholders – for example professional organisations/associations, NGOs and universities – in legislative procedures.

Social consultation is a mandatory and important part of the legislative process. During the period of social consultation, the document under preparation is available on the internet for everyone and they have the opportunity to make comments.

In special cases, bigger NGOs or institutions are invited to participate in direct consultation with the ministry in question.

For example, the commands of the Water Framework Directive have to be accomplished comprehensively, utilising the tools of River Basin Management Planning (RBMP) and involving the stakeholders extensively. The public participation process during establishment of the national RBMP is organised in thematic and territorial forums. <http://www.vizugy.hu/index.php?module=vizstrat&programelemid=144>.

To achieve coordinated implementation of the Water Framework Directive, we cooperate in bilateral meetings with all neighbouring countries in the Danube Basin concerning the use of transboundary water resources under the bilateral agreements that are in force.

Suggestions for international support mechanisms to exchange experience

It would be very useful to create a platform for sharing best practice between countries and to organise expert meetings. Hungary would be interested in such professional and technical cooperation.

The regularly organised Eionet webinars on the topic of waste prevention and resource efficiency are very useful and Hungary intends to participate in them in the future.

Policy instruments

Policy instruments commonly used for material resource efficiency

Regulatory instruments and economic/financial instruments

In Hungary it is especially important to determine a framework and rules in the field of the environment through regulatory and economic/financial instruments (such as waste disposal tariffs), because the number of voluntary environmental investors is very small in the profit-oriented sector.

Waste management

The aims of Hungary were to reduce waste disposal rates and increase recovery rates by introducing a landfill tax in 2013. The strategic planning of waste management is significantly influenced by EU and national waste tariffs. The current legislation in force regarding environmental tariffs (Law LXXXV/2011) regulates, among others, the target waste recovery rate (defined by the EU). National Plans for Collection and Recovery (NPCR) have been elaborated for the year 2012, 2013, 2014 and 2015. The National Waste Management Directorate of the National Inspectorate for Environment and Nature is responsible for the elaboration and efficient NPCR implementation. The Plans define, based on EU and national legislation, the desired amount of waste to be collected and recovered at national level, in the medium term and over the calendar year. The NPCR is available on the www.szelektivinfo.hu website.

The NWMP defines Hungary's waste management aims, identifies treatment problems in the different waste streams and offers solutions. The NWMP, which has been approved by Government Resolution No. 2055/2013 (XII. 31.), contains the WPP for reducing waste quantities.

Examples of good practice

The concept of a green economy has been widely disseminated among decision makers, and understanding of the idea of decoupling gross domestic product (GDP) from environmental load has been significantly increased at the national level.

Complex programmes have also been introduced in the field of waste management, with a wide range of elements, including awareness raising and the presentation and promotion of new techniques and tools for preventing waste generation, as well as for the reuse of waste.

Further programme tools including expert forums and conferences help to orientate both citizens and economic actors towards sustainable development attitudes. Conferences have covered the circular economy in practice, the state and outlook of Europe's environment, green fiscal reform and green taxes.

The OKTF National Waste Management Directorate was the national Hungarian coordinator of the **European Week for Waste Reduction (EWWR)** for the fourth time in 2014, and represented Hungary as one of the coordinating partners of the LIFE12 INF/BE/000459 project co-financed by the EU LIFE+ programme. During 2013 and 2014 our achievements went from strength to strength. The organisers generally draw attention to a given topic with the help of **Thematic Prevention Days**. In 2014 the prevention of food waste was the centre of attention. Out of the 150 registered Hungarian activities, 68 related to this topic, resulting in the prevention of 16 460 kilograms of food waste. An EWWR Award was created to reward the most outstanding initiative in each category. In 2014 two of Hungary's initiatives were among the three best international initiatives based on the decision of the international jury – in the categories of educational establishment and individual citizen. In 2015, the Ministry of Agriculture joined the EWWR in four fields of action: 1) selective waste collection; 2) reduction of office paper use; 3) reduction of packaging waste; and 4) reuse. The EWWR had great success with several programmes and campaigns, including a visit to a Waste Recovery Plant, a presentation on separate waste collection, awareness-raising posters about waste-prevention, a newsletter and information leaflets on separate waste collection, placement of new separated waste collection boxes, plastic lunch boxes to prevent everyday plastic waste, a list of repair shops, and a clothing exchange.

The Ministry of Agriculture organised the **1st Eco-innovation Conference** on 15 October 2015 in order to support sustainable development and the circular economy and encourage the involvement of interested stakeholders. The main objective was to contribute to the marketability of Hungarian innovative technologies and to improve the competitive position of Hungarian SMEs in order to reach both domestic and international markets. The one-day event provided an excellent opportunity for environmental enterprises to introduce themselves and their innovative technologies or services as well as to build a business network. During the Conference – with almost 100 participants – the programme provided insight into different topics, including the Horizon 2020 Programme, the Environment and Energy Efficiency Operational Programme (KEHOP), the Economic Development and Innovation Operation Programme (GINOP), enterprise development, innovation consulting, and Environmental Technology Verification (ETV). The Conference is expected to take place every other year.

Targets and indicators

Targets for material resource efficiency

The 4th NEP, in line with relevant EU goals and other strategies, contains specific targets related to resource efficiency, for example:

- to increase the use of construction and demolition waste to at least 70 % by volume (through preparation for reuse, recycling and other material recycling of non-hazardous construction and demolition waste);
- to increase the ratio of renewable energy resources in total gross energy consumption to 14.65 %.

NETIS is part of the Hungarian National Reform Programme's 18th measure. The vision is to foster environmental industries and technologies, focus on environmental innovation, reduce primary material use and encourage reuse and recycling, and to ensure a paradigm shift from an end-of-pipe stance on environmental issues to the prevention of problems.

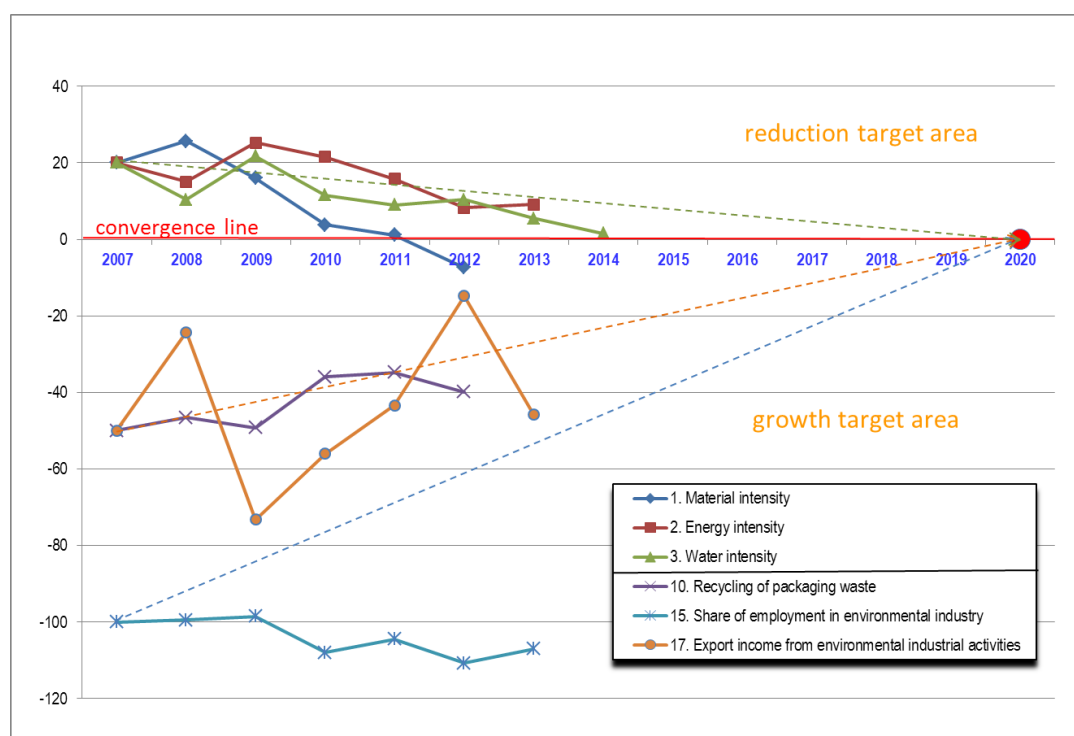
Hungary has adopted 17 targets to be achieved by 2020. These are expressed in percentage terms compared to 2007 levels (Table 1).

Table 1 Hungary's 2020 resource efficiency targets			
Indicator	Unit	Target 2020, % (2007=100%)	Overall target
1. Material intensity	DMC/GDP	80	reducing raw material consumption
2. Energy intensity	toe/GDP	80	reducing raw material consumption
3. Water intensity	m ³ /GDP	80	resource efficiency
4. Import dependence on fossil fuels	%	75	resource efficiency
5. Share of renewables in electricity production	%	275	using renewable energy sources
6. Energy efficiency of road transport	toe/tkm	80	resource efficiency
7. Energy efficiency of rail transport	toe/tkm	85	resource efficiency
8. Consumption of packaging material in trade	tonnes	75	developing waste recycling
9. Generation of municipal solid waste	kg/person	70	developing waste recycling
10. Recycling of packaging waste	%	150	developing waste recycling increasing use of secondary raw materials
11. Waste water generation	m ³	70	frugal use of resources
12. Population connected to WWTP	%	125	resource efficiency
13. Environment-related RDI expenditure by state and business sectors	GERD %	200	developing and distributing high added-value and knowledge-intensive technologies
14. Trade in energy-saving equipment	million HUF	250	frugal use of resources
15. Share of employment in environmental industry	%	200	developing and distributing high added-value and knowledge-intensive technologies
16. Environment-related patents and certifications registered	number	300	developing and distributing high added-value and knowledge-intensive technologies
17. Export income from environmental industrial activities	%	150	developing and distributing high added-value and knowledge-intensive technologies

Note: DMC = domestic material consumption; toe = tonnes of oil equivalent; tkm = tonne-kilometres; GERD = gross expenditure on research and development.

Source: NETIS

Figure 1 Distance-to-target analysis of selected indicators used for monitoring NETIS



Source: Hungary’s presentation at EEA resource efficiency webinar, 4 December 2015

It is the government’s aim that the building stock, mostly outdated as regards energy use, should be refurbished by owners as efficiently and economically as possible, whereby households’ maintenance-related overhead costs could be reduced and harmful environmental effects caused by emissions could be cut down. The National Building Energy Strategy notes that the primary energy savings target to be achieved by the renovation of residential buildings and public buildings is 40 petajoules by 2020.

Indicators to monitor the use of materials and resource efficiency

The **Hungarian Central Statistical Office (HCSO)** annually publishes nationally aggregated material flow accounts calculated using 2001 Eurostat methodology.

The relevant indicators (per unit of GDP and per person) are:

- domestic material input (DMI);
- domestic material consumption (DMC);
- domestic extraction.

These indicators are published regularly by the HCSO in two document series:

- **Environmental Snapshots of Hungary**, most recently published in 2013 (<http://www.ksh.hu/docs/eng/xftp/idoszaki/ekornyhelyzetkep13.pdf>);
- **Indicators of Sustainable Development of Hungary**, most recently published in 2015 (<http://www.ksh.hu/docs/eng/xftp/idoszaki/fenntartfejl/efenntartfejl14.pdf>).

Optional questions

Recent policy developments concerning natural resources in the broader sense of the term

The 4th NEP deals with resources such as soil and water, and provides the strategic framework for Hungarian environmental policy. The 4th NEP determines environment-related targets, tasks and monitoring and outlines environmental goals and aspects to be integrated into other policies – such as regional and sectoral policy, and the environmental performance of regional and local municipalities.

Which way should resource efficiency go in the future?

In Hungary as in other Central and Eastern European Countries, raising awareness is very important. Product design procedures should consider resource efficiency as a priority issue.