EUROPEAN
COMMISSION

Brussels, 4.4.2019
SWD(2019) 121 final

COMMISSION STAFF WORKING DOCUMENT

The EU Environmental Implementation Review 2019
Country Report - HUNGARY

Accompanying the document

Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions

Environmental Implementation Review 2019:
A Europe that protects its citizens and enhances their quality of life

{COM(2019) 149 final} - {SWD(2019) 111 final} - {SWD(2019) 112 final} -
{SWD(2019) 113 final} - {SWD(2019) 114 final} - {SWD(2019) 115 final} -
{SWD(2019) 116 final} - {SWD(2019) 117 final} - {SWD(2019) 118 final} -
{SWD(2019) 119 final} - {SWD(2019) 120 final} - {SWD(2019) 122 final} -
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{SWD(2019) 138 final} - {SWD(2019) 139 final}

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Executive summary

Hungary and the Environmental Implementation Review (EIR)

In the 2017 EIR, the main challenges identified for Hungary for the implementation of EU environmental policy and law were:

- to accelerate progress in meeting EU **waste targets**;
- to comply with EU **air quality limit values,** in particular for dust particles; and
- to complete the **Natura 2000 network** with site-specific conservation measures and ensure that the sites have adequate resources.

Hungary organised a **bilateral EIR dialogue** in April 2017 between its national authorities and Commission representatives. The discussion focused on waste management and environmental governance issues.

In 2017, the Commission launched the TAIEX-EIR Peer-to-Peer (**EIR P2P**) tool to facilitate peer learning between experts from national environmental authorities. So far, Hungary hosted two EIR P2P workshops with regard to circular economy and air quality, and participated in two others on air quality.

Progress since the 2017 report in meeting challenges

The 2019 EIR shows that for **waste management**, Hungary has made some progress in implementing measures to reach the 2020 targets. There has been a slight increase in the municipal waste recycling rate and a slight decrease in the landfilling rate. In 2012-2015, Hungary did not meet the packaging waste recycling targets, although it adopted measures to improve the recycling rate of glass packaging from 2018 onwards. Hungary has recently introduced some major reforms in the waste sector. However, the results of the structural changes in overall service management and delivery are yet to be examined after the data on performance have been submitted to Eurostat. The minimum service standards do not require that door-to-door separate collection be rolled out and the recycling targets for service operators are unlikely to act as an incentive. According to the Commission's 2018 'early warning report', Hungary is considered at risk of not meeting the 2020 municipal waste recycling target of 50 %. Meeting the post-2020 targets will require even greater efforts. In particular, Hungary should consider using effective economic instruments.

Hungary has just started to prepare a national **circular economy** action plan. The key challenges are the lack of institutional coordination and the lack of dedicated funding. Dialogues and consultation mainly involve the waste management sector.

The country has made some progress on **air quality** and there has been a steady decrease in emissions. However, additional efforts are needed to meet the targets set in the new National Emissions Ceiling Directive for 2020-2029 and for any year from 2030. Most importantly, in 2017, EU air quality standards were exceeded for nitrogen dioxide (NO_2) and for particulate matter (PM_{10}) in several air quality zones. For 2015, the European Environment Agency estimated that more than 12 800 premature deaths in Hungary were attributable to fine particulate matter concentrations, more than 530 to ozone concentrations and more than 1 300 to nitrogen dioxide concentrations. A **clean air dialogue** was held with the European Commission in Hungary in 2017. This concluded that Hungary's most urgent needs are to reduce particle emissions from burning solid fuel in private households, and to introduce short-term measures to reduce car emissions from existing vehicles in urban areas.

For **nature conservation** the number of management plans adopted for Natura 2000 sites was increased by 45 plans in 2017. Altogether 325 Natura 2000 sites have management plan in place, covering 61.9 % of all Natura 2000 sites. An additional 96 plans have been prepared and are waiting adoption, and further 20 plans are being prepared. However, these plans are not compulsory under national legislation, so there is no legal obligation to implement them.

The country faces challenges in introducing **green infrastructure**. The complexity of the issue creates difficulties also in the coordination between the various sectors and the ministries.

In the field of **water management** there have been changes and investment to achieve the good status/potential objectives set in the Water Framework Directive, but there remains a long way to go.

Examples of good practice

- The **'Ablakon Bedobott Pénz'** ('money thrown in the window') initiative provides information, advice and incentives to companies to improve resource efficiency.
- The **Ladybird Farm leisure centre** promotes a concept of sustainability, resource efficiency and circular economy.
- Hungary has a dedicated **national environmental information system** that covers almost all the environmental areas evaluated. The web portal is easy to navigate and clearly structured.

Part I: Thematic areas

1. Turning the EU into a circular, resource-efficient, green and competitive low-carbon economy

Measures towards a circular economy

The Circular Economy Action Plan emphasises the need to move towards a life-cycle-driven 'circular' economy, reusing resources as much as possible and bringing residual waste close to zero. This can be facilitated by developing and providing access to innovative financial instruments and funding for eco-innovation.

Following the adoption of the Circular Economy Action Plan in 2015 and the setting up of a related stakeholder platform in 2017, the European Commission adopted a new package of deliverables in January 2018[1]. This included additional initiatives such as: (i) an EU strategy for plastics; (ii) a Communication on how to address the interplay between chemical, product and waste legislation; (iii) a report on critical raw materials; and (iv) a framework to monitor progress towards a circular economy[2].

Hungary's fourth (2015-2020) national environmental programme is a strategic six-year plan for environmental and nature protection. It encompasses several different strategies[3] and could therefore be a good starting point for the transition towards a circular economy. This programme identifies resource efficiency as a priority.

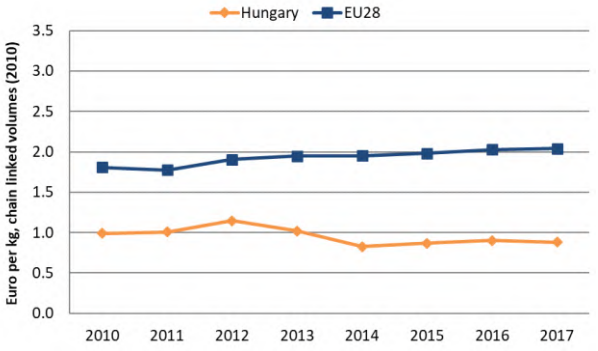
Hungary set out its national smart specialisation strategy[4] in 2014 with clean and renewable energies and sustainable environment as priority areas.

In the 2017 Special Eurobarometer 468 on attitudes of EU citizens towards the environment, 84 % of Hungarian people said they were concerned about the effects of plastic products on the environment (EU-28 average 87 %). 89 % said they were worried about the impact of chemicals (EU-28 average 90 %)[5]. Hungarian society appears to support circular economy initiatives and environmental protection measures.

Examining the 10 indicators in the circular economy monitoring framework, in 2016, the circular (secondary) use of material in Hungary was 6.4 % — an increase on previous years (EU-28 average 11.7 %)[6]. Hungary is above the EU average on the number of people employed in the circular economy (1.93 % of total employment in 2016 compared to an EU average of 1.73 %).

Hungary is below the EU average for resource productivity (how efficiently the economy uses material resources to produce wealth)[7], with 0.88 EUR/kg in 2017 (EU average 2.04 EUR/kg). Figure 1 shows a slight decrease since 2012.

Figure 1: Resource productivity 2010-2017[8]



As of September 2018, Hungary had only 33 products and 15 licences registered in the EU Ecolabel scheme, out of a total of 71 707 products and 2 167 licences in the EU, showing a low uptake of these licences[9]. 28 organisations from 50 sites in Hungary were registered in EMAS (the European Commission's Eco-Management and Audit Scheme[10]) as of May 2018.

In the 2017 EIR, a suggested action for Hungary was to develop an overarching circular economy policy framework. However, there are key challenges in this process, in particular the lack of institutional coordination and the lack of dedicated funding. Initial dialogues and consultation mainly involve the waste management sector. In spring 2018, the Ministry of Agriculture's Department for Environmental

[1] European Commission, 2018 Circular Economy Package.
[2] COM(2018) 029.
[3] including the Strategy for the Countryside, the National Forest Programme and Strategy, the National Energy Efficiency Action Plan, the National Renewable Energy Action Plan, the National Climate Change Strategy, the National Transport Strategy and also the National Concept of Development and Spatial Planning.
[4] National Smart Specialisation Strategy.
[5] European Commission, 2017, Special 486 Eurobarometer, 'Attitudes of European citizens towards the environment'.
[6] Eurostat, Circular Economy Indicators.
[7] Resource productivity is defined as the ratio between gross domestic product (GDP) and domestic material consumption (DMC).
[8] Eurostat, Resource productivity.
[9] European Commission, Ecolabel Facts and Figures.
[10] European Commission, Eco-Management and Audit Scheme.

Development and Strategy submitted the proposal to prepare a circular economy action plan and an inter-ministerial expert group was set up to this end. The Hungarian Ministry of Agriculture hosted a TAIEX-EIR Peer 2 Peer workshop on 17-18 May 2018. Experts from Finland, the Netherlands and Slovenia, which are more advanced in this process, shared their experiences with government experts from Hungary, the Czech Republic, Slovakia and Poland. Since mid-2018, the circular economy related questions no longer belong to the Ministry of Agriculture (except for the ones specially related to agriculture), but to the Ministry for Innovation and Technology.

Hungary has several initiatives to provide information, advice and incentives to companies on resource efficiency. The 'Ablakon Bedobott Pénz' ('money thrown in the window') initiative was launched by the KÖVET Association in 2002 to prove that environmental measures and the economy are mutually beneficial[11]. Thanks to this initiative, by 2017, 534 measures were carried out by 99 organisations. This resulted in total savings of nearly EUR 123 million, 20 million m^3 of water, 882 GWh of electricity and 565 000 tonnes of CO_2.

The Ladybird Farm leisure centre is another example of good practice. This initiative encourages a lifestyle that is in harmony with nature and the environment, mainly through the extensive use of renewable energy sources. The centre gets 80 % of its energy needs from sustainable sources. The Ladybird Farm considers social value to be as important as financial profit. It therefore introduced the 'pay by waste' concept, whereby visitors can pay a part of their entrance fee using household waste, such as paper[12].

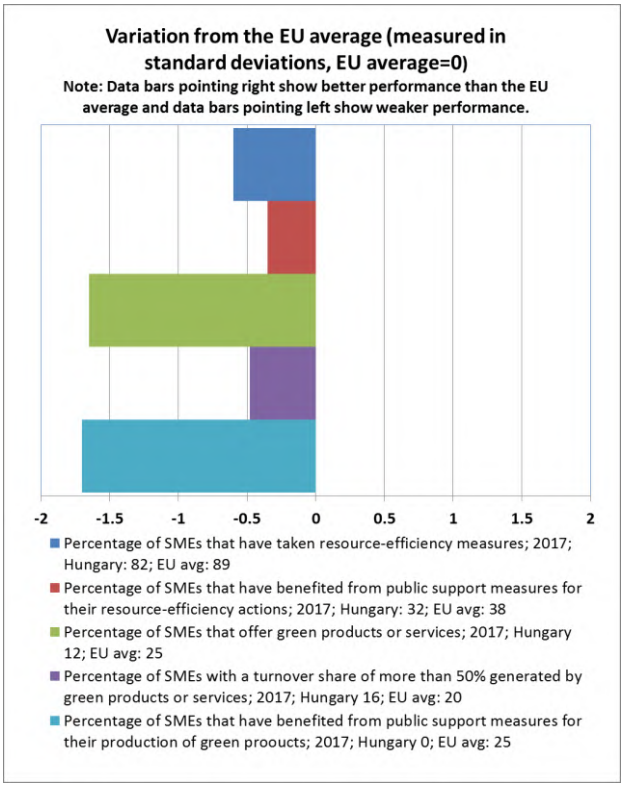
SMEs and resource efficiency

The Hungarian business community's interest in investing in resource efficiency is steady, but informing businesses of available opportunities is a challenge.

Hungarian SMEs continue to be below the EU-28 average in the environmental dimension of the small business act (see Figure 2). The proportion of Hungarian SMEs that take resource-efficiency measures is still below the EU average, as is the proportion of SMEs that offer green products and services. Moreover, the share of SMEs that have benefited from public support measures for the production of their green products fell from 15 % in 2015 to 0 % in 2017.

The latest Eurobarometer on 'SMEs, resource efficiency and green markets'[13] asked companies about both recent resource-efficiency actions they had taken and additional resource-efficiency actions they planned to take in the next 2 years. The Eurobarometer then compared these responses with responses given to the same questions in 2015. The proportion of Hungarian companies that took resource-efficiency measures is still below the EU-28 average, but is largely stable except for the categories 'saving materials' and 'minimising waste'. The findings were the same for Hungarian companies' ambitions to invest in resource-efficiency measures in the near future —stable but below the EU average.

Figure 2: Environmental performance of SMEs[14]



19 % of Hungarian companies relied on external support in their efforts to be more resource-efficient (EU average 22 %). For advice, 24 % of them used private sector consultancy, 17 % used business associations and 16 % used public administrations. All three are below the EU average. For financing, 41 % of companies used private sector funding and 18 % used public grants or loans. Most companies in the EU (36 % of them) regard grants and subsidies as the biggest help in becoming resource-efficient, followed by technical or financial consultancy,

[11] Ablakon Bedobott Pénz
[12] Katica tanya | Élményközpont
[13] Flash Eurobarometer 456 'SME, resource efficiency and green markets' January 2018. The 8 dimensions were Save energy; Minimise waste; Save materials; Save Water; Recycle by reusing material internally; Design products easier to maintain, repair or reuse; Use renewable energy; Sell scrap materials to another company.
[14] European Commission, 2018 SBA fact sheet - Hungary, p. 17.

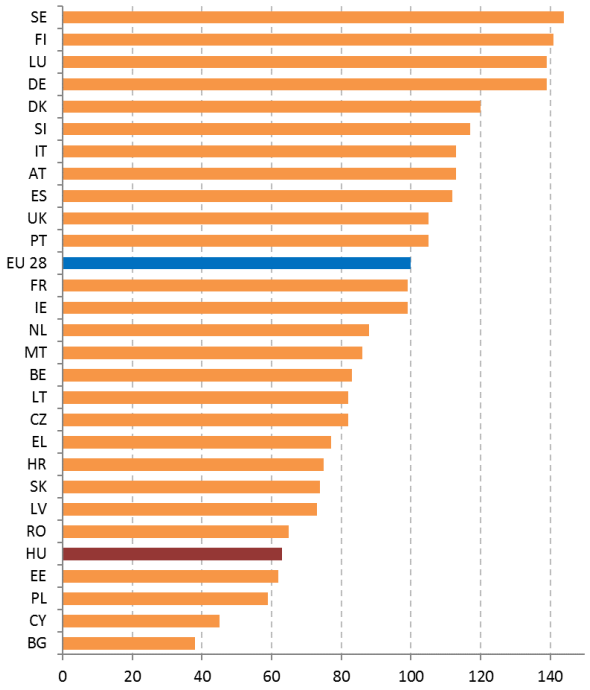
technology demonstration or better cooperation among companies (these were found helpful by 20-23 % of surveyed companies). 20 % of companies say that none of these options would help.

Among Hungarian companies, grants and subsidies are mentioned by 45 % as useful help. Only 12 % rate technical consultancy as useful and only 13 % rate financial consultancy as useful — the second and fourth lowest rates in the EU-28. 21 % of Hungarian companies support technology demonstration (EU average 22 %). Only 4 % and 6 %, are in favour of self-assessment tools or databases of case studies, respectively. 26 % don't consider any type of support to be useful (EU average 20 %).

Eco-innovation

Hungary ranked 21st on the 2018 European Innovation Scoreboard, being the 10th slowest-growing innovator (a 0.1 % decrease since 2010)[15]. With a total score of 63 in the overall 2017 Eco-innovation Scoreboard, Hungary ranked 24th in the EU. This position is similar to the other EU Member States that joined the EU in 2004.

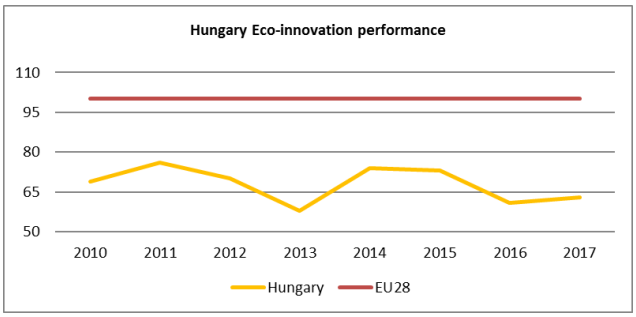
Figure 3: 2017 Eco-innovation index (EU=100)[16]



Since 2010, Hungary's eco-innovation performance has been below the EU average, although it took its most significant step back (of seven places) in 2015 when it ranked 17th among the 28 EU countries.

The national strategy on research and innovation (NKIS, 2011) lists the need to 'green' the tax system, to encourage green public procurement and to streamline the support schemes covered by its economic instruments. However, these are still being developed.

Figure 4: Hungary's eco-innovation performance[17]



The national environmental technology innovation strategy (2011-2020)[18], which includes 17 targets for sustainable resource management for 2020, shows how efforts are being made to include resource efficiency and circular economy considerations into some sectoral policies[19].

The green economy development programme[20] prioritises green energy, energy efficiency, green education, employment, and green research and innovation. Environmental technology innovation is important for achieving the national climate change strategy 2008-2025 (NCCS) goals.

In 2015, the national research and innovation office published a call for proposals for Hungarian SMEs wishing to receive innovation and R&D services under an innovation voucher scheme to increase their innovation activities[21].

2019 priority actions

- Strengthen the policy framework to speed up the uptake of the circular economy by all economic sectors, especially concerning water and energy savings, waste reduction, the recycling of materials, eco-design and/or the uptake of secondary raw materials market; raise awareness within the general public and private sector on circular economy principles and products.
- Adopt circular economy principles incentivising resource efficiency measures and increasing recycling and the use of eco-design in the SME sector, promoting green jobs, eco-innovation

[15] European Commission, European innovation Scoreboard 2018.
[16] Eco-innovation Observatory: Eco-Innovation scoreboard 2017.
[17] Eco-innovation Observatory: Eco-Innovation scoreboard 2017.
[18] Nemzeti Környezettechnológiai Innovációs Stratégia (2011-2020).
[19] OECD Environmental Performance Reviews, Hungary 2018.
[20] Zöldgazdaság-fejlesztési Program.
[21] European Commission, Eco-Innovation Observatory: Eco-innovation Country Profiles 2016-2017.

performance and investments in green products and services.

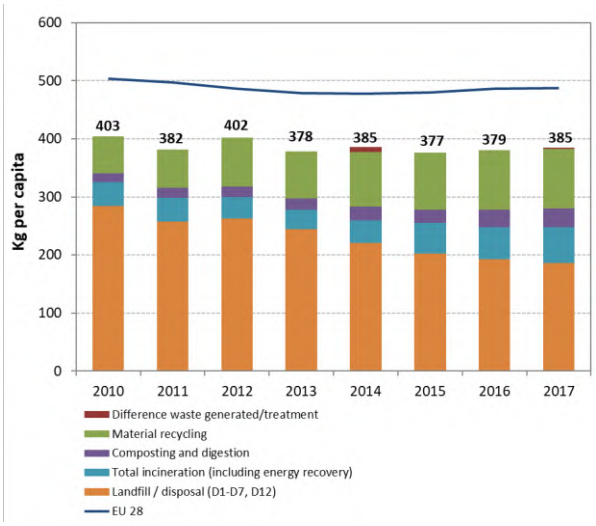
Waste management

Turning waste into a resource is supported by:
(i) fully implementing EU waste legislation, which includes the waste hierarchy, the need to ensure separate collection of waste, the landfill diversion targets, etc.;
(ii) reducing waste generation and waste generation per capita in absolute terms; and
(iii) limiting energy recovery to non-recyclable materials and phasing out landfilling of recyclable or recoverable waste.

This section focuses on management of municipal waste[22] for which EU law sets mandatory recycling targets[23].

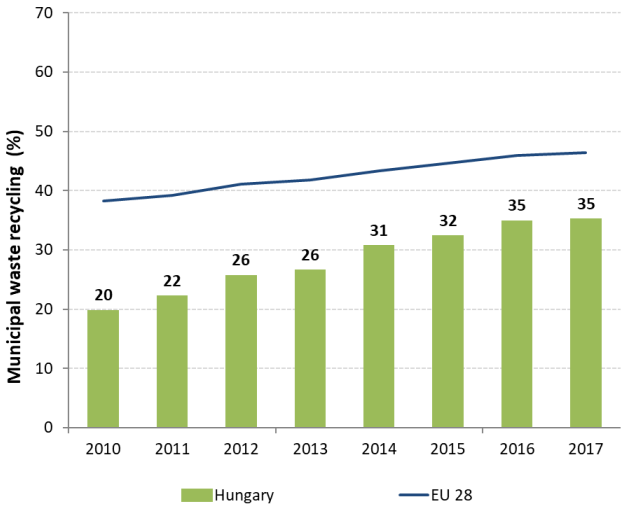
As shown in Figure 5, municipal waste generation in 2017 has slightly increased compared to 2013 (from 378 kg/y/inhabitant to 385 kg/y/inhabitant). However, Hungary remains below the EU-28 average of 487 kg/y/inhabitant[24]. In addition, recycling rates have increased and landfilling has decreased.

Figure 5: Municipal waste by treatment in Hungary 2010-2017[25]



Although it is slowly rising, the recycling rate of municipal waste is still not adequate. The rate is only 35 %, which includes a composting rate of only 8 % of municipal waste generated. This is well below the EU average of around 46 %. More efforts are needed if Hungary is to meet the 2020 target of 50 % of municipal waste recycling[26]. In the Commission's 'early warning report' Hungary is among the countries considered at risk of missing this target[27]. An even greater effort is needed to meet the post-2020 recycling targets[28].

Figure 6: Recycling rate of municipal waste 2010-2017[29]



Despite a 16 % drop since 2013, landfilling is still a predominant form of municipal waste treatment in Hungary (48 % vs the EU average of around 28 %). In 2012-2015, Hungary did not meet the packaging waste recycling target of 55 %. The rate hovered around 50 % during this period, while the packaging recovery rate dropped slightly below the mandatory level of 60 %.

There are no systems in place in Hungary for the separate collection of food waste from households. However, the government is taking policy measures to increase the collection of glass packaging as it has not met its recycling target in this area since 2012. From 1 January 2018, there is a legal requirement for shops bigger than 300 m^2 to

[22] Municipal waste consists of mixed waste and separately collected waste from households and from other sources, where such waste is similar in nature and composition to waste from households. This is without prejudice to the allocation of responsibilities for waste management between public and private sectors.
[23] See Article 11.2 of Directive 2008/98/EC. This Directive was amended in 2018 by Directive (EU) 2018/851, and more ambitious recycling targets were introduced for the period up to 2035.
[24] Eurostat, Municipal waste generation and treatment, by type of treatment method.
[25] Eurostat, Municipal waste by waste operations.
[26] Member States may choose a different method than the one used by ESTAT (and referred to in this report) to calculate their recycling rates and track compliance with the 2020 target of 50 % recycling of municipal waste.
[27] European Commission, Report on the implementation of waste legislation, including the early warning report for Member States at risk of missing the 2020 preparation for re-use/recycling target on municipal waste, SWD(2018)419 accompanying COM(2018) 656.
[28] Directive (EU) 2018/851, Directive (EU) 2018/852, Directive (EU) 2018/850 and Directive (EU) 2018/849 amend the previous waste legislation and set more ambitious recycling targets for the period up to 2035. These targets will be taken into consideration to assess progress in future Environmental Implementation Reports.
[29] Eurostat, Recycling rate of municipal waste.

take back glass packaging[30]. The related implementing rules entered into force on 1 June 2018[31]. On construction and demolition waste, work to prepare a new government decree began in June 2018.

Hungary has recently introduced major waste sector reforms. A state-owned company called the National Waste Management Coordination and Asset Management Company (Nemzeti Hulladékgazdálkodási Koordináló és Vagyonkezelő Zrt.) has been coordinating and overseeing the delivery of waste services at local level since 2016. NHKV is responsible for distributing waste fees to the relevant operators and also for selling recyclable materials, supervising infrastructure spending and the use of EU funds.

Hungary's 2014-2020 national waste management plan, adopted in 2013, has been under revision since the 2017 EIR. One reason was so that it could take account of the requirements of the new EU circular economy package, which was adopted in the meantime. There are no results on this exercise so far.

For streams of waste dealt with by public service providers (mostly municipal waste), Hungary's national waste management plan is complemented by its annual national waste management service plans. As the 2016 version, the 2017 national waste management service plan[32] sets minimum standards for service providers. In addition, Hungary recently introduced a service fee to cover the costs of the waste collection service. If the minimum standards are exceeded, the service providers receive an additional payment, but if the standards are not met, their fees are deducted. Building on the 2016 plan, the new plan sets obligations for public service providers, such as separate collection of green waste from apartment blocks and pre-treatment requirements for various waste types (e.g. aerosols). With the new plan, the amount of pre-treated municipal waste to be landfilled cannot exceed 55 % of the total amount of such waste (compared to the previous 65 %).

The new service standards have resulted in considerable consolidation, with the number of Hungary's waste service delivery companies decreasing from approximately 140 to around 25. In addition, since 2013, only those companies with a minimum of 51 % ownership by the state or municipality are allowed to carry out the collection services. Along with the development of the state company, these measures have reduced the role of the private sector in the country's service delivery in recent years.

The recent structural changes in service management and delivery are not yet reflected in the performance data submitted to Eurostat. The new system is still being rolled out at local level and this will continue in the next few years. Note that Hungary's minimum service standards do not require that door-to-door separate collection is put in place. Therefore, the service providers' recycling targets are unlikely to provide a sufficient incentive to increase the country's recycling rate. In addition, the residual waste is generated at a faster rate than the country's recycling services can deal with. In the absence of other financial incentives (such as a 'pay-as-you-throw' scheme) or a convenient waste collection service, recycling rates are very likely to fall.

Hungary also needs to reconsider using effective economic instruments. It has no current plans to increase the landfill fee, as had been initially planned. It is questionable if the current fee of EUR 20/tonne can drive the necessary change[33]. In addition, no residual waste tax is being proposed. The theory is that the financial incentive to recycle will be provided through the new funding system operated by the NHKV (described above). However, this incentive is not thought to be enough to cover the likely costs of providing a more frequent service.

To help bridge the implementation gap in Hungary, the Commission has prepared a roadmap for compliance[34] and has given recommendations in its 'early warning report' on how Hungary can meet the 2020 municipal waste recycling target. Implementing these recommendations is even more important if Hungary is to meet the post-2020 recycling and landfill targets set out in the revised Waste Directives.

Preventing and reducing waste generation and increasing reuse and recycling could make the country more resource-efficient and increase business opportunities. It could also help the transition to a circular economy by providing jobs in the recycling sector.

2019 priority actions

- Gradually increase landfill taxes to phase-out landfilling of recyclable and recoverable waste. Use the revenues for measures that improve waste management, in line with the waste hierarchy.
- Focus on implementation of the separate collection obligation to increase recycling rates, including collection of bio-waste. Develop and implement minimum service standards and support programmes for municipalities.

[30] Act CLXXXV of 2012, as amended.
[31] Government Decree 442/2012. (XII. 29.), as amended.
[32] OHKT 2017, adopted by Government Decree 2003/2017 (XII.22.).
[33] The landfill tax increased from EUR 10/t (2013) to EUR 20/t (2014) and it remained at that level since then.
[34] European Commission, 2016. Support to Implementation. Country factsheet Hungary.

- Improve the functioning of Extended Producer Responsibility Systems, in line with the general minimum requirements[35].

Climate change

The EU has committed to undertaking ambitious climate action internationally as well as in the EU, having ratified the Paris Climate Agreement on 5 October 2016. The EU targets are to reduce greenhouse gas (GHG) emissions by 20 % by 2020 and by at least 40 % by 2030, compared to 1990. As a long-term target, the EU aims to reduce its emissions by 80-95 % by 2050, as part of the efforts required by developed countries as a group. Adapting to the adverse effects of climate change is vital to alleviate its already visible effects and improve preparedness for and resilience to future impacts.

The EU emissions trading system (EU ETS) covers all large greenhouse gas emitters in the industry, power and aviation sectors in the EU. The EU ETS applies in all Member States and has a very high compliance rate. Each year, installations cover around 99 % of their emissions with the required number of allowances.

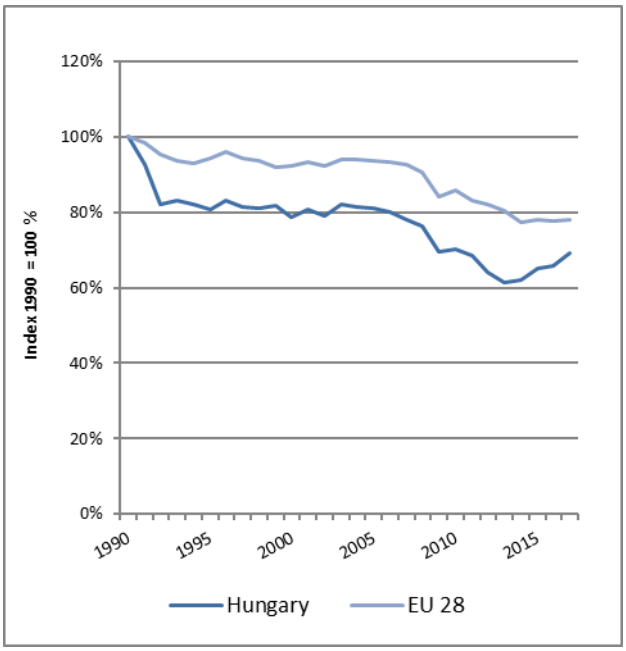
For emissions not covered by the EU ETS, Member States have binding national targets under the Effort Sharing legislation. Hungary had lower emissions than its annual targets in each of the years 2013-2017. For 2020, Hungary's national target under the EU Effort Sharing Decision is to avoid increasing emissions by more than 10 % compared to 2005. For 2030, Hungary's national target under the Effort Sharing Regulation will be to reduce emissions by 7 % compared to 2005.

Transport represents almost a quarter of Europe's greenhouse gas emissions and is the main cause of air pollution in cities. Transport emissions in Hungary increased by 24 % from 2013 to 2016.

The Regulation on fluorinated greenhouse gases (F-gas) requires Member States to run training and certification programmes, to introduce rules for penalties and to notify the Commission on these measures by 2017. Hungary has fulfilled the notification requirement.

The accounting of GHG emissions and removals from forests and agriculture is governed by the Kyoto Protocol. Reported quantities under the Kyoto Protocol for Hungary show net removals of, on average, -4.0 Mt CO_2-eq for the period 2013 to 2016. In this regard Hungary contributes with 1.0 % to the annual average sink of -384.4 Mt CO_2-eq of the EU-28. Accounting for the same period depicts net credits of, on average, -2.9 Mt CO_2-eq, which corresponds to 2.5 % of the EU-28 accounted sink of -115.7 Mt CO_2-eq. Reported net removals and accounted net credits show an increase between 2013 and 2015 and a sharp decrease for 2016.[36]

Figure 7: Change in total greenhouse gas emissions 1990-2017 (1990=100 %)[37].



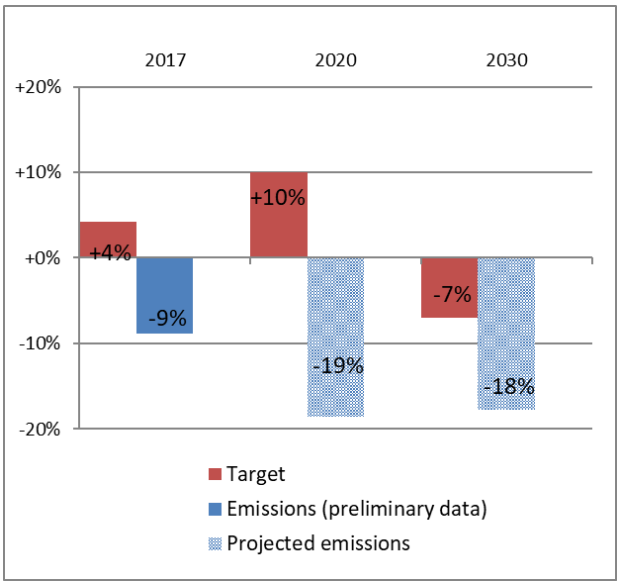
The EU Strategy on adaptation to climate change, adopted in 2013, aims to make Europe more climate-resilient, by promoting action by Member States, better-informed decision making, and promoting adaptation in key vulnerable sectors. By adopting a coherent approach and providing for improved coordination, it seeks to enhance the preparedness and capacity of all governance levels to respond to the impacts of climate change.

[35] Set out in Directive (EU) 2018/851 amending Directive 2008/98/EC.

[36] COM (2018) 716 and SWD (2018) 453.

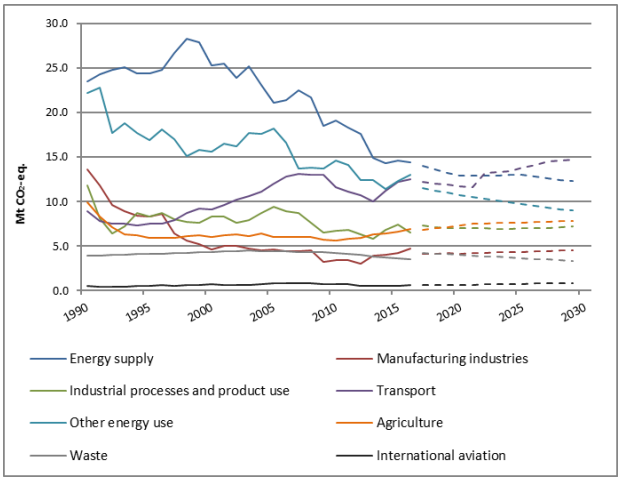
[37] Annual European Union greenhouse gas inventory 1990–2016 (EEA greenhouse gas data viewer). *Proxy GHG emission estimates for 2017. Approximated EU greenhouse gas inventory 2017* (European Environment Agency). Member States national projections, reviewed by the European Environment Agency.

Figure 8: Targets and emissions for Hungary under the Effort Sharing Decision and Effort Sharing Regulation[38].



Hungary adopted its National Energy Efficiency Action Plan in 2015.[39] The National Energy Strategy 2030[40] and the National Renewable Energy Action Plan 2010-2020[41] aim at reducing Hungary's energy dependence, and seek to boost the share of renewable energy sources.

Figure 9: Greenhouse gas emissions by sector (Mt. CO2-eq.). Historical data 1990-2016. Projections 2017-2030[42].



[38] *Proxy GHG emission estimates for 2017Approximated EU greenhouse gas inventory 2017* (European Environment Agency). Member States national projections, reviewed by the European Environment Agency.
[39] Magyarország Nemzeti Energiahatékonysági Cselekvési Terve 2020-ig.
[40] Nemzeti Energiastratégia 2030.
[41] Magyarország Megújuló Energia Hasznosítási Cselekvési Terve 2010-2020.
[42] Annual European Union greenhouse gas inventory 1990–2016 (EEA greenhouse gas data viewer). *Proxy GHG emission estimates for 2017. Approximated EU greenhouse gas inventory 2017* (European Environment Agency). Member States national projections, reviewed by the European Environment Agency.

The second National Climate Change Strategy (NCCS-2) was adopted by the Parliament in October 2018 for the period 2018-30.[43] The NCCS-2 contains an outlook to 2050, taking into account the objectives of the Paris Agreement, and is based on three pillars: mitigation of GHG emissions across all economic sectors; adaptation to climate change; and implementation of the strategy by raising public awareness on climate change issues. Main areas of interventions are: energy efficiency in buildings, renewable energy use, transport and environment, and afforestation. The first NCCS contains projections and incentives concerning adaptation in the following sectors: natural environment, health, water management, agriculture, crop and livestock management, forest management, regional development, human/built environment. NCCS-2 would add to the list regional development, urban planning, green infrastructure, critical infrastructure and tourism. The NCCS-2 is complemented by three other strategic documents: the National Decarbonisation Roadmap provides guidelines for reductions of GHG emissions in the different economic sectors; the National Adaptation Strategy analyses environmental risks and climate security issues posed by climate change and related impacts on rural development, water resources management, environmental health, energy policy and tourism; the Climate Awareness Plan supports implementation of the NCCS-2 through analysis, research and dissemination of information[44].

The total revenues from the auctioning of emission allowances under the EU ETS over the years 2013-2017 were EUR 338 million.

In the Carpathian basin the warming was 1-1.25 degree between 1851 and 2013, thus Hungary is significantly exposed to climate change. The summer big discharges will probably decrease, while the winter discharges will not change significantly. The frequency of the extreme intensity precipitation will expectedly grow, which will increase the risk of extreme floods. It is also expected that the flash floods on smaller water courses will increase. Low water levels in still waters will be more frequent, which through the rising of water temperature will worsen water quality. Decrease of the intake of the lakes and increase of the evaporation can be expected, which projects the increase of the numbers of the years with a deficit water balance, the worsening of the lakes' water-exchange activity. Due to decreasing infiltration or supply, the regional sinking of the level of the shallow sub-surface waters can be expected (for instance the Duna-Tisza köze Sand Ridge and the Nyírség). [45]

[43] Second National Climate Change Strategy, 2018.
[44] OECD Environmental Performance Reviews, Hungary 2018
[45] Nemzeti Vízstratégia – Kvassay Jenő Terv.

An operational drought and water scarcity management system is currently under development in Hungary. Based on meteorological and soil moisture data measured by monitoring stations, it will serve as the water sector's damage control during water-scarce periods but also could be utilised by the agriculture.

2019 priority action

In this report, no priority actions have been included on climate action, as the Commission will first need to assess the draft national energy and climate plans which the Member States needed to send by end of 2018. These plans should increase the consistency between energy and climate policies and could therefore become a good example of how to link sector-specific policies on other interlinked themes such as agriculture-nature-water and transport-air-health.

2. Protecting, conserving and enhancing natural capital

Nature and biodiversity

The EU biodiversity strategy aims to halt the loss of biodiversity in the EU by 2020. It requires full implementation of the Birds and Habitats Directives to achieve favourable conservation status of protected species and habitats. It also requires that the agricultural and forest sectors help to maintain and improve biodiversity.

Biodiversity strategy

Hungary adopted a revised biodiversity strategy[46] in 2015. The strategy aims to halt the loss of biological diversity and to stop any further decline in Hungary's ecosystem services by 2020 and to improve their status as much as possible. These aims can only be achieved if biodiversity conservation aspects are integrated into cross-sectoral policies, strategies and programmes and their implementation.[47]

Hungary's national biodiversity strategy focuses on six policy areas: protecting areas and species that are subject to nature conservation; maintaining the diversity of the landscape; green infrastructure and ecosystem services; agriculture-related issues; managing forests and game sustainably and protecting the country's water resources; combating invasive alien species /non-indigenous species; ensuring Hungary's role in fulfilling the obligations arising from international biodiversity protection agreements[48].

Setting-up a coherent network of Natura 2000 sites

Hungary hosts 46 habitat types and 142 species covered by the Habitats Directive. The country also hosts populations of 78 bird species listed in the Birds Directive and 23 migratory species. In 2018, 21.44 % of the national land area of Hungary was covered by Natura 2000 sites (EU average 18.1 %), with 56 special protection areas under the Birds Directive, covering 14.78 % of the country's land area (EU average 12.3 %) and 479 sites of Community importance under the Habitats Directive, covering 15.25 % of land area (EU average 13.8 %).

The Birds and Habitats Directives require Member States to establish a coherent national network of Natura 2000 sites. The Commission assesses compliance with this requirement individually for each species and habitat type occurring on the national territory of the Member States. The latest update of this assessment was carried out by the Commission with the assistance of the European Environment Agency. On the basis of this latest update, Hungary's Natura 2000 network is now considered to be complete.

Designating Natura 2000 sites and setting conservation objectives and measures

In Hungary, the legal framework for Natura 2000 sites is established by a government decree. This decree regulates the preparation process for designating a site, in line with the detailed Natura 2000 rules[49].

By the end of 2013, Hungary had designated all sites as special areas of conservation under Article 4(4) of the Habitats Directive. In May 2018, 325 Natura 2000 sites (61,9 % of the total) had management plans in place, an additional 96 plans were prepared and waiting for adoption, and further 20 plans are under preparation. Under national legislation, these plans are not mandatory and there is no legal obligation to implement them. Therefore, their implementation cannot be enforced, but depends, for example, on agri-environmental subsidies as well as stakeholder involvement. The directorates of 10 national parks are responsible for managing the Natura 2000 sites and enforcing the nature legislation, under the supervision of the Ministry of Agriculture.

[46] National Strategy for the Conservation of Biodiversity (2015-2020).
[47] There is an ongoing project (2016-2020) „Strategic assessments supporting the long-term conservation of natural values of Community interest as well as the national implementation of the EU Biodiversity Strategy to 2020" which aims at defining the current status and socio-economical value of natural resources, developing a toolkit for long-term preservation of natural assets and supporting the sectoral strategic planning.
[48] Green Infrastructure in Hungary
[49] Government Decree 275/2004 (X.8.).

Progress in maintaining or restoring favourable conservation status of species and habitats

The 2017 EIR referred to the latest available reports by the Member States on the conservation status of habitats and species which were from 2012. New data will be available for the next EIR.

2019 priority actions

- Put in place clearly defined conservation objectives and the necessary conservation measures for the sites. Ensure adequate financial and human resources to manage the sites.
- Develop and promote smart and streamlined implementation approaches, in particular as regards appropriate assessment procedures and species permitting procedures, ensuring the necessary knowledge and data availability and strengthen communication with stakeholders.

Maintaining and restoring ecosystems and their services

The EU biodiversity strategy aims to maintain and restore ecosystems and their services by including green infrastructure in spatial planning and restoring at least 15 % of degraded ecosystems by 2020. The EU green infrastructure strategy promotes the incorporation of green infrastructure into related plans and programmes.

The EU has provided guidance on the further deployment of green and blue infrastructure in Hungary[50] and a country page on the Biodiversity Information System for Europe (BISE)[51]. This information will also contribute to the final evaluation of the EU Biodiversity Strategy to 2020.

In Hungary, green infrastructure is mainly implemented in spatial planning policies through the national ecological network. The 2003 Act on National Spatial Planning sets rules for each of the ecological network's activities and provides guidance for certain sectors such as the energy industry. The definition of green infrastructure is very broadly interpreted. Despite the challenges in coordination caused by the complexity of approaches and the broad interpretation, there is a willingness to develop green infrastructure.

There are various possibilities for financing green infrastructure, for example EU funding tools such as the European Regional Development Fund (ERDF) or LIFE. The unified national research, development and innovation fund provides state support for research, development and innovation in environmental fields, particularly for researching and developing green infrastructure.

Green infrastructure in urban policy is encouraged through 'green city' calls published by the Territorial and Settlement Development Operational Programme. Hungary's 'Green City' initiative focuses on greening measures in general and creates green spaces in cities. Miskolc, the first city involved in this initiative, integrates green infrastructure in urban spatial planning and builds its urban development strategy and concrete actions around sustainability.

Green infrastructure is implemented in water management through the Danube river basin district management plan. The 2017-2026 national landscape strategy also encourages green infrastructure[52]. It provides a framework for the complex preservation, protection, planning and development of green infrastructure elements[53]. However, green infrastructure still needs to be implemented in sector-specific policies such as forest management or disaster risk reduction.

Hungary participates in several trans-border projects that promote green infrastructure, such as: (i) the TRANSGREEN project (2017-2019)[54] to develop an environmentally-friendly and safe transport network; and (ii) the 'INSiGHTS' Integrated slow, green and healthy tourism strategies project[55], with partners in the Danube region.

One element of a national initiative on the mapping and assessment of ecosystems and their services (MAES), under preparation within the Environment and Energy Efficiency Operational Programme (EEEOP), deals with the main questions of green infrastructure. A strategic framework will be worked out to lay down the priorities for restoration of degraded ecosystems, the mapping of currently existing green infrastructure system, identifying its conflict areas and possible development directions will be carried out. An essential goal is to set out the methods of integrating the whole project's results into administrative procedures. Besides the methods on national level, the project will also work on methods for developing and preserving green infrastructure on settlement level in selected pilot areas.

[50] The recommendations of the green infrastructure strategy review report and the EU Guidance on a strategic framework for further supporting the deployment of EU-level green and blue infrastructure.
[51] Biodiversity Information System for Europe.
[52] Governmental Decision 1128/2017. (III.20.).
[53] Green Infrastructure in Hungary.
[54] http://www.interreg-danube.eu/approved-projects/transgreen.
[55] http://www.interreg-danube.eu/approved-projects/insights.

Estimating natural capital

The EU biodiversity strategy calls on Member States to map and assess the state of ecosystems and their services[56] in their national territories by 2014, assess the economic value of such services and integrate these values into accounting and reporting systems at EU and national level by 2020.

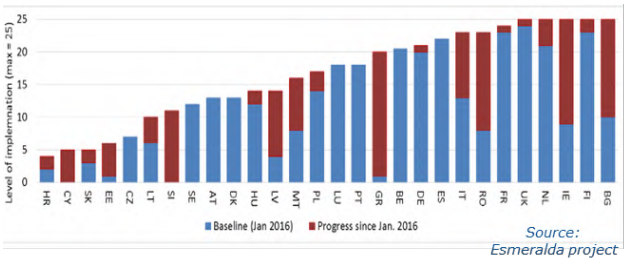
The national initiative on the mapping and assessment of ecosystems and their services within the EEEOP has finished the scoping phase and started the implementation phase. In 2018, the first version of a National Ecosystem Map has been created. The classification system meets the MAES requirements.

The involvement of key stakeholders like Institute of Ecology of the Academy, the Agriculture & Economy Institute and the Soil Institute of the Academy and the Department of Geodesy Remote Sensing and Land Offices ensures the highest professional level both scientifically and technically. Within the project a slightly modified MAES classification has been used during a prioritisation process.

As a result 13 ecosystem services for assessment have been selected. The selection of indicators and scoping of ecosystem services are under way. The assessment and mapping of ecosystem services are planned for 2019 and 2020.

The EU ESMERALDA project[57] has been providing 6-monthly assessments of country progress on the mapping and assessment of ecosystems and their services, based on 27 implementation questions. However, the assessment of progress for Hungary cannot be completed until the information is presented in the workshop of March 2019.

Figure 10: Implementation of MAES, Hungary (September 2018)



Business and biodiversity platforms, networks and communities of practice are key tools for promoting and facilitating natural capital assessments among business and financial service providers, for instance via the Natural Coalition's protocol[58]. The assessments contribute to the EU biodiversity strategy by helping private businesses to better understand and value both their impact and dependence on nature. Biodiversity platforms have been established at EU level[59] and in a number of Member States. Hungary has not yet established such a platform.

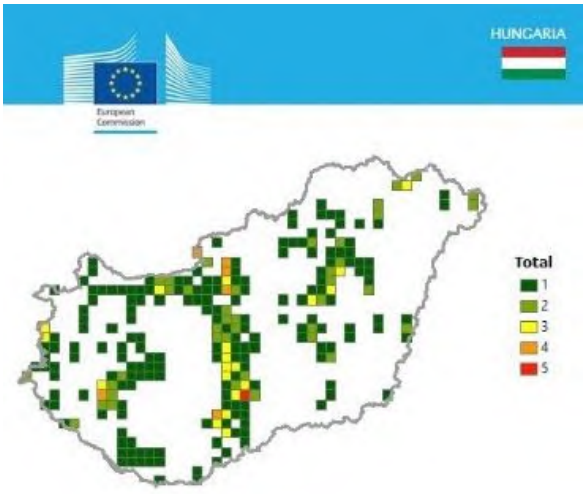
2019 priority action

- Continue supporting the mapping and assessment of ecosystems and their services, evaluation and development of natural capital accounting systems.

Invasive alien species

Under the EU biodiversity strategy, the following are to be achieved by 2020:
(i) invasive alien species identified;
(ii) priority species controlled or eradicated; and
(iii) pathways managed to prevent new invasive species from disrupting European biodiversity.
This is supported by the Invasive Alien Species (IAS) Regulation, which entered into force on 1 January 2015.

Figure 11: Number of IAS of EU concern, based on available georeferenced information for Hungary[60]



The report on the baseline distribution of invasive alien species (Figure 11), for which Hungary did not review its country or grid-level data, shows that 16 of the 37 species on the first EU list have already been observed in

[56] Ecosystem services are benefits provided by nature such as food, clean water and pollination on which human society depends.
[57] ESMERALDA project
[58] Natural Capital Protocol
[59] Business and Biodiversity, The European Business and Biodiversity Campaign aims to promote the business case for biodiversity in the EU Member States through workshops, seminars and a cross media communication strategy.
[60] Tsiamis K; Gervasini E; Deriu I; D`amico F; Nunes A; Addamo A; De Jesus Cardoso A. Baseline Distribution of Invasive Alien Species of Union concern. Ispra (Italy): Publications Office of the European Union; 2017, EUR 28596 EN, doi:10.2760/772692.

in Hungary. Many of them are aquatic species. For these, the highest concentration is along the Danube river. The most widely distributed among these 16 species is the spiny-cheek crayfish (*Orconectes limosus*).

Between the entry into force of the EU list and 18 May 2018, Hungary has submitted one early detection notification of coypu (*Myocastor coypus*), as required under Article 16(2) of the IAS Regulation[61].

Hungary has notified the Commission of its competent authorities responsible for implementing the IAS Regulation as required by Article 24(2). It has also informed the Commission of the national provisions on penalties applicable to infringements (Article 30(4) of the IAS Regulation) and has therefore fulfilled its notification obligations under the Regulation.

2019 priority action

- Investigate the apparent lack of data and seek ways of improving the surveillance system

Soil protection

The EU soil thematic strategy underlines the need to ensure a sustainable use of soils. This entails preventing further soil degradation and preserving its functions, as well as restoring degraded soils. The 2011 Roadmap to a Resource Efficient Europe states that by 2020, EU policies must take into account their direct and indirect impact on land use.

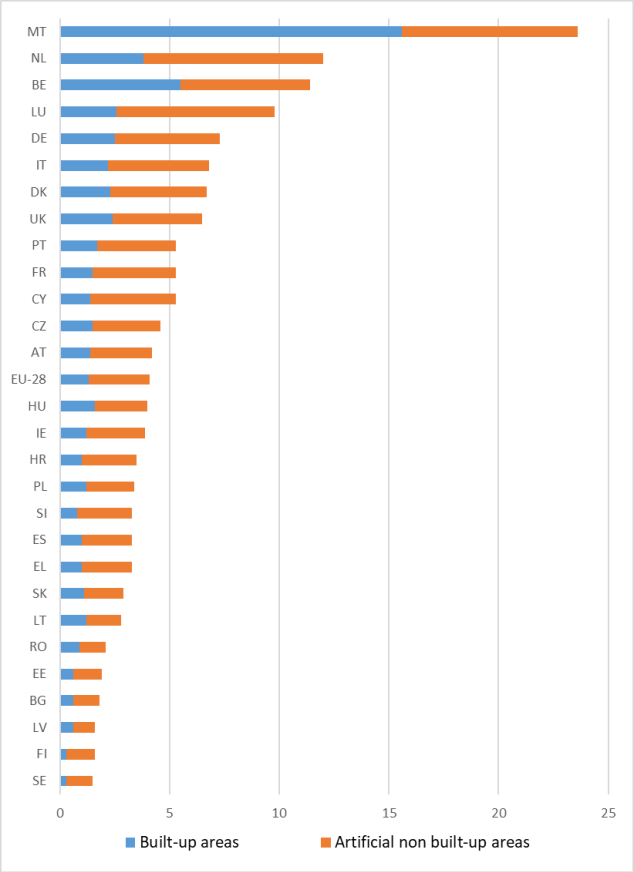
Soil is a finite and extremely fragile resource and it is increasingly degrading in the EU. Soil organic matter plays an important role in the carbon cycle and in climate change. Soils are the second largest carbon sink in the world after the oceans.

The percentage of artificial land[62] in Hungary (Figure 12) can show the relative pressure on nature and biodiversity and the environmental pressure on people living in urbanised areas. A similar measure is population density.

Hungary is in line with the EU average for artificial land coverage (4 % vs 4.1 %). The population density is 107.6/km^2, which is below the EU average of 118[63].

Contamination can severely reduce soil quality and threaten human health or the environment. A recent report of the European Commission[64] estimated that potentially polluting activities have taken or are still taking place on approximately 2.8 million sites in the EU. At EU level, 650 000 of these sites have been registered in national or regional inventories. 65 500 contaminated sites already have been remediated. Hungary has registered 5 375 sites where potentially polluting activities have taken or are taking place, and already has remediated or applied aftercare measures on 347 sites.

Figure 12: Proportion of artificial land cover, 2015 [65]



Soil erosion by water is a natural process, but this natural process can be aggravated by climate change and human activities such as inappropriate agricultural practices, deforestation, forest fires or construction works. High levels of soil erosion can reduce productivity in agriculture and can have negative and transboundary impacts on biodiversity and ecosystem services. High levels of soil erosion can also have negative and transboundary effects on rivers and lakes (due to increased sediment volumes and transport of contaminants). According to the RUSLE2015 model[66],

[61] Eradication measures were notified in October 2018.
[62] Artificial land cover is defined as the total of roofed built-up areas (including buildings and greenhouses), artificial non built-up areas (including sealed area features, such as yards, farmyards, cemeteries, car parking areas etc. and linear features, such as streets, roads, railways, runways, bridges) and other artificial areas (including bridges and viaducts, mobile homes, solar panels, power plants, electrical substations, pipelines, water sewage plants, and open dump sites).
[63] Eurostat, Population density by NUTS 3 region.
[64] Ana Paya Perez, Natalia Rodriguez Eugenio (2018), Status of local soil contamination in Europe: Revision of the indicator "Progress in the management Contaminated Sites in Europe"
[65] Eurostat, Land covered by artificial surfaces by NUTS 2 regions.
[66] Panagos, P., Borrelli, P., Poesen, J., Ballabio, C., Lugato, E., Meusburger, K., Montanarella, L., Alewell, C., The new assessment of

Hungary has an average soil loss rate by water of 1.62 tonnes per hectare per year (t ha^{-a} yr^{-y}) compared with the EU mean of 2.46 t ha^{-a} yr^{-y}. This indicates that soil erosion in Hungary is low on average. Note that these figures are the output of an EU-level model and can therefore not be considered as locally measured values. The actual rate of soil loss can vary strongly within a Member State depending on local conditions.

soil loss by water erosion in Europe, (2015) Environmental Science and Policy, 54, pp. 438-447.

3. Ensuring citizens' health and quality of life

Air quality

EU clean air policy and legislation require the significant improvement of air quality in the EU, moving the EU closer to the quality recommended by the World Health Organisation Air pollution and its impacts on human health, ecosystems and biodiversity should be further reduced with the long-term aim of not exceeding critical loads and levels. This requires strengthening efforts to reach full compliance with EU air quality legislation and defining strategic targets and actions beyond 2020.

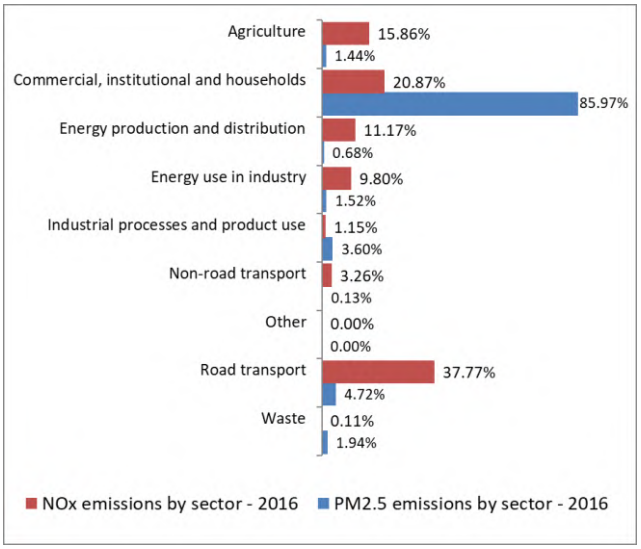
The EU has developed a comprehensive body of air quality legislation[67], which establishes health-based standards and objectives for a number of air pollutants.

The emissions of several air pollutants have decreased significantly in Hungary[68]. The emission reductions between 1990 and 2014 mentioned in the previous EIR, continued between 2014 and 2016. Emissions of sulphur oxides (SO_x) fell by 16.3 % and emissions of nitrogen oxides (NO_x) fell by 4.87 %. Meanwhile, emissions of volatile organic compounds (NMVOCs) increased by 0.13 %, emissions of ammonia (NH_3) increased by 5.61 % and emissions of fine particulate matter $PM_{2.5}$ increased by 3.28 % [69] (see Figure 13 on the total $PM_{2.5}$ and NO_x emissions per sector).

Despite the reduction in emissions since 1990, the country needs to make additional efforts to meet its emission reduction commitments (compared with 2005 levels) set by the new National Emissions Ceilings Directive [70] for 2020-2029 and for any year from 2030.

Air quality in Hungary continues to give cause of severe concern. For 2015, the European Environment Agency estimated that more than 12 800 premature deaths in Hungary were attributable to fine particulate matter[71] concentrations, more than 530 to ozone[72] concentrations and more than 1 300 to nitrogen dioxide[73] concentrations[74].

Figure 13: $PM_{2.5}$ and NO_x emissions by sector in Hungary[75]



For 2017[76], exceedances related to the annual limit value for nitrogen dioxide (NO_2) were registered in two (out of ten) air quality zones (Budapest, Pesc) and for particulate matter (PM_{10}) in five air quality zones (including Budapest, Pécs and Sajó Valley). Exceedances have also been registered related to particulate matter ($PM_{2.5}$) in one air quality zone (Sajó Valley). In addition, target values for benzo(a)pyrene and for ozone concentration were also exceeded. See Figure 14 on the number of air quality zones exceeding NO_2, $PM_{2.5}$, and PM_{10} levels.

The persistent breaches of air quality standards (for PM_{10} and NO_2) have severe negative effects on health and environment. The Commission has referred Hungary, as well as several other Member States, to the European Court of Justice for exceeding PM_{10} levels[77]. The aim is to ensure that adequate measures are put in place to bring all zones into compliance.

[67] European Commission, 2016. Air Quality Standards

[68] See EIONET Central Data Repository and Air pollutant emissions data viewer (NEC Directive)

[69] The current national emission ceilings have been mandatory since 2010 (Directive 2001/81/EC); revised ceilings for 2020 and 2030 have been set by Directive (EU) 2016/2284 on the reduction of national emissions of certain atmospheric pollutants, amending Directive 2003/35/EC and repealing Directive 2001/81/EC.

[70] Directive 2016/2284/EU.

[71] Particulate matter (PM) is a mixture of aerosol particles (solid and liquid) covering a wide range of sizes and chemical compositions. PM_{10} ($PM_{2.5}$) refers to particles with a diameter of 10 (2.5) micrometres or less. PM is emitted from many anthropogenic sources, including both combustion and non-combustion sources.

[72] Low level ozone is produced by photochemical action.

[73] NOx is emitted during fuel combustion e.g. from industrial facilities and the road transport sector. NOx is a group of gases comprising nitrogen monoxide (NO) and nitrogen dioxide (NO_2).

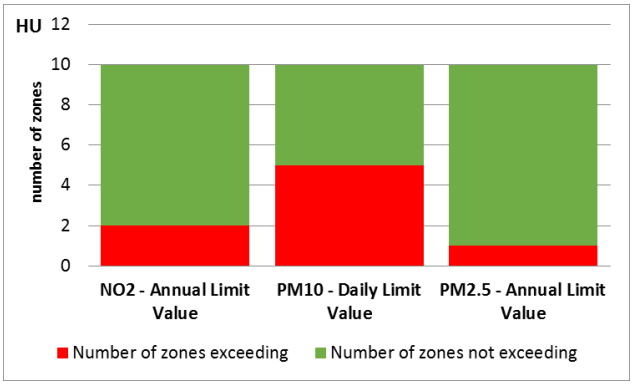
[74] EEA, Air Quality in Europe – 2018 Report, p.64. Please see details in this report as regards the underpinning methodology.

[75] 2016 NECD data submitted by Member State to the EEA.

[76] Eionet Central Data Repository. Information on the attainment of environmental objectives - 2016.

[77] COM (2018) 330.

Figure 14: Air quality zones exceeding EU air quality standards in 2017[78]



The National Public Health Center (NPHC) provides strategies on reducing indoor and outdoor air pollution and to reduce its health effects in the general population and different stakeholders. An air quality health index has been developed and applied for the air quality data produced by the Hungarian air quality monitoring network. The four categories of the air quality index are based on the health effects of the major air pollutants (PM_{10}, O_3, NO_2, SO_2, CO). Since 2007, the index values are depicted on a map for all settlements where at least one monitoring station is located and published on the webpage of NPHC daily.[79]

According to a special report from the European Court of Auditors[80], EU action to protect human health from air pollution has not had its expected impact. There is a risk that air pollution is being underestimated in some instances because it may not always be monitored in the right places. Member States are now required to report both real-time and validated air quality data to the Commission[81].

In July 2018, Hungary participated in a TAIEX-EIR P2P workshop in Bratislava alongside experts from Slovakia, the Czech Republic, Estonia, Latvia, Lithuania, Germany, Belgium, Poland, Ireland, the United Kingdom, Denmark, Bulgaria. Participants from these countries shared their knowledge and experiences on effective measures and good practices to reduce emissions from domestic heating.

Another TAIEX-EIR P2P workshop took place in Graz, Austria, in September 2018. The event brought together environmental authorities, regions and cities from Austria, Croatia, Estonia, Germany, Hungary, Italy, Lithuania, Poland, Romania, the Slovak Republic, Spain and Sweden to exchange experiences and good practices on reducing air pollution and making air quality plans in zones or agglomerations where the levels of pollutants in ambient air exceed the limits or target values more effective.

Hungary hosted a TAIEX-EIR P2P multi-country workshop on ammonia emissions from agriculture, on 29 – 30 October. Experts from governments and agencies working on air quality policy and agriculture participated from Austria, Belgium, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxemburg, Malta, Norway, Poland, Romania, Slovak Republic, Sweden and the Netherlands.

An earlier clean air dialogue with the European Commission took place in October 2017 in Budapest. The conclusions were that: (i) there is an urgent need to plan and carry out further measures to reduce particle emissions from burning solid fuel in private households; (ii) agricultural growth needs to be accompanied by measures to reduce ammonia emissions; (iii) short-term measures to reduce emissions from vehicles circulating in urban areas are needed; (iv) Hungary should draw on the experiences of other EU countries; and (v) the concerned stakeholders need to be involved at the earliest stage to ensure the mitigation measures are implemented effectively.

2019 priority actions

- In the context of developing an adequate National Air Pollution Control Programme (NAPCP), take actions towards reducing the main emission sources; and meet all air quality standards.
- Accelerate reductions in nitrogen oxide (NO_x) emissions and nitrogen dioxide (NO_2) concentrations by further reducing transport emissions, in particular in urban areas. It may also require proportionate and targeted restrictions on vehicle access to urban areas and/or fiscal incentives.
- Accelerate reductions in particulate matter ($PM_{2.5}$ and PM_{10}) emissions and concentrations by reducing emissions from energy production and from heat generation using solid fuels. It will also require the promotion of efficient and clean district heating.
- Reduce the use of coal for domestic heating in order to limit air pollutants emissions, for instance building on the "Coal regions in transition" initiative.
- Reduce NMVOCs emissions (where applicable, to comply with currently applicable national emission ceilings).

[78] EEA, EIONET Central Data Repository. Data reflects the reporting situation as of 26 November 2018.
[79] Országos Közegészségügyi Intézet OKI
[80] European Court of Auditors, Special report no 23/2018, Air pollution: Our health still insufficiently protected, p.41.
[81] Article 5 of Commission Implementing Decision 2011/850/EU of 12 December 2011 laying down rules for Directives 2004/107/EC and 2008/50/EC of the European Parliament and of the Council as regards the reciprocal exchange of information and reporting on ambient air quality (OJ L 335, 17.12.2011, p. 86) requires Member States to provide Up-To-Date data.

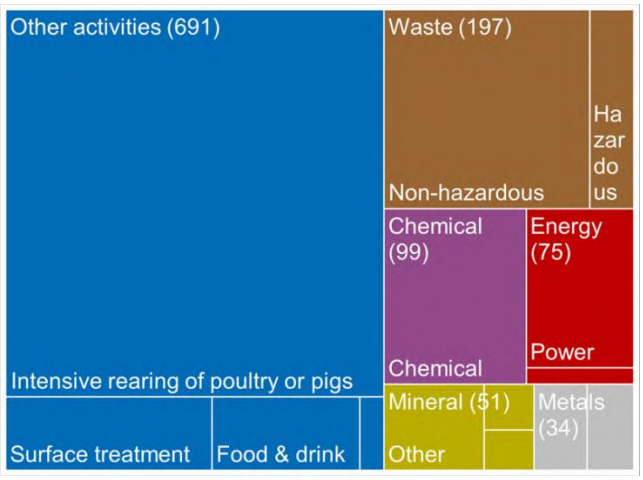
Industrial emissions

The main objectives of EU policy on industrial emissions are to:
(i) protect air, water and soil;
(ii) prevent and manage waste;
(iii) improve energy and resource efficiency; and
(iv) clean up contaminated sites.
To achieve this, the EU takes an integrated approach to the prevention and control of routine and accidental industrial emissions. The cornerstone of the policy is the Industrial Emissions Directive[82] (IED).

The below overview of industrial activities regulated by the IED is based on the 'industrial emissions policy country profiles' project[83].

In Hungary, around 1150 industrial installations must have a permit according to the IED. In 2015, the industrial sectors in Hungary with most IED installations were 'other activities' (60 % of total — mostly the intensive rearing of poultry or pigs), followed by non-hazardous waste management (14 %) and chemicals (9 %).

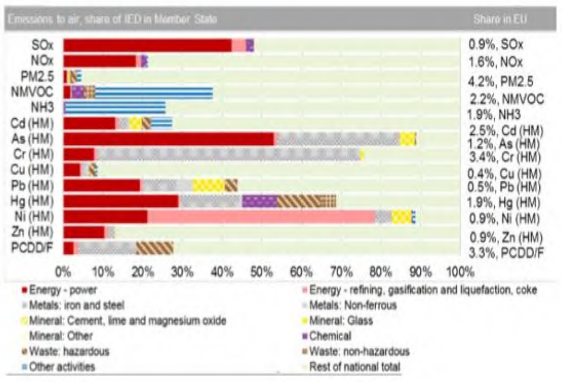
Figure 15: Number of IED industrial installations by sector, Hungary (2015)



The sectors identified as contributing the most emissions to air in Hungary can be seen in Figure 16 below.

The sectors responsible for the most emissions to water are energy-power, chemicals and iron and steel. The metals production sector also accounts for a significant proportion of both hazardous and non-hazardous waste generated per installation, given that it has a relatively small number of IED installations.

Figure 16: Emissions to air from IED sectors and all other national total air emissions, Hungary (2015)



The enforcement approach under the IED creates strong rights for citizens to have access to relevant information and to participate in the permitting process for IED installations. This empowers NGOs and the general public to ensure that permits are appropriately granted and their conditions respected.

Best available techniques (BAT) reference documents and BAT conclusions are developed through the exchange of information between Member States, industrial associations, NGOs and the Commission. This ensures a good collaboration with stakeholders and a better application of the IED rules.

Thanks to the national competent authorities' efforts to apply the legally binding BAT conclusions and associated BAT emission levels in environmental permits, pollution had decreased considerably and continuously in the EU.

For example, by applying the recently adopted BAT associated emission levels for large combustion plants, emissions of sulphur dioxide will be cut on average by between 25 % and 81 %, nitrogen oxide by between 8 % and 56 %, dust by between 31 % and 78 % and mercury by between 19 % and 71 % at EU level. The extent of the reduction depends on the situation in individual plants.The challenges identified for Hungary are to address the pollution resulting from metal production and from the high amount of intensive rearing of poultry or pigs.

2019 priority actions

- Review permits and strengthen control and enforcement to comply with newly adopted BAT conclusions.
- Address air and water pollution related to emissions from installations in one or more of the following sectors: power, intensive rearing of poultry and pigs, waste treatment activities, iron and steel plants.

[82] Directive 2010/75/EU covers industrial activities carried out above certain thresholds. It covers energy industry, metal production, mineral and chemical industry and waste management, as well as a wide range of industrial and agricultural sectors (e.g. intensive rearing of pig and poultry, pulp and paper production, painting and cleaning).
[83] European Commission, Industrial emissions policy country profile – Hungary.

Noise

The Environmental Noise Directive[84] provides for a common approach to avoiding, preventing and reducing the harmful effects of exposure to environmental noise.

Excessive noise from aircraft, railways and roads is one of the main causes of environmental health-related issues in the EU[85].

Based on a limited set of data[86], environmental noise causes at least 300 premature deaths per year in Hungary and is responsible for around 1 300 hospital admissions. Noise also disturbs the sleep of roughly 200 000 people. The Environmental Noise Directive is being correctly implemented for the most part, according to the latest full set of information that could be analysed (2012 for noise maps and 2013 for action plans). However, as Budapest's noise map and action plan are still lacking, the capital city has not met its obligations arising from the Directive.

These instruments, adopted after a public consultation had been carried out, should include the measures to keep noise low or to reduce it.

Water quality and management

EU legislation and policy requires that the impact of pressures on transitional, coastal and fresh waters (including surface and ground waters) be significantly reduced. Achieving, maintaining or enhancing a good status of water bodies as defined by the Water Framework Directive (WFD) will ensure that EU citizens benefit from good quality and safe drinking and bathing water. It will further ensure that the nutrient cycle (nitrogen and phosphorus) is managed in a more sustainable and resource-efficient way.

The existing EU water legislation[87] puts in place a protective framework to ensure high standards for all water bodies in the EU and addresses specific pollution sources (for example, from agriculture, urban areas and industrial activities). It also requires that the projected impacts of climate change are integrated into the corresponding planning instruments e.g. flood risk management plans and river basin management plans, including programme of measures which include the actions that Member States plan to take in order to achieve the environmental objectives.

Water Framework Directive

Hungary has adopted and reported the second generation of River Basin Management Plans under the Water Framework Directive and the European Commission has assessed the status and the development since the adoption of the first River Basin Management Plans, including suggested actions in the EIR report 2017.

The **most significant pressures** on surface water bodies are physical alteration of channel/bed/riparian area/shore due to agriculture (41 % of surface water bodies) and agriculture diffuse pollution (36 %). For groundwater bodies the most significant pressure is abstraction or flow diversion for public water supply (78% of groundwater bodies), followed by discharges not connected to sewerage network (61 %).

Altered habitats due to morphological changes were the **most significant impacts** on lakes (43 % of lake water bodies) and rivers (88 % of river water bodies). Chemical pollution was the most significant impact (17 %) in groundwater bodies.

The proportion of water bodies with unknown **ecological status/potential** has decreased significantly (from 40 % to 13 %) but there is a big difference between the proportion of unknown lakes (up to 47 % unknowns) and rivers, of which only 9 % are unknown. Only a small proportion (less than 10 %) of Hungarian rivers and lakes are in good ecological status/potential, and only two lake and four river water bodies are at high status as illustrated in figure 17. This shows that Hungary has a long way to go to achieve the good status/potential objectives set in the Water Framework Directive.

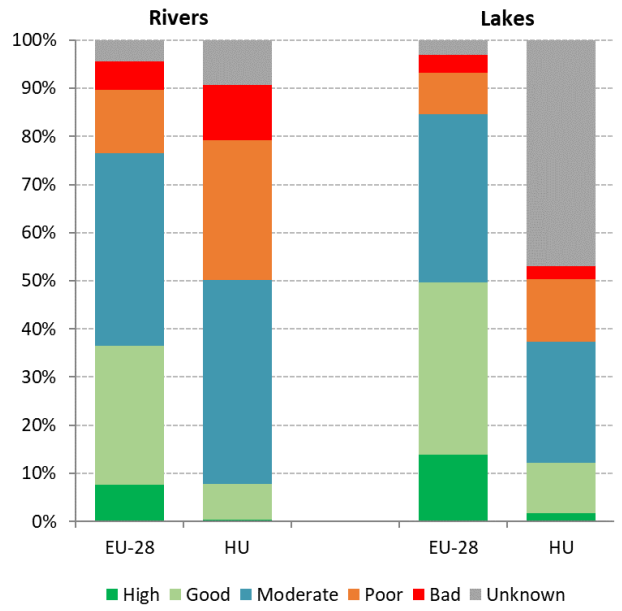
The scale of monitoring has increased in relation to the **chemical status** in surface water bodies although there still is a need for further development including implementation of monitoring of sediment and biota. There was a large increase in the proportion of surface water bodies with good chemical status from 3 to 46 % between the first and second River Basin Management Plans and a significant decrease in the proportion with unknown status from 94 to 47 %.

The monitoring situation of **quantitative status of groundwater bodies** has improved slightly but the Groundwater body area failing good status increased

[84] Directive 2002/49/EC.
[85] WHO/JRC, 2011, Burden of disease from environmental noise, Fritschi, L., Brown, A.L., Kim, R., Schwela, D., Kephalopoulos, S. (eds), World Health Organisation, Regional Office for Europe, Copenhagen, Denmark.
[86] European Environment Agency, Noise Fact Sheets 2017.
[87] This includes the Bathing Waters Directive (2006/7/EC), the Urban Waste Water Treatment Directive (91/271/EEC) (on discharges of municipal and some industrial wastewaters), the Drinking Water Directive (98/83/EC) (on potable water quality), the Water Framework Directive (2000/60/EC) (on water resources management), the Nitrates Directive (91/676/EEC) and the Floods Directive (2007/60/EC).

with 9 % (from 23.3 % to 25.5 % of the total groundwater body area).

Figure 17: Ecological status or potential of surface water bodies in Hungary[88]



Significant pressures are identified in the River Basin Management Plans and addressed by measures (Key type of measures). Hungary has reported that all planned measures for the first Programmes of Measures have started. There are still obstacles in order to fully implement the first Programmes of Measures, including delays, extreme events, governance and finance.

The **national water strategy**[89] is the pillar of Hungary's water, irrigation and drought management policy. It was revised in 2017 to integrate agriculture and nature conservation issues into water resources management, and to develop climate change adaptation measures.

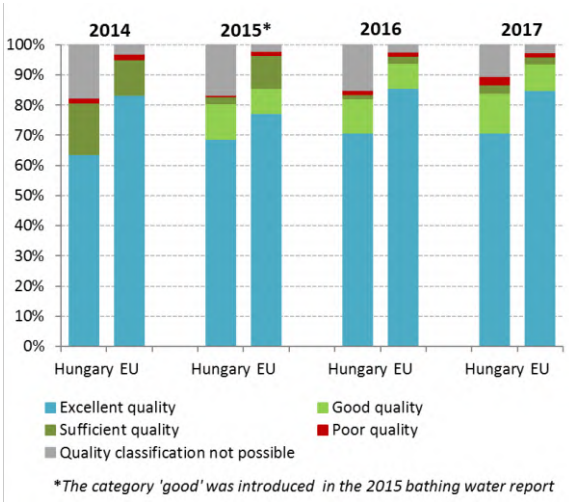
Drinking Water Directive

For drinking water, no new data is available since the 2017 EIR[90]. However, the Commission is closely following up on instances of non-compliance with other specific limits set out in the Directive (for example, arsenic, boron and fluoride levels) resulting from natural conditions in a number of water supply zones, and the measures taken to address these.

Bathing Water Directive

Figure 18 shows that in 2017, out of Hungary's 257 bathing waters, 70.8 % were of excellent quality, 13.2 % of good quality and 2.7 % of sufficient quality (compared to 70.8 %, 11.5 % and 1.2 % respectively in 2016). However, seven bathing waters were of poor quality[91]. Detailed information on Hungary's bathing waters is available on a national web portal [92] and on an interactive map viewer designed and hosted by the European Environment Agency[93].

Figure 18: Bathing water quality 2014–2017 [94]



Urban Waste Water Treatment Directive

On the Urban Waste Water Treatment Directive, according to its Accession Treaty, Hungary has a final deadline of 31 December 2015 to reach compliance. However, following an agreement between Hungary and Romania, Hungary decided to apply Article 5(4) of the Directive, in connection with the protection against eutrophication of the Black Sea, in the entirety of its territory. The requirements regarding more stringent treatment only apply, for the time being, in the three areas designated as 'sensitive' in 2004. The Hungarian commitment by 2018 is that the minimum percentage of reduction of the overall load entering all urban waste water treatment plants will be at least 75 % for total phosphorus and at least 75 % for total nitrogen.

Although the Commission has checked Hungary's compliance with the Accession Treaty's deadlines of 2008 and 2010, it has not yet checked compliance with the 2015 deadline. On this basis, the Commission found that a few agglomerations did not comply with the rules set out in the Urban Waste Water Treatment Directive and it consequently launched an infringement procedure. The reasons for the infringement procedure include the

[88] EEA, WISE dashboard.
[89] Nemzeti Vízstratégia — Kvassay Jenő Terv
[90] Compliance with the Drinking Water Directive microbiological and chemical parameters as last reported was very high.
[91] European Environment Agency, 2017. European bathing water quality in 2016, p. 17.
[92] Országos Közegészségügyi Intézet OKI
[93] State of bathing waters, EEA.
[94] European Environment Agency, 2018. European bathing water quality in 2017, p. 21.

concern that Hungary has insufficient connections to collection systems despite having already built some systems. Therefore, Hungary has to rely extensively on individual systems (septic tanks, etc.), for which compliance with the requirements is more difficult to guarantee.

Regarding Hungary's overall compliance with the Urban Waste Water Treatment Directive[95], 100 % of the waste water is collected or addressed by individual or other appropriate systems (IAS), of which 95.2 % undergoes secondary treatment and 92.2 % undergoes more stringent treatment. An investment of around EUR 107 million[96] is needed to ensure that waste water in the remaining agglomerations is properly collected and treated.

Nitrates Directive

The Nitrates Directive report for 2012-2015 showed a slight increase in nitrates concentration in groundwater. The percentage of stations that reached or exceeded 40 mg of nitrate per litre increased from 8.2 % to 8.7 % and the percentage that reached or exceeded 50 mg of nitrate per litre increased from 6.9 % to 7.1 %. Nitrate concentrations in surface water are rather stable, except for the increase in number of stations that reached or exceeded 25 or 40 mg of nitrate per litre. Challenges with the trophic status of water continued during this period, with a considerable number of freshwater stations with a eutrophic and potentially eutrophic status.

Floods Directive

The Floods Directive established a framework for the assessment and management of flood risks, aiming at the reduction of the adverse consequences associated with significant floods.

Hungary has adopted and reported its first Flood Risk Management Plans under the Directive and the European Commission conducted an assessment.

The Commission's assessment found that good efforts were made with positive results in setting objectives and devising measures focusing on prevention, protection and preparedness. The assessment also showed that, as was the case for other Member States, Hungary's Flood Risk Management Plans do not yet include a strong link between the objectives and the measures and an as complete as possible estimation of the cost of measures. In addition, there is scope for being more specific on which measures will be implemented, and on their prioritisation.

2019 priority actions

- Step up efforts to assess the status of all water bodies, increasing the confidence in the assessment of status and reducing the proportion of unknown status. Monitoring should provide sufficient temporal resolution and spatial coverage.
- Take steps in order to ensure that abstractions are subject to effective permits, metering and controls.
- Urgently complete implementation of the Urban Waste Water Treatment Directive for all agglomerations, as well as of the Drinking Water Directive. Continue to prioritise the investments for UWWT plants.
- Take steps to clarify the method for the prioritisation of measures, including the assessment of costs and benefits in relation to the Flood Risk Management Plan.

Chemicals

The EU seeks to ensure that by 2020 chemicals are produced and used in ways that minimise any significant adverse effects on human health and the environment. An EU strategy for a non-toxic environment that is conducive to innovation and to developing sustainable substitutes, including non-chemical options, is being prepared.

The EU's chemicals legislation[97] provides baseline protection for human health and the environment. It also ensures stability and predictability for businesses operating within the internal market.

In 2016, the European Chemicals Agency (ECHA) published a report on REACH and the Classification, Labelling and Packaging (CLP Regulation)[98] that showed that enforcement activities are still evolving. Member States cooperate closely within Forum for Exchange of Information on Enforcement[99]. This cooperation has shown that there is scope to increase the effectiveness of enforcement activities, particularly for registration obligations and safety data sheets where the level of non-compliance is still relatively high.

[95] European Commission, Ninth Report on the Implementation Status and the Programmes for Implementation of the Urban Waste Water Treatment Directive (COM(2017)749) and Commission Staff Working Document accompanying the report (SWD(2017)445).

[96] A preliminary cost estimation made by the Ministry of Interior of Hungary, in order to fulfil the actions of the River Basin Management Plan 2, fixes the amount at 94 EUR million, but no official document is available thereon.

[97] Principally for chemicals: REACH (OJ L 396, 30.12.2006, p.1.); for Classification, Labelling and Packaging, the CLP Regulation (: OJ L 252, 31.12.2006, p.1.), together with legislation on biocidal products and plant protection products.

[98] European Chemicals Agency, Report on the Operation of REACH and CLP 2016.

[99] On the basis of the projects REF-1, REF-2 and REF-3, available at European Chemicals Agency (ECHA)

While progress has been made, there is room to further improve and harmonise enforcement activities across the EU, including controls on imported goods. Enforcement remains weak in some Member States, particularly regarding controls on imports and supply chain obligations. The enforcement architecture is complex in most EU countries and enforcement projects reveal differences in compliance between Member States.

A 2015 Commission study already emphasised the importance of harmonised market surveillance and enforcement when implementing REACH at Member State level, deeming it to be a critical success factor in the operation of a harmonised single market[100].

In March 2018, the Commission published an evaluation of REACH[101]. The evaluation concludes that REACH delivers on its objectives, but that progress made is slower than anticipated. In addition, the registration dossiers often are incomplete. The evaluation underlines the need to enhance enforcement by all actors, including registrants, downstream users and in particular for importers, to ensure a level playing field, meet the objectives of REACH and ensure consistency with the actions envisaged to improve environmental compliance and governance. Consistent reporting of Member State enforcement activities was considered important in that respect.

In Hungary, the district offices' public health departments that work for government offices in 20 Counties that report to the Prime Minister's office, are responsible for the enforcement of the REACH/CLP/BPR Regulation.

The work of the chemical safety inspectors is coordinated at regional level and supported by the Hungarian national competent authorities for REACH, the CLP Regulation and Biocides working in Hungary's Ministry of Human Capacities (EMMI).

Company visits may take the form of either spot checks or targeted checks. If companies are found to be in breach of the rules, the inspectors can take a binding decision on follow-up measures and/or impose a fine (such as a 'chemical load penalty') on the companies concerned.

Other authorities are responsible for some aspects of the chemical regulations. For example: (i) the environmental authorities are responsible for environmental protection; (ii) the Hungarian Labour Inspectorate is responsible for occupational safety; (iii) the National Authority for Consumer Protection is responsible for protecting consumers; and (iv) the Hungarian Customs and Finance Guard is responsible for customs control.

[100] European Commission. (2015). Monitoring the Impacts of REACH on Innovation, Competitiveness and SMEs.
[101] COM(2018) 116.

Making cities more sustainable

EU policy on the urban environment encourages cities to put policies in place for sustainable urban planning and design. These should include innovative approaches to urban public transport and mobility, sustainable buildings, energy efficiency and urban biodiversity conservation.

Europe can be seen as a union of cities and towns. Around 75 % of the EU population live in urban areas[102]. Urban areas pose particular challenges for the environment and human health, but they also provide opportunities for using resources more efficiently. The EU encourages municipalities to become greener through initiatives such as the Green Capital Award[103], the Green Leaf Award[104] and the Green City Tool[105].

Financing greener cities

Hungary is investing at least 5 % of its ERDF allocation (EUR 537.84 million) in sustainable urban development measures implemented through its Operational Programmes. At least 5 % of the total European Agricultural Fund for Rural Development (EAFRD) contribution to the rural development programme, 0.97 % of the total ERDF contribution and 1.04 % of the total European Social Fund allocation are reserved for leader and community-led local development actions[106].

Hungary participates in the European Urban Development Network (UDN)[107]. Of the UDN's initiatives, the ERDF supports urban innovative actions to test new and unproven solutions for urban challenges. Hungary has obtained funding for the 'SASMob — Smart Alliance for Sustainable Mobility' project in the city of Szeged, Hungary's third biggest city.[108].

Participation in EU urban initiatives and networks

Hungary participates in a project for industrial symbiosis in the city of Pécs, which is on the list of European Green Capital Award good practices for 2019[109].

Eight of Hungary's municipalities are involved in 16 thematic networks under the URBACT initiative to support sustainable urban development[110]. Four of these networks are currently led by Hungarian cities. Budapest manages the 'Roma-Net' and 'ROMA-NeT URBACT II'

[102] European Commission, Urban Europe, 2016.
[103] European Commission, European Green Capital.
[104] European Commission, European Green Leaf Award.
[105] European Commission, Green City Tool.
[106] European Commission: Summary of the Partnership Agreement for Hungary, 2014-2020.
[107] European Commission, The Urban Development Network.
[108] SASMob — Smart Alliance for Sustainable Mobility
[109] Pécs-Kökény Waste Management Centre, Pécs, Hungary
[110] URBACT, Associated Networks by country.

networks that focus on the integration of Roma populations. Budapest also leads the 'RE-Block' network to revive high-rise blocks in an effort to build cohesive and green neighbourhoods. Finally, the city of Újbuda coordinates the 'Creative spirits' network to boost entrepreneurship through creative urban strategies.

Several Horizon 2020 network projects have also contributed to the sustainability of Hungarian cities. CIVITAS includes nine municipalities that work together to achieve cleaner and better transport in cities[111]. INTERREG programmes also support urban development projects, such as the 'Guardians of the 'smart energy' school' initiative, which has created a series of education programmes and 'smart energy' tools[112].

Hungarian cities are also involved the Eurocities initiative and 40 Hungarian cities have signed up to the EU Covenant of Mayors initiative as of June 2018[113].

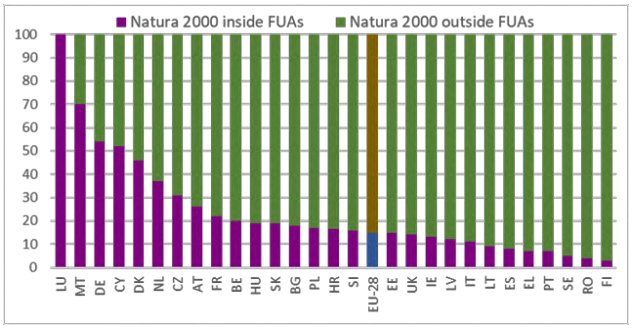
In 2017, 15.6 % of the Hungarian population living in cities said that their neighbourhood was affected by pollution, grime or other environmental problems, up from 14.2 % in 2016. These figures are far below the EU-28 average (20 % in 2017 and 18.9 % in 2016)[114].

Hungary has been the host to a number of 'smart city' initiatives and test projects in recent years, both on a municipal and national level. For instance, Budapest, Győr, Miskolc and Szolnok have addressed challenges in e-mobility, intelligent transport systems, autonomous vehicles and energy efficiency[115].

Nature and cities

Nearly 20 % of Hungary's Natura 2000 network is in functional urban areas[116], above the EU average of 15 % (see Figure 19).

Figure 19: Proportion of Natura 2000 networks in Functional Urban Areas (FUA)[117]



The national ecological network is 'the backbone' of green infrastructure in Hungary. The network covers different areas of nature conservation importance, such as nature protected areas, Natura 2000 areas and high nature value areas. The network's zone is integrated in the municipal planning of settlements.

In 2015, Szeged was one of the four pilot cities of the 'Nature4Cities' project. Nature4Cities is one of the two research programmes selected and funded by the EU to build a common ground for 'nature-based solutions & re-naturing cities', through the H2020 research and innovation programme[118].

The one-year 'Smart and green — the future of Visegrad cities' project which began in December 2016, focused on how to put in place smart and innovative solutions in urban areas, while increasing the cities' resilience to climate change, social inequality and economic insecurity[119].

Budapest hosted the European urban green infrastructure conference in November 2017, where nature-based solutions for cities were shared and celebrated[120].

Urban sprawl

Hungary had a high weighted urban proliferation with 2.12 UPU/m2 in 2009, slightly above the European average (EU-28+EEA-4) of 1.64 UPU/m2, with an increase of 5 % from 2006 to 2009[121][122].

Traffic congestion and urban mobility

[111] European Commission, Horizon 2020 Civitas Project.
[112] Interreg CENTRAL EUROPE Programme.
[113] Covenant of Mayors for Climate and Energy, Country signatories.
[114] European Commission, Eurostat, Pollution, grime or other environmental problems by degree of urbanisation.
[115] Hungary — Smart Cities
[116] European Commission, Definition of Functional Urban Areas.
[117] European Commission, the 7th Report on Economic, Social and Territorial Cohesion, 2017, p. 121.
[118] The Nature4Cities project
[119] 'Smart and Green – the Future of Visegrad Cities' project
[120] EUGIC 2017 BUDAPEST, CELEBRATING NATURE-BASED SOLUTIONS FOR CITIES
[121] Urban Permeation Units measure the size of the built-up area as well as its degree of dispersion throughout the region.
[122] EEA, Urban Sprawl in Europe, Annex I, 2014, pp.4-5.

Traffic congestion is one of the main environmental issues affecting Hungary's capital city, Budapest. Traffic congestion is also responsible for the poor air quality. In 2015, the government adopted the Jedlik Ányos Plan[123] to increase the use of electric cars in Hungary. The plan includes building the necessary infrastructure (charging stations), providing benefits for parking and road use of electric cars and financial support for buying them[124].

In 2015, passenger cars accounted for 65.8 % (EU average 81.3 %)[125] of passenger transport in Hungary. At 325 cars per 1000 inhabitants, Hungary ranked second lowest in the EU (EU average 497 cars per 1000 inhabitants)[126]. For time spent every year in traffic jams, Hungary is in the mid-range of EU countries, at an average of 26.2 hours in 2014 rising to an average of 26.41 hours in 2016[127].

With a congestion level of 22 %, Budapest is only the 140th most congested city out of a list of 215 EU cities.

Hungary has the EU's lowest proportion of residents that use a car every day (24 % vs an EU average of 50 %) and the highest proportion that use public transport (28 % vs an EU average of 16 %). 25 % of people in Hungary cycle every day (EU average 12 %) and 74 % of people who live in cities walk every day (EU average 68 %)[128].

[123] Jedlik Ányos Klaszter

[124] Legal and natural persons can apply for max. HUF 1.5 million non-refundable allowance for buying purely electric passenger cars or max. 3.5 tonnes electric vans.

[125] European Commission, Transport in the European Union Current Trends and Issues, 2018, p. 89.

[126] Eurostat, Energy, transport and environment indicators 2017, p. 95.

[127] European Commission, Hours spent in road congestion annually.

[128] European Commission, Special Eurobarometer 406, Attitudes of Europeans towards urban mobility, pp.7-10.

Part II: Enabling framework: implementation tools

4. Green taxation, green public procurement, environmental funding and investments

Green taxation and environmentally harmful subsidies

Financial incentives, taxation and other economic instruments are effective and efficient ways to meet environmental policy objectives. The circular economy action plan encourages their use. Environmentally harmful subsidies are monitored in the context of the European Semester and the energy union governance process.

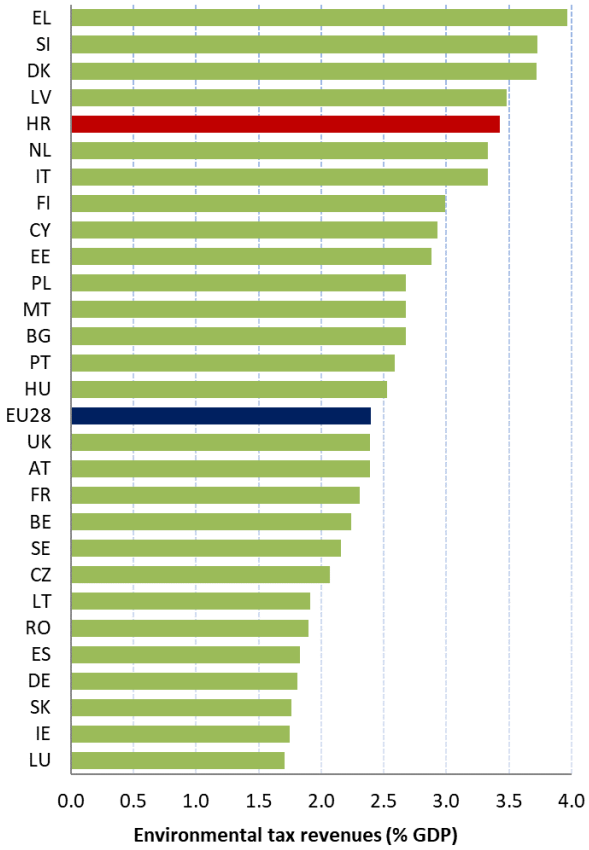
Hungary's revenue from environment-related taxes remains higher than the EU average. Environmental taxes accounted for 2.53 % of GDP in 2017 (EU-28 average: 2.4 %) (see Figure 20) and energy taxes for 1.91 % of GDP (EU average 1.84 %)[129]. In the same year, environmental tax revenues were 6.6 % of total revenues from taxes and social security contributions (EU average 5.97 %).

The structure of taxation shows a share of revenues from labour tax in total tax revenues in line with the EU average, with 46.1 % in 2016, while the implicit tax burden on labour was 41.6 % [130]. Consumption taxes remained relatively high (40.2 %, 6th in EU28), pointing at limited potential for shifting taxes from labour to consumption and in particular to environmental ones.

In its European Semester process, the Commission has repeatedly recommended that Hungary modify its taxation system. The 2018 country report noted that household energy consumption in Hungary is still exempt from energy tax and that car tax receipts had stagnated[131].

However, there are some examples of sound fiscal measures for the environment. One is the air pollution load charge that was introduced in 2003 and has helped reduce air pollution levels in some areas of the country[132].

Figure 20: Environmental tax revenues as % of GDP (2017)[133]



Meanwhile, fossil fuel subsidies increased in the past decade, mainly thanks to new tax exemptions for district heating and fuel use for agriculture, railways and commercial purposes. Some subsidies remain in place for the decommissioning and reorganisation of the coal sector[134]. These budgetary transfers and subsidies added up to HUF 12 billion in 2016, and the tax exemptions (both local and central governments included) exceeded HUF 123 billion.

Some progress has been made on reducing the 'diesel differential' (difference in the price of diesel versus petrol) since 2005. In 2016 there was still a 9 % gap between petrol and diesel tax rates, while in 2005 it was 22 % [135]. Excise tax rates levied on petrol and diesel in

[129] Eurostat, Environmental tax revenues, 2018.
[130] European Commission, Taxation Trends Report, 2017.
[131] European Commission, European Semester Country Report 2018, p. 11.
[132] Institute for European Environmental Policy, Case Studies on Environmental Fiscal Reform, Air pollution load charge in Hungary.
[133] Eurostat, Environmental tax revenues, 2018.
[134] OECD, Inventory of Support Measures for Fossil Fuels, 2018.
[135] European Environment Agency 2017, Environmental taxation and EU environmental policies, p. 27.

2016 slightly decreased in comparison with those in 2015 (HUF 120 per litre for petrol and HUF 110.35 for diesel). The reduction was bigger for diesel than for petrol [136].Tax treatment for company cars is a cause for concern in Hungary[137]. Tax subsidies still encourage the private use of company cars[138]. Nevertheless, new preferential taxes for electric and hybrid company cars were introduced in 2018[139].

CO_2-based motor vehicle taxes are not in place in Hungary. However, in accordance with EU emission standards[140], vehicle registration tax is based on environmental protection considerations

Incentives to encourage people to buy cars with lower CO_2 emissions were common in 2016. These were linked to annual circulation taxes, road tolls, and congestion or low emission zone charges and also to buying cleaner vehicles. However, there are no incentives connected to the preferential use of public infrastructures[141]. New vehicles bought in Hungary are among the least environmentally friendly in the EU, with average CO_2 emissions of 125.9 grams per kilometre (EU average 118 grams in 2016)[142].

The use of alternative fuels in new passenger cars sold in Hungary has considerably decreased over the past few years. In 2016, the percentage of new passenger cars using alternative fuels was only 0.32 %. This is a significant decrease from 2013 when Hungary had one of the highest percentages of alternative fuel use in the EU (at 9.75 %)[143].

Green public procurement

The EU green public procurement policies encourage Member States to take further steps to apply green procurement criteria to at least 50 % of public tenders. The European Commission is helping to increase the use of public procurement as a strategic tool to support environmental protection.

The purchasing power of public procurement amounts to around EUR 1.8 trillion in the EU (approximately 14 % of GDP). A substantial proportion of this money goes to sectors with a high environmental impact such as construction or transport. Therefore, green public procurement (GPP) can help to significantly lower the negative impact of public spending on the environment and can help support sustainable innovative businesses. The Commission has proposed EU GPP criteria[144].

Hungary has not yet adopted the national GPP action plan. The new EU directives on public procurement have been transposed into national law and entered into force at the end of 2015. This national law refers to a separate government decree which will set out detailed rules on how to integrate sustainability, among other considerations, into public procurement. This decree is currently being drafted.

According to the figures on procurement procedures above the national threshold and below the EU threshold that were launched in 2015[145], Hungary's contracting authorities used environmental aspects in 9 % of their procedures, equivalent to 18 % of the monetary value.

Act CXLIII of 2015 on public procurement allows public authorities to take environmental aspects into account during their public procurement procedures but does not make doing so mandatory. According to the Hungarian Public Procurement Authority's latest annual report, both the numbers and values of green public procurements vary greatly from year to year. In 2016, the total value of such procurements was HUF 43.4 billion (around EUR 135 million), which is the second lowest since 2012. Similarly,

[136] European Commission, Taxes in Europe Database, 2018.
[137] European Commission, Taxation of commercial cars in Belgium, 2017, p. 3. (NB: the document has been prepared for Belgium, but contains data also for the other Member States.).
[138] European Commission, European Semester Country Report 2018, p. 11.
[139] FleetEurope, Major changes to company car taxation in Europe.
[140] ACEA, CO_2 based motor vehicle taxes in Europe.
[141] European Environmental Agency, Appropriate taxes and incentives do affect purchases of new cars, 18 May 2018.
[142] European Environment Agency, Average CO2 emissions from new passenger cars sold in EU-28 Member States plus Norway, Iceland and Switzerland in 2016.
[143] European Commission, Transport in the European Union Current Trends and Issues, 2018, pp.27-28.
[144] In the Communication 'Public procurement for a better environment' (COM (2008) 400) the Commission recommended the creation of a process for setting common GPP criteria. The basic concept of GPP relies on having clear, verifiable, justifiable and ambitious environmental criteria for products and services, based on a life-cycle approach and scientific evidence base.
[145] Fiche on GPP national action plan, June 2018.

there were 613 green procurements in 2016, the lowest number since 2012[146].

Environmental funding and investments

European Structural and Investment Fund (ESIF) rules oblige Member States to promote environment and climate in their funding strategies and programmes for economic, social and territorial cohesion, rural development and maritime policy.

Achieving sustainability involves mobilising public and private financing sources[147]. Use of the European Structural and Investment Funds (ESIFs)[148] is essential if countries are to achieve their environmental goals and integrate these into other policy areas. Other instruments such as Horizon 2020, the LIFE programme[149] and the European Fund for Strategic Investments (EFSI)[150] may also support the implementation and spread of good practices.

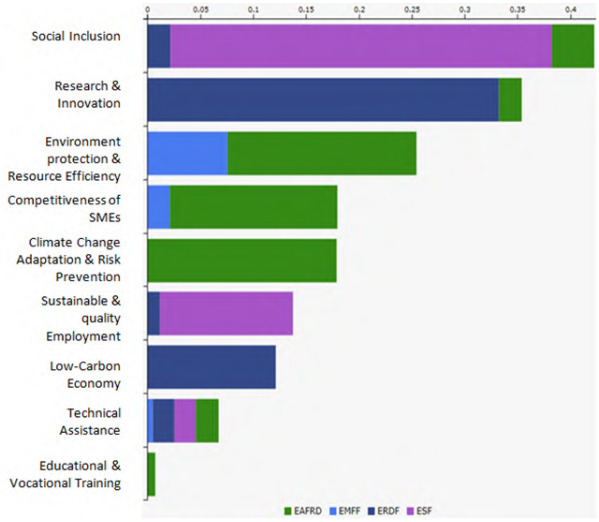
According to the 2017 Special Eurobarometer 468 on attitudes of EU citizens towards the environment, 89 % of people in Hungary support greater EU investment in environmental protection (EU28 average 85 %).

European Structural and Investment Funds 2014-2020

Through nine national and regional programmes, Hungary has been allocated EUR 25 billion from ESIF funds for 2014-2020. This means that with its national contribution of EUR 4.63 billion, Hungary has a total budget of EUR 29.63 billion to invest in various areas, such as infrastructure networks for transport end energy, SME competitiveness, employment measures, environmental protection measures, the low-carbon economy, research and innovation and social inclusion and education[151].

For 2014-2020, Hungary has been allocated EUR 21.9 billion in total cohesion policy funding. Of this, EUR 15 billion goes to less developed regions (Közép-Dunántúl, Nyugat-Dunántúl, Dél-Dunántúl, Észak-Magyarország, Észak-Alföld and Dél-Alföld) and EUR 463.7 million to one more developed region (Közép-Magyarország), EUR 6 billion under the Cohesion Fund, EUR 361.8 million on European territorial cooperation and EUR 49.8 million on the youth employment initiative. The country will also receive at least EUR 4.7 billion in ESF funding. An additional EUR 3.45 billion from the EAFRD will be invested in developing Hungary's agricultural sector and its rural areas. Hungary will also receive some EUR 39 million from the European Maritime and Fisheries Fund.

Figure 21: ESIF 2014-2020 – EU allocation by theme, Hungary (EUR billion)[152]



Cohesion policy

In 2014-2020, Hungary manages six Operational Programmes under EU cohesion policy. Of these, four programmes receive funding from the ERDF and the ESF, and two programmes receive funding from the ERDF and the Cohesion Fund.

EUR 3 billion is expected to be invested in environmental protection in Hungary in 2014-2020 — 13.9 % of the country's cohesion policy allocation. Hungary is co-financing the shift to a low-carbon economy, which entails improving energy efficiency in buildings and businesses, managing natural resources sustainably and increasing the share of renewable energy sources in the overall energy structure. A substantial proportion of ESIF will be devoted to upgrading Hungary's infrastructure, in particular in the transport sector (including rail investments to improve urban and suburban connections). Further investment is needed in the waste and water sectors to ensure Hungary meets the EU environmental requirements.

[146] Annual Report to the National Assembly: On the activities of the Public Procurement Authority between 1 January and 31 December 2016

[147] See, for example, Action plan on financing sustainable growth (COM(2018) 97).

[148] i.e. the European Regional Development Fund (ERDF), the Cohesion Fund (CF), the European Social Fund (ESF), the European Agricultural Fund for Rural Development (EAFRD) and the European Maritime and Fisheries Fund (EMFF). The ERDF, the CF and the ESF are referred to as the 'cohesion policy funds'.

[149] European Commission, LIFE programme.

[150] European Investment Bank, European Fund for Strategic Investments, 2016.

[151] European Commission, European Structural and Investment Funds (Country factsheet Hungary), 2017.

[152] European Commission, European Structural and Investment Funds Data By Country

The Environmental and Energy Efficiency Operational Programme 2014-2020 aims to support sustainable growth and help countries achieve the Europe 2020 targets. It should improve flood protection, provide better waste and wastewater management services and good quality drinking water to more residents and help protect natural habitats and species. It should also improve energy efficiency and increase the use of renewable energies. The Programme has five main funding priorities: (i) adaptation to climate change impacts; (ii) development of water supply, wastewater disposal and cleaning, waste and wastewater management; (iii) environmental remediation; (iv) nature and wildlife protection; and (v) promoting energy efficiency and the use of renewable energy sources.

Rural development

Hungary is a rural country with 66.3 % of its area classified as rural, 33.1 % classified as intermediate and only 0.6 % classified as urban. 46 % of the population live in rural areas. Agricultural land covers 57 % of the country and forestry covers 21 %. Hungary's agricultural sector is not typical for the EU. There is a very high proportion of arable farming (81 % of agricultural land) and a low proportion of grassland (14.2 %). Hungary has very favourable agro-ecological conditions for agricultural production, indicating a significant growth potential.

On climate change, Hungary is frequently faced with major water imbalances because of droughts and floods. There is a clear need for more efficient water management. Hungary has a limited and outdated irrigation system and only 2.4 % of the agricultural area is irrigated. At 2.7 %, organic production is among the lowest in the EU. Irrigation development is currently a government priority in Hungary for which a dedicated strategy is under development aiming, among others, to increase irrigated area and thus improve agricultural production making it more sustainable and efficient.[153] The country's main environmental challenges in this regard are to protect biodiversity, improve the quality of surface and ground water and tackle soil erosion.

To address these challenges, Hungary's rural development programme (RDP) funds measures for all six of the rural development priorities. There is a particular focus on the following ones: (i) restoring, preserving and improving agriculture and forestry ecosystems; (ii) improving biodiversity, including Natura 2000 areas and areas that are facing natural or other specific constraints; (iii) encouraging social inclusion, poverty reduction and economic development in rural areas; and (iv) promoting food chain organisations and risk management in agriculture[154].

Under the priority 'restoring, preserving and enhancing ecosystems related to agriculture and forestry', Hungary targets measures to territories with inland water and drought problems and to high nature values areas. Around 11.5 % of agricultural land and 6.4 % of forests will be under management contracts to support biodiversity and improve water and soil management. Around 26 % of the allocated EAFRD funds will be used for area-based payments to farmers for using environment/climate-friendly land management practices, including organic farming, to areas facing natural constraints and to Natura 2000 areas.

The 'resource efficiency and climate' priority focuses on energy efficiency-related investments in the agriculture and food processing sectors. It aims to support 2 600 projects and improve the efficiency of existing water management systems on 6 000 ha of agricultural land. The RDP will pursue carbon sequestration mainly by supporting afforestation, agroforestry systems, the prevention and restoration of damage to forests, the improvement of the resilience and environmental value of forest ecosystems and the conservation of forests. It will also encourage environment and climate-friendly forest conservation services. Finally, the RDP will work on reducing greenhouse gas and ammonia emissions by investing in manure storage[155].

On integrating environmental concerns into the common agricultural policy (CAP), the two key areas are: (i) to use the EAFRD to pay for environmental land management and other environmental measures; and (ii) to ensure that the first pillar of the CAP is implemented effectively for cross-compliance and first pillar 'greening'[156]. The

[153] According to the Hungarian authorities, as of November 2018, it is a planned project under the coordination of the General Directorate of Water Management financed by the Ministry of Interior of Hungary. There is no public document available.

[154] Green Infrastructure in Hungary

[155] European Commission: Factsheet on 2014-2020 Rural Development Programme of Hungary, 2015.

[156] Regulation (EU) No 994/2014.

direct payment budget in Hungary is just over EUR 1.27 billion a year, which is roughly the same as the last reference period, despite a general EU-level reduction of 3.2 %. During recent years, direct payments have been an important safety net. In 2014, some 174 870 Hungarian farm businesses received more than EUR 1.2 billion in direct payments. Of these, 80.1 % received a payment of less than EUR 5 000[157].

European Maritime and Fisheries Fund

Hungary spends around EUR 51.8 million on the fisheries and the maritime sector. This includes an EU contribution of EUR 39 million[158]. As Hungary is a land-locked country, one of the Fisheries Operational Programme's main objectives is to increase sustainable fish production through resource-efficient and competitive aquaculture and to reduce negative environmental impacts. The programme also supports measures to increase fish consumption. Finally, funds go towards creating a better managed system of fisheries control and data collection and spreading environmentally-friendly, energy-efficient and water-saving technological solutions. Aquaculture-providing environmental services will also be supported under the programme[159].

The Connecting Europe Facility (CEF)

In 2014-2017, 38 Hungarian transport projects were selected for funding under the CEF, with beneficiaries receiving EUR 1.1 billion of the total EUR 1.3 billion investment. Most of this amount finances railway line reconstructions (including the installation of an electronic train control system) in the vicinity of Budapest[160].

Horizon 2020

Hungary has benefited from Horizon 2020 funding since the programme started in 2014. As of January 2019, 304 participants have been granted a maximum amount of EUR 54.6 million for projects from the Societal Challenges work programmes dealing with environmental issues[161] [162].

In addition to the abovementioned work programmes, climate and biodiversity expenditure is present across the entire Horizon 2020. In Hungary, projects accepted for funding in all Horizon 2020 working programmes until December 2018 included EUR 36 million destined to climate action (16.4 % of the total Horizon 2020 contribution to the country) and EUR 8 million for biodiversity-related actions (3.5 % of the Horizon 2020 contribution to the country)[163].

Several Horizon 2020 projects are under way in Hungary, including one to reduce air pollution caused by vehicles by developing innovative brake-disc materials, novel brake-emission capturing systems and IT-based smart strategies. Other projects aim to reduce congestion levels by developing IT systems to monitor, gather and analyse big data on transportation behaviours[164].

LIFE programme

Since its launch in 1992, the LIFE programme has co-financed a total of 66 projects in Hungary. Of these, 37 have focused on nature and biodiversity and 18 have focused on environment and resource efficiency. These LIFE projects have received an investment of EUR 120 million, of which EUR 73 million was from the EU[165]. For 2014-2017, the total cost of LIFE projects in Hungary was around EUR 20 million, of which the EU provided EUR 14 million[166].

Completed projects under LIFE's environment and resource efficiency strand cover areas such as waste management, air and water quality. The 'INSECTLIFE' project to develop a pest management tool that distinguishes between pests and beneficial insects that live above-ground is still under way.

10 Hungarian projects are currently ongoing under the LIFE nature and biodiversity strand. Some projects are to conserve and restore habitats and others aim to conserve species. A few projects focus on the large-scale grazing management of the Steppe lakes in Hortobágy and the conservation of imperial eagles by managing human-eagle conflicts[167].

[157] European Commission: CAP in your country, Hungary, 2017.
[158] European Commission, European Maritime and Fisheries Fund in Hungary, 2015.
[159] European Commission, Summary of the Partnership agreement for Hungary, 2014, p. 2.
[160] European Commission CONNECTING EUROPE FACILITY (CEF) — Transport grants 2014-2017, Hungary
[161] European Commission own calculations based on CORDA (COmmon Research DAta Warehouse). A maximum grant amount is the maximum grant amount decided by the Commission. It normally corresponds to the requested grant, but it may be lower.
[162] i.e. (ii) Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the bioeconomy; (iii) Secure, clean and efficient energy; (iv) Smart, green and integrated transport; and (v) Climate action, environment, resource efficiency and raw materials.

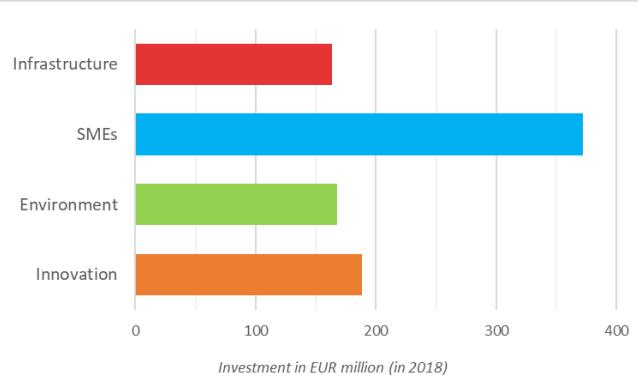
[163] European Commission own calculations based on CORDA (COmmon Research DAta Warehouse).
[164] European Commission, Research & Innovation performance and Horizon 2020 country participation; Success stories for Hungary, 2018.
[165] European Commission, LIFE in Hungary, 2017
Commission services based on data provided by EASME.
[166] Commission services based on data provided by EASME.
[167] European Commission, Horizon 2020 Country Profiles (Hungary), 2018.
[167] European Commission, Research & Innovation performance and Horizon 2020 country participation; Success stories for Hungary, 2018
[167] European Commission, LIFE in Hungary, 2017.

European Investment Bank

In 2018 alone, the EIB group (the European Investment Bank and the European Investment Fund) loaned Hungarian businesses and public institutions EUR 890.9 million (see Figure 22)[168]. Of this, EUR 167.5 million (19 %) went to environmental projects.

Since 2013, the EIB has co-financed several projects in the urban development, water and sewerage and solid waste management sectors[169]. According to a survey by the EIB on priorities for public investment in the next 3 years, the second most popular choice for investment is transport infrastructure (15 %). However, the proportion of Hungarian firms that consider this as their key priority was only 23 %, well below the EU average[170].

Figure 22: EIB loans to Hungary in 2018[171]



European Fund for Strategic Investments

Hungary is making better use of the EFSI. As of January 2019 the EFSI had mobilised around EUR 545 million in Hungary. The secondary investment triggered by those funds is expected to be EUR 2.4 billion[172]. However, to date, no infrastructure and innovation project involving Hungary has been approved. Under the SME category, seven agreements with financial intermediaries have been approved so far. More than 12 000 smaller companies or start-ups are expected to' benefit from this support[173].

National environmental financing

Hungary spent EUR 578.6 million on environmental protection in 2016[174]. 27.7 % of these payments were allocated to waste management activities (the annual average percentage of environmental spending allocated to waste management in the EU is 49.7 %). EUR 103.4 million was allocated to wastewater management (18 % of the total) and EUR 198.8 million was allocated to pollution abatement (34 % of the total). 10.5 % of environmental spending was allocated to protecting biodiversity and the landscape (EUR 60.8 million). Between 2012 and 2016, general government funding for environmental protection was EUR 5.8 billion[175].

Conserving its wetlands is a priority for Hungary. Therefore regulations on wetland conservation are also integrated into fish and water management legislation. Wetland conservation is also encouraged through various payment schemes. Nature conservation funds provide project opportunities to improve habitats directly. In addition, the European Agricultural and Rural Development Fund for water protection investments pertaining to climate change adaptation and agri-environment can support the withdrawal from farmland use and the creation or improvement of wetlands in regularly flooded areas.

As it has been mentioned through the report, one of the challenges for Hungary is to ensure that environmental financing remains at an adequate level. Existent financial gaps in areas such as nature protection and water quality are delaying the correct implementation of EU environmental law and policies. Therefore, ensuring financial resources to reduce the implementation gap should be considered as a priority for the country.

2019 priority action

- Ensure adequate funding, including through the mobilisation of investments and the use of EU funds, to tackle the main environmental challenges affecting the country.

[168] EIB, Hungary and the EIB, 2018.
[169] EIB Financed projects
[170] EIB Investment Survey, Hungary, 2017, p. 7.
[171] EIB, Hungary and the EIB, 2018.
[172] EIB, EFSI project map.
[173] European Commission, European Semester Country Report for Hungary, 2018, p. 10.
[174] Eurostat, General Government Expenditure by function, 2018.
[175] Eurostat, General Government Expenditure by function, 2018.

5. Strengthening environmental governance

Information, public participation and access to justice

Citizens can more effectively protect the environment if they can rely on the three 'pillars' of the Aarhus Convention:
(i) access to information;
(ii) public participation in decision making; and
(iii) access to justice in environmental matters.

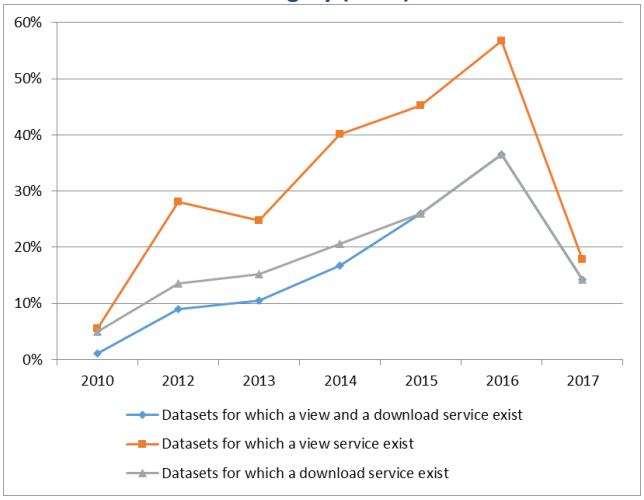
It is of crucial importance to public authorities, the public and business that environmental information is shared efficiently and effectively[176]. Public participation allows authorities to make decisions that take public concerns into account. Access to justice is a set of guarantees that allows citizens and NGOs to use national courts to protect the environment[177]. It includes the right to bring legal challenges ('legal standing')[178].

Environmental information

Hungary has a dedicated national information system on the environment[179] that covers almost all environment areas. The portal is easy to navigate and clearly structured. It includes a data viewer and query interface to search and download data. This website is hosted by the Ministry of Agriculture and has the Ministry's recognisable design. While environmental data and information on legislation is accessible, some reports and studies are missing and there is no information on chemicals. Moreover, the national INSPIRE portal is not integrated in the national information system.

Hungary's implementation of the INSPIRE Directive leaves room for improvement. The country's performance has been reviewed based on its 2016 implementation report[180] and its most recent monitoring data from 2017[181]. Hungary made good progress on dataset identification and data documentation. However, it needs to make more effort to make the data accessible through services. Hungary also needs to make more effort to prioritise environmental datasets in the implementation of environmental legislation. In particular, it needs to prioritise datasets identified as high-value spatial datasets[182].

Figure 23: Access to spatial data through view and download services in Hungary (2017)



Public participation

In Hungary, the governing principles for public participation are laid down in the Environmental Protection Act (EPA) [183] that gives everyone the right to participate in environment-related procedures. This right can be exercised: (i) in person or through a representative; (ii) through social organisations; or (iii) through municipal local governments. The EPA is complemented by specific decrees and acts in different sectors. However, sector-specific legislation tends to follow different approaches when it comes to public participation (e.g. whether or not legal standing is required to comment). Two factors are known to limit public participation: (i) a tendency to exclude participation by multiple individuals or groups (overlooking the fact that projects develop within a tiered planning and permitting procedure); and (ii) the fact that administration procedures are streamlined and accelerated[184].

[176] The Aarhus Convention, the Access to Environmental Information Directive, 2003/4/EC and the INSPIRE Directive, 2007/2 together create a legal foundation for the sharing of environmental information between public authorities and with the public. This EIR focuses on INSPIRE.
[177] The guarantees are explained in Commission Notice on access to justice in environmental matters, OJL 275, 18.8.2017 and a related Citizen's Guide.
[178] This EIR looks at how well Member States explain access to justice rights to the public, and at legal standing and other major barriers to bringing cases on nature and air pollution.
[179] National Environmental Information System.
[180] INSPIRE EL country sheet 2017.
[181] INSPIRE monitoring dashboard.

[182] List of high value spatial data sets.
[183] Chapter 8 of Act LIII of 1995 on the General Rules of Environmental Protection.
[184] Environmental Democracy Index

The Eurobarometer figures from 2017 show that people in Hungary agree strongly (80 % of respondents) that an individual can play a role in protecting the environment. This is an improvement compared to 2014.

Access to justice

Other than general information on access to justice published on the central website of the Hungarian judiciary, the Hungarian authorities do not provide clear, user-friendly practical information online on how to bring environmental challenges to court.

In 2017, Hungary adopted new rules on legal standing, including for civic associations. The new rules are more liberal than the previous ones (being less tied to the right to participate in administrative procedures). Furthermore, environmental NGOs are recognised as environmental litigants in most cases. Requests to bring nature cases before the court are likely to be granted.

2019 priority actions

- Improve access to spatial data and services by making stronger linkages between the country INSPIRE portals, identify and document all spatial datasets required for the implementation of environmental law, and make the data and documentation at least accessible *'as is'* to other public authorities and the public through the digital services foreseen in the INSPIRE Directive.
- Facilitate public participation in relation with the implementation of EU legislation on environment.
- Ensure that there is legal standing for environmental NGOs to bring legal challenges on environmental issues, where relevant without facing prohibitive costs.

Compliance assurance

Environmental compliance assurance covers all the work undertaken by public authorities to ensure that industries, farmers and others fulfil their obligations to protect water, air and nature, and manage waste[185]. It includes support measures provided by the authorities, such as:
(i) compliance promotion[186];
(ii) inspections and other checks that they carry out, i.e. compliance monitoring[187]; and
(iii) the steps that they take to stop breaches, impose sanctions and require damage to be remedied, i.e. enforcement[188].
Citizen science and complaints enable authorities to focus their efforts better. Environmental liability[189] ensures that the polluter pays to remedy any damage.

Compliance promotion and monitoring

Online information is given to farmers on how to comply with obligations on nitrates and nature. The quality of this information is an indicator of how actively authorities promote compliance in areas with serious implementation gaps. The Hungarian Chamber of Agriculture's website provides user-friendly handbooks on topics such as cross-compliance[190] and the Nitrates Directive[191]. These handbooks explain the relevant regulations in an easily understandable way and provide case studies.

Major industrial installations can present a serious pollution risk. Public authorities are required to have plans to inspect these installations and to make individual inspection reports available to the public[192]. Hungary publishes yearly inspection plans and annual reports on the results of inspections[193].

[185] The concept is explained in detail in the Communication on 'EU actions to improve environmental compliance and governance' COM(2018)10 and the related Commission Staff Working Document, SWD(2018)10.
[186] This EIR focuses on the help given to farmers to comply with nature and nitrates legislation.
[187] This EIR focuses on inspections of major industrial installations.
[188] This EIR focuses on the availability of enforcement data and co-ordination between authorities to tackle environmental crime.
[189] The Environmental Liability Directive, 2004/35, creates the framework.
[190] Nemzeti Agrárgazdasági Kamara
[191] Nitrát gazdálkodói kézikönyv, 2015
[192] Article 23, Directive, 2010/75/EU.
[193] These documents are available on the www.kormanyhivatal.hu website, under the "Dokumentumok" title, using the "Vizsgálatok, ellenőrzések" filter. The documents can be searched by year (2015-16-17-18) and by name of County Government Offices.

Citizen science and complaint handling

Engaging the general public through citizen science can deepen knowledge about the environment and help the authorities in their work.

The availability of clear online information about how to make a complaint is an indicator of how responsive authorities are to complaints from the public. In general, official websites in Hungary do not provide clear information.

Enforcement

When monitoring identifies problems, a range of responses may be appropriate. The website of the Hungarian police provides statistics on combating environmental crime[194]. However, the Hungarian authorities do not publish information on the administrative follow-up of detected cases of non-compliance and, apart from general information on the most common infringement issues and the method of calculating fines, there is no published information on responses to cross-compliance breaches on nitrates and nature.

Tackling waste, wildlife crimes and other environmental offences is especially challenging. It requires close cooperation and coordination arrangements between inspectors, customs authorities, police and prosecutors. Despite some references to cooperation on the website, there is an absence of clear information on the practical cooperation and coordination arrangements between these bodies.

Environmental liability

The Environmental Liability Directive (ELD) establishes a framework based on the 'polluter pays' principle to prevent and remedy environmental damage. The 2017 EIR focused on gathering better information on environmental damage, on financial security and guidance. The Commission is still collecting evidence on the progress made.

2019 priority actions

- Better inform the public about compliance promotion, monitoring and enforcement.
- Ensure more information on how professionals dealing with environmental crime work together.
- Improve financial security for liabilities and ELD-guidance and publish information on environmental damage.

[194] Rendőrség, bűnügyi statisztikák

Effectiveness of environmental administrations

Those involved in implementing environmental legislation at EU, national, regional and local levels need to have the knowledge, tools and capacity to ensure that the legislation and the governance of the enforcement process bring about the intended benefits.

Administrative capacity and quality

Hungary's scored 65.01 in the 2018 Environmental Performance Index, ranking it 43 out of 180 countries[195]. It scored 5.0 on the Bertelsmann Sustainable Governance Index for executive capacity and 4.8 for executive accountability (both are below the EU-28 averages of 6.1 and 6.3, respectively). [196]

To ensure effective environmental governance, environmental authorities must have skilled and knowledgeable staff. In 2017, the Commission launched the TAIEX-EIR Peer 2 Peer tool to facilitate peer learning between experts from national environmental authorities. Hungary has made use of this tool for the circular economy and for air quality (see Chapters 1 and 3).

Hungary's Act on Legislation[197] sets rules for impact assessments on all draft bills, government decrees and municipal regulations[198]. These impact assessments cover the potential social, economic, budgetary, environmental and health implications of new regulations as well as the potential administrative burden. They should also include a cost-benefit analysis. While each Ministry is responsible for its own impact assessments, they and their backing organisations[199] coordinate closely.

Concerning cooperation with stakeholders specifically, Hungarian NGOs report[200] a number of recent setbacks, including:

- A sharp decrease in NGOs' participation (both the extent and quality) in decision-making in the national meeting of environmental and nature conservation organisations and in the Coordination Council.

[195] Yale Center for Environmental Law & Policy, 2018 Environmental Performance Index, Yale University, 2018, p.4.
[196] Bertelsmann Stiftung, Sustainable Governance Indicators, executive capacity and executive accountability, 2017.
[197] 2010. évi CXXX. törvény a jogalkotásról 2010, s. 5, p. 17
[198] 12/2016. (IV. 29.) MvM rendelet az előzetes és utólagos hatásvizsgálatról 2016, s. 2, p. 3-5
[199] Institute for European Environmental Policy: Development of an assessment framework on environmental governance in the EU Member States; country factsheet Hungary, p. 51.
[200] Institute for European Environmental Policy: Development of an assessment framework on environmental governance in the EU Member States; country factsheet Hungary.

- Relevant bodies/committees no longer have NGO representatives or have lower NGO representation (for example the National Economic and Social Council and the National Forest Council).
- Lack of sufficient influence by NGOs (e.g. in the case of some Operational Programmes) even when they are involved in the process.
- An excessively short period for NGOs to comment (e.g. in the case of the 2nd (revised) river basin management plan).
- Lack of cooperation by the decision-makers which makes any meaningful discussion impossible (e.g. in the case of the nuclear roundtable).

Coordination and integration

As mentioned in the 2017 EIR, the transposition of the revised environmental impact assessment (EIA) Directive[201] provides an opportunity for countries to streamline their regulatory framework on environmental assessments. Hungary transposed the Directive by the deadline of May 2017.

The Commission encourages the streamlining of the environmental assessments to reduce duplication and avoid overlaps in environmental assessments for projects. Streamlining helps to reduce unnecessary administrative burden. It also accelerates decision-making without compromising the quality of the environmental assessment procedure[202]. Hungary has streamlined environmental assessments under the EIA Directive, the Habitats Directive and the Water Framework Directive and maintained the streamlining of environmental assessments under EIA and IED (IPPC), which was introduced in 2005.

The Ministry of Agriculture is primarily responsible for environmental issues and the implementation of EU environmental legislation. Within the Ministry, the State Secretariat for Environmental Affairs is the central governing body for environment (air quality, noise, soil protection) and nature protection. The Secretariat undertakes the sectoral, expert management and regulatory tasks. The Ministry of Interior bears responsibility for the implementation of water protection and of water management. Energy and climate policy, sustainable development, waste management and matters related to EU co-financing are under the responsibility of the new Ministry for Innovation and Technology. The Ministry of Human Capacities and the Ministry of Finance also have responsibility in some environment-related affairs.

There have been several recent structural changes in the organisation and division of tasks of Hungary's environmental authorities. Until 31 March 2015, inspections on environment and nature were carried out by the regional authorities responsible for the protection of the environment and nature (they were also responsible for water protection until 10 September 2014 – afterwards it has become the responsibility of the 12 disaster management directorates, and at second instance of the National Directorate General for Disaster Management under the Ministry of Interior). As of 1 April 2015 these tasks were given to the government offices (the government's regional administrative bodies) that were set up in January 2011. At regional level, there are 19 county government offices (CGOs). One in each County and one in Budapest. Administratively, the CGOs work under the Minister heading the Prime Minister's office. As of 1 January 2017, the CGOs' environment and nature protection administration tasks were transferred to the district offices located in the county capital town. These district offices are now the first instance authorities responsible for issuing permits for certain activities, for giving authoritative opinions and for carrying out inspections.

Until the end of 2016, the secondary authority responsible for the implementation of national environmental protection legislation was the National Inspectorate for the Environment and Nature. However, on 1 January 2017 the National Inspectorate was merged into the Pest County government office, with its competencies transferred to the Environment and Nature Protection Department.

The frequent changes in Hungarian environmental administration, with, as the latest step in 2018, a substantial reduction of staff dealing with environmental affairs in the Ministry of Agriculture, give rise to concerns and triggers close monitoring by the Commission of the country's environmental performance.

Adaptability, reform dynamics and innovation (eGovernment)

According to Europe's Digital Progress Report 2017, Hungary scored 0.35/1 for digital public services (EU-28 average 0.55/1)[203]. At 4.0, Hungary's sustainable governance indicator score which measures domestic adaptability was well below the EU average. This relatively low score seems to be confirmed by the EUPACK study that describes the Hungarian policy style

[201] Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment.
[202] The Commission issued a guidance document in 2016 regarding the setting up of coordinated and/or joint procedures that are simultaneously subject to assessments under the EIA Directive, Habitats Directive, Water Framework Directive, and the Industrial Emissions Directive, OJ C 273, 27.7.2016, p. 1.

[203] European Commission, Europe's Digital Progress Report (EDPR) 2017 Country Profile Hungary, p. 9.

as 'top-down' and 'minimally political' and by administrative consultations[204].

In the DESI Report 2018, Hungary had a score of 40 out of 100 on digital public services, lower than the EU average of 58[205].

Enabling financing and effective use of funds

As mentioned in Chapter 4, Hungary has used 93 % of its EU funding from the 2007-2013 period. Appropriate administrative capacity has a crucial role in this regard.

Awareness about available EU funding is an essential factor in being able to benefit from it. Calls for tender under the funding Operational Programmes are announced on a centralised website[206]. Information on this and other relevant funding opportunities are also available on the government's official website where people can search for tenders by the responsible Ministry[207].

While there is no specific national environment fund, several local municipalities have set one up. Local municipalities receive financial rewards for setting up environmental/nature conservation funds. For example, they can keep the income from nature conservation penalties applied by local officials as well as a part of the environmental load charges and utilisation contributions, which otherwise go into the central budget[208].

2019 priority action

- Hungary can further improve its overall environmental governance (such as transparency, citizen engagement, compliance and enforcement, as well as administrative capacity and coordination).

International agreements

The EU Treaties require the EU environmental policy to promote measures at international level to deal with regional or worldwide environmental problems.

The EU is committed to strengthening environmental law and its implementation globally. It therefore continues to support the Global Pact for the Environment process, which was launched by the United Nations General Assembly in May 2018[209]. The EIR is one of the tools to ensure that the Member States set a good example by respecting European Union environmental policies and laws and international agreements.

Hungary is one of the EU's top countries for signing and ratifying such international agreements.

Forests: EU Timber Regulation (EUTR)[210]/ Forest Law Enforcement, Governance and Trade (FLEGT) Regulation[211]

Between March 2015 and February 2017, Hungary carried out 3965 checks on operators of domestic timber, many more than were planned for this period[212]. However, for operators importing timber, Hungary could only carry out 42 % of the 60 checks that were planned. The number of checks is quite low compared with the estimated number of Hungarian operators who placed either domestic or imported timber on the EU market during this period[213].

Several Hungarian operators have had their trade suspended because of infringements relating to their EUTR obligations. Others have been instructed to take remedial action and have received penalties[214].

Hungary reports to have collaborated with various government institutions and authorities in other EU countries. For example, it has participated in the FLEGT/EUTR expert group meetings and the ad hoc expert group on FLEGT. Hungary is also taking part in the Mediterranean network on EUTR implementation.

Genetic resources: Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising (ABS)[215]

Hungary has identified its competent authorities for genetic resources but has not yet adopted the formal designation act. Furthermore, it has not yet set rules on penalties. Therefore, the Commission launched an infringement procedure in January 2018.

[204] Hajnal, Gy. (2017) Public administration characteristics in Hungary.
[205] European Commission, Digital Economy and Society Index Report 2018, Digital Public Services.
[206] Government of Hungary.
[207] Hungarian Government
[208] Institute for European Environmental Policy: Development of an assessment framework on environmental governance in the EU Member States; country factsheet Hungary, p. 48.
[209] UN General Assembly Resolution 72/277 and Organizational session of the ad hoc open-ended working group.
[210] Regulation (EU) No 995/2010.
[211] Regulation (EC) No 2173/2005.
[212] Hungary had planned to perform 2010 checks on operators of domestic timber.
[213] On the basis of customs data, it was estimated that 46 700 Hungarian operators placed domestic timber on the EU market, and 2674 imported timber.
[214] 48 operators of domestic timber and 28 operators importing timber either have been compelled to suspend trade or received remedial actions.
[215] Regulation (EU) No 511/2014.

International wildlife trade: the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)[216]

In line with the obligations laid down in the Basic Regulation[217], which transposes the major obligations of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) into EU law, Hungary has established relevant national authorities and regularly processes requests for import, re-export and intra-EU trade documents.

Reports on seizures of illegal wildlife shipments, (in particular those reported every 6 months to TRAFFIC under its contract with the Commission and those exchanged through the EU-TWIX platform), show the extent of the customs authorities' activity.

To ensure that the EU wildlife action plan (2016) is fully implemented, Hungary has contributed to EU coordinated action, e.g. by participating in the Pannon Eagle LIFE Project. Hungary has also reported to have cooperated with international organisations and third countries in this area. For example, it collaborated with the World Parrot Trust on a project to re-introduce confiscated African grey parrots to Tanzania.

Sustainable development and the implementation of the UN SDGs

Sustainable development links environmental, social and economic policies in a coherent framework and therefore helps to implement environmental legislation and policies.

Hungary established a national Council for sustainable development in 2008. Its members are politicians, economists, scientists, churches, trade unions and civil society. The Speaker of the Parliament chairs the Council. The Council prepared a report on Hungary's sustainability status, entitled 'Searching for the future' and set out a national sustainable development framework strategy, with contributions from experts and stakeholder groups.

The second national framework strategy on sustainable development (2012-2024)[218] was adopted in March 2013. It gives a description of the national resources, lists unsustainable processes that are currently applied and sets out the appropriate steps to be taken. It also confirms that scientific research and corporate innovation constitute the basis for economic growth.

After adopting its sustainable development framework, Hungary set up a coordination mechanism. All Ministries concerned are involved in this mechanism and the Ministry of Foreign Affairs and Trade is responsible for ensuring implementation. To submit Hungary's voluntary national review to the UN in 2018, the government created a multi-stakeholder platform in 2017 to improve policy coherence for sustainable development and to oversee the national implementation of the 2030 Agenda. Hungary's central statistics office is responsible for the follow-up and review of the SDGs and has actively encouraged their achievement at national and global level. According to the office's records, 75 % of the global SDG indicators are available in Hungary[219].

The national Council for sustainable development[220] and the central statistics office[221] each publish a progress report every 2 years.

[216] The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).
[217] Council Regulation (EC) No 338/97 on the protection of species of wild fauna and flora by regulating trade therein (the Basic Regulation).
[218] 18/2013. (III. 28.) OGY határozat a Nemzeti Fenntartható Fejlődés Keretstratégiáról; National Framework Strategy on Sustainable Development of Hungary.
[219] Sustainable Development Goals — Voluntary National Review 2018.
[220] Nemzeti Fenntartható Fejlődési Tanács
[221] A KSH kiadványtára