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COMMISSION STAFF WORKING DOCUMENT

Environmental Implementation Review 2022
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 2022: *Turning the tide through environmental compliance*

{COM(2022) 438 final} - {SWD(2022) 252 final} - {SWD(2022) 253 final} - {SWD(2022) 254 final} - {SWD(2022) 255 final} - {SWD(2022) 256 final} - {SWD(2022) 257 final} - {SWD(2022) 258 final} - {SWD(2022) 260 final} - {SWD(2022) 261 final} - {SWD(2022) 262 final} - {SWD(2022) 263 final} - {SWD(2022) 264 final} - {SWD(2022) 265 final} - {SWD(2022) 266 final} - {SWD(2022) 267 final} - {SWD(2022) 268 final} - {SWD(2022) 269 final} - {SWD(2022) 270 final} - {SWD(2022) 271 final} - {SWD(2022) 272 final} - {SWD(2022) 273 final} - {SWD(2022) 274 final} - {SWD(2022) 275 final} - {SWD(2022) 276 final} - {SWD(2022) 277 final} - {SWD(2022) 278 final}

This report has been written by the staff of the Directorate-General for Environment, European Commission. Comments are welcome. Please send them to ENV-EIR@ec.europa.eu.

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Executive summary

In previous environmental implementation reviews (EIRs), the Commission identified three main challenges for Hungary's implementation of EU environmental policy and law. These three challenges were to:

- consider using effective economic instruments to improve waste management, focusing on implementing separate collection obligations to increase the recycling rate and improve the extended producer responsibility systems;
- reduce particulate emissions from solid-fuel burning in households, and introduce short-term measures to reduce car emissions in urban areas; meet the targets set in the new National Emissions Ceiling Directive for 2020- 2029 and any year from 2030;
- adopt management plans for all Natura 2000 sites and ensure their proper implementation.

There has been little to no progress on **waste management**. After an upward trend, municipal waste generation slightly decreased in 2020. However, the recycling rate has also decreased at the same time. Hungary remains below the EU average, and more effort is needed to reach EU post-2020 targets.

On **water management**, there has been limited progress. Hungary's water bodies are exposed to many pressures from human activities and agriculture, with negative implications on human health, water quality and quantity, nature conservation, and climate adaptation. There has been a significant decrease in releases of heavy metals, but levels remain high for other pollutants. Hungary still registers bad water quality in several parts of the country and is among the Member States facing the most significant challenges in tackling nutrient pollution from agriculture. Further efforts are needed to comply with EU laws, notably the Drinking Water and the Urban Waste Water Treatment Directives.

Two river restoration projects in the Mosoni-Danube River area and Nagy-Pándzsa are **good practices** of nature-based solutions. Both projects aimed to reduce flood risks and improve ecology for the water bodies to achieve good ecological status. These good practices should be carried out in other river restoration projects.

Nature protection of habitats and species is below the EU level. The conservation status for protected species and habitats, particularly forests, is deteriorating, leading to significant losses of natural resources and biodiversity. The situation for protected forested areas is severe as more than half of the assessments show a bad conservation status. While Hungary completed its Natura 2000 network in 2011, further action should be taken to align conservation measures and objectives with EU requirements to restore areas and decrease pressure on the environment, particularly from agriculture.

Hungary made good use of the LIFE programme to improve air quality – one of the country's biggest environmental priorities. One project, LIFE IP North-HU-Trans, is currently implemented to reduce industrial emissions and pollution from energy production. Another project, LIFE IP HungAIRy, aims to improve air quality through an air quality plan targeting the reduction of air pollutant emissions from different sectors. Air pollution harms human health and ecosystems, mainly through acidification, eutrophication, and ozone damage, leading to biodiversity loss and reduced agricultural yields. **Air quality** in Hungary continues to be a cause for serious concern. While levels of several pollutants have decreased in recent years, persistent breaches of air quality standards continue, notably exceedances in particulate matter (PM10) and nitrogen dioxide (NO_2) values. The Court of Justice of the European Union (CJEU) condemned Hungary in February 2021 for having systematically and persistently exceeded the daily limit value for PM10 in the air quality zones of the Budapest, Sajó Valley, and Pécs regions since 2005.

On **climate change**, there is a high risk that Hungary will not meet post-2020 emission reduction commitments.

In **environmental governance**, Hungary has no dedicated environment ministry. Responsibilities for environmental issues are split between three different ministries.

EU financing continues to provide substantial support to the environmental implementation gap. From the European Structural and Investment Funds (ESIFs), Hungary received EUR 3.2839 billion to cover direct environmental investments in 2014-2020. From this: (i) EUR 401.4 million was allocated to waste management; (ii) EUR 1.1498 billion to water management; (iii) EUR 352.7 million to land rehabilitation; (iv) EUR 214.9 million to biodiversity and nature; (v) EUR 17.6 million to air quality; and (vi) EUR 1.1474 billion to climate and risk management. Total EU environmental financing (from the European Investment Bank) is estimated to have reached EUR 5.5 billion in 2014-2020.

Hungary is due to receive over EUR 21.7 billion from the 2021-2027 cohesion policy. In 2014-2020, Hungary's overall environmental financing for investments was estimated to be an annual 1.52% of GDP (above the EU average of 0.7%). The overall environmental investment needs in the coming period are estimated to be at least 1.66% of GDP. This suggests **a potential environmental financing gap of over 0.14% of GDP** that should be addressed by focusing on the country's environmental implementation priorities.

Part I: Thematic areas

1. Circular economy and waste management

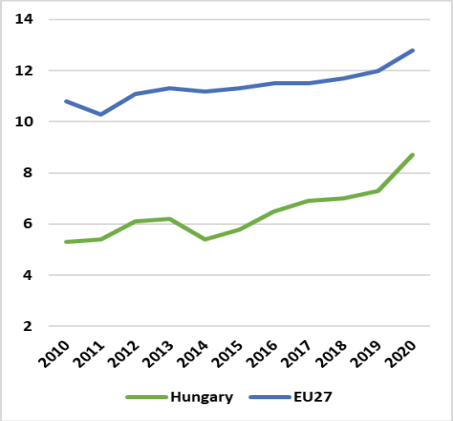
Measures towards a circular economy

The new Circular Economy Action Plan adopted in March 2020 is one of the main building blocks of the European Green Deal. The EU's transition to a circular economy will reduce pressure on natural resources and will create sustainable growth and jobs. It is also a prerequisite to achieve the EU's 2050 climate neutrality target and to halt biodiversity loss. The Action Plan announces initiatives along the entire life cycle of products, aiming to reduce the EU's consumption footprint and to double the EU's circular material use rate by 2030. It targets how products are designed, promotes circular economy processes, encourages sustainable consumption, and aims to ensure that waste is prevented and the resources used are kept in the EU economy for as long as possible.

The circular material use rate is a good indicator of an economy's circularity, as it includes all the materials that are fed back into our economy. Large differences in the circularity rate exist between countries. To help achieve the goal in the EU circular economy action plan of doubling the EU's circular material use rate by 2030, ambitious measures targeting the whole product life cycle are needed at Member State level. Such measures range from sustainable product design that makes it possible to increase the durability, reparability, upgradability and recyclability of products, to other measures like: (i) 'remanufacturing'; (ii) increasing circularity in production processes; (iii) recycling; (iv) boosting eco-innovation; and (v) increasing the uptake of green public procurement.

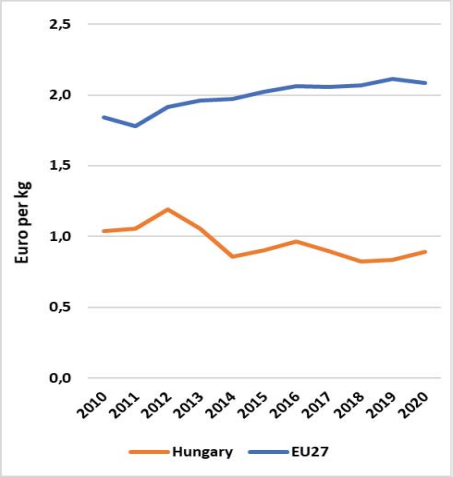
Hungary's circular (secondary) use of material was 6.4% in 2016 and 8.7% in 2020, compared to the 2020 EU average of 12.8%. Although below the EU average, the country has shown a steady increase in the use of secondary material over the past years.

Figure 1: Circular material use rate (%), 2010-2020[1]



Resource productivity expresses how efficiently the economy uses material resources to produce wealth. Improving resource productivity can help to minimise negative impacts on the environment and reduce dependency on volatile raw material markets. As shown in Figure 2, with EUR 0.89 generated per kg of material consumed in 2020, resource productivity in Hungary is still below the EU average of EUR 2.09 per kg.

Figure 2: Resource productivity, 2010-2020[2]



[1] Eurostat, Circular Economy Monitoring Framework.
[2] Eurostat, Resource productivity.

Circular economy strategies

The Commission encourages Member States to adopt and implement national/regional circular economy strategies covering the whole life cycle of products. This is because such strategies are one of the most effective ways to progress towards a more circular economy. Since the launch of the European Circular Economy Stakeholder Platform in 2017[3], national, regional and local authorities have used the platform to share their strategies and roadmaps. In 2018, the proposal for preparing a circular economy action plan was introduced by the Hungarian Department for Environmental Development and Strategy, and an interministerial expert group was set up.

The 2019 EIR for Hungary pointed out that the national minimum service standards do not require separate door-to-door collections to be rolled out, and the recycling targets for service operators are unlikely to act as an incentive. There has only been limited progress on this, as well as on waste management strategy in general. If some measures are planned, but they have not been implemented yet.

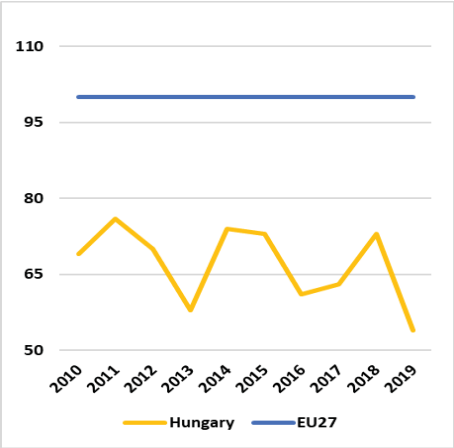
Hungary has been developing several pieces of legislation. This includes: (i) a regulation reducing the impact of certain plastic products on the environment in line with the directive on single-use plastics[4]; (ii) end-of-waste legislation (including for textile and paper); (iii) legislation on by-product status; (iv) an extended producer responsibility regulation; and (v) legislation to provide proof of the removal of abandoned waste from immovable property and of transport to an appropriate waste treatment facility. However, these measures have not yet been adopted or implemented. When it comes to sectorial strategy for construction, Hungary does not foresee one.

Eco-innovation

A successful transition to a circular economy requires social and technological innovation. This is because the full potential of the circular economy can only be reached when it is implemented across all value chains. Eco-innovation is an important enabling factor for the circular economy. New approaches to product design and new business models can help produce systemic circularity innovations, creating new business opportunities.

Hungary ranked 25th in the list of EU countries with a total score of 69 in the 2021 Eco-Innovation Scoreboard, showing that the country needs to do more. In all five components of the 2021 Eco-Innovation Index, Hungary performs below the EU average, namely eco-innovation activities, eco-innovation outputs, socio-economic outcomes, eco-innovation input and resource efficiency outcomes.

Figure 3: Eco-innovation performance, 2010-2019[5]



Green public procurement (GPP)

Public procurement accounts for a large proportion of European consumption, with public authorities' purchasing power representing 14% of EU GDP. Public procurement can drive the demand for sustainable products that meet repairability and recyclability standards. For now, reporting on the uptake of green public procurement is voluntary.

Hungarian public procurement rules are laid down in the Public Procurement Act (CXLIII) of 2015. It allows public authorities to take environmental aspects into account during their public procurement procedures, but it is not mandatory.

To promote environmental objectives in public procurement procedures, the Hungarian government set out the aim to create a national green public procurement strategy. However, this strategy is still in preparation.

The Public Procurement Authority informs stakeholders about the possibilities of green and socially responsible procurement and current trends in EU legislation and policy. The Authority also organises training and, collects green statistics and is involved in green procurement projects. The development of green public procurement

[3] Circular Economy Stakeholder Platform
[4] Directive (EU) 2019/904
[5] European Commission - Directorate-General for Environment (DG ENV), Eco-innovation Observatory', Eco-innovation index.

is also supported by initiatives co-financed by national and EU funds (e.g. the 'green bus programme').

EU Ecolabel and the EU eco-management and audit scheme (EMAS)

The number of EU Ecolabel products and EMAS-licensed[6] organisations in a given country provides some indication of the extent to which the private sector and stakeholders in that country are actively engaged in the transition to a circular economy. It also shows how committed public authorities are to supporting instruments designed to promote the circular economy.

As of September 2021, Hungary had 89 products (out of 83 590 in the EU) and 9 licences (out of 2 057 in the EU) registered in the EU Ecolabel scheme, showing a low take-up of products and licences[7]. Moreover, 27 organisations, amounting to 54 sites from Hungary, are currently registered in EMAS, the Commission's EMAS[8]. Since the 2019 EIR, 56 new products have been registered in the EU Ecolabel scheme, while the number of licences has fallen by six. As regards EMAS, the situation remained stable.

In the 2019 EIR, Hungary received two priority actions for the circular economy. In view of the limited progress, these actions are maintained but with a stronger focus on improving the circular material use rate.

2022 priority actions

- Strengthen the policy framework to speed up the uptake of the circular economy by all economic sectors, including priority sectors such as plastics, textiles and construction.
- Adopt measures to increase the circular material use rate.

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;
(iii) limiting energy recovery to non-recyclable materials and phasing out landfilling of recyclable or recoverable waste.

This section focuses on the management of municipal waste[9], for which EU law sets mandatory recycling targets.

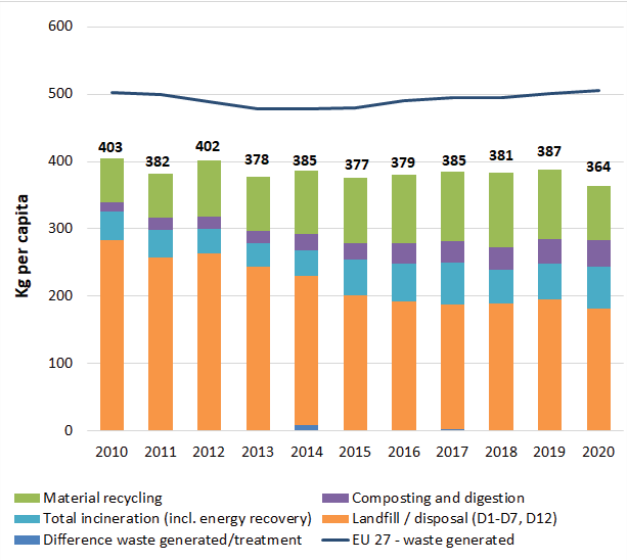
Preventing products and materials from becoming waste for as long as possible is the most efficient way to improve resource efficiency and to reduce the environmental impact of waste. Waste prevention and re-use are the most preferred options and are therefore at the top of the 'waste hierarchy'. The amount of municipal waste generated is a good indicator of the effectiveness of waste prevention measures.

After a limited decrease between 2010 and 2015, municipal waste generation in Hungary has slightly increased since then. It reached 387 kg per capita in 2019. However, in 2020, this decreased again to 364 kg per capita, well below the EU average (505 kg per capita) (see Figure 4). Although more time is needed to determine the trend, Hungary does seem to be on track to decouple total waste generation from economic growth.

[6] EMAS is the Commission's eco-management and audit scheme, a programme that encourages organisations to behave in a more environmentally sustainable way.
[7] European Commission, Ecolabel Facts and Figures.
[8] As of May 2018. European Commission, Eco-management and audit scheme.

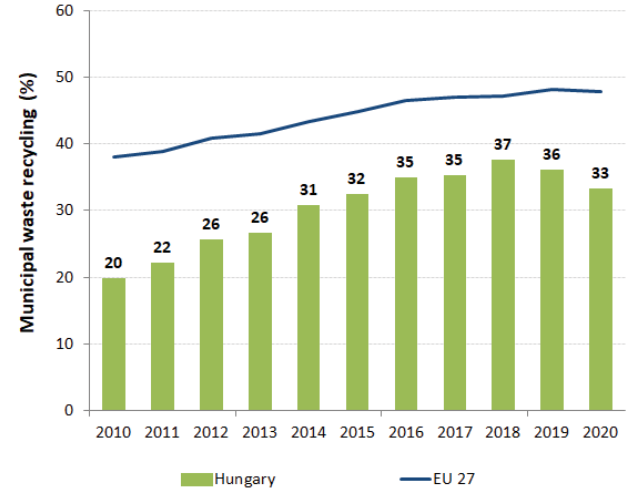
[9] Municipal waste consists of: (a) mixed waste and separately collected waste from households, including paper and cardboard, glass, metals, plastics, biowaste, wood, textiles, packaging, electrical waste and electronic equipment, waste batteries and accumulators, and bulky waste, including mattresses and furniture; and (b) mixed waste and separately collected waste from other sources, where such waste is similar in nature and composition to household waste (Directive 2008/98/EC, Art. 3 2b).

Figure 4: Municipal waste by treatment in Hungary, 2010-2020[10]



Hungary has made steady progress over the past decade in increasing its recycling rate (up from 20% in 2010 to 33% in 2020) and diverting municipal waste from landfill. However, the recycling rate is still well below the EU average of 48.1% in 2020. Figure 5 shows that Hungary needs to step up investment in recycling to meet the EU 2020 and 2025 recycling targets.

Figure 5: Recycling rate of municipal waste, 2010-2020[11]



The Commission's Early Warning report[12] listed Hungary as one of the countries at risk of missing the EU 2020 target of recycling 50 % of municipal waste. The report listed priority measures that Hungary should take to close the implementation gap. In the meantime, the landfill rate increased to 196 kg per capita in 2019. Therefore, it seems that meeting the post-2020 targets will require greater effort from Hungary.

The Commission is currently finalising its analysis of the progress on the recommendations from the 2018 Early Warning reports, as a well as progress towards achieving the 2025 waste recycling targets. The Commission will present the report at the end of 2022, and make recommendations, as appropriate.

On 23 February 2021, Hungary adopted new rules on waste management, in line with its 2020 climate and nature protection action plan. The legislative changes are aimed at moving to a circular economy, eliminating illegal landfills, stricter penalties for those who dispose of waste illegally, setting up a 'deposit-return system' and rationalising waste economic activity. The new legislation also aims to promote a more efficient performance and coordination of waste management tasks via the implementation of a new concession model. In this model, the tasks set out by the government (from the collection of waste to its pre-treatment for recovery) will be carried out by a single private company. The concession company will commit to meeting the EU waste management targets, broken down by year, by making the necessary investment without increasing costs to households.

However, stakeholders have expressed concerns about this new legislation, in particular how the new concession model further nationalises the waste management sector.

Implementation of the 2018 waste legislative package

Hungary has notified the turning of the 2018 waste package[13] into national law to the Commission. A conformity assessment is now ongoing.

Waste management plans and waste prevention programmes are critical for a sound implementation of EU waste legislation. They set out key rules and investment to ensure compliance with existing and new

[10] Eurostat, Municipal waste by waste operation, April 2022.
[11] Eurostat, Recycling rate of municipal rate, April 2022.

[12] 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)422 accompanying COM(2018)656.
[13] 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.

legal requirements (e.g. waste prevention, separate collection for specific types of waste, recycling and landfill targets). Hungary's revised plans and programmes were due on 5 July 2020.

Hungary has amended its waste management plan (published in the Official Journal on 7 October 2021) and notified the Commission. It is currently being assessed by the Commission.

An infringement procedure is pending against Hungary for failing to comply with the Waste Framework Directive and the Habitats Directive because of waste treatment activities carried out at the red mud tailings pond in Almásfüzitő. The case is under assessment.

Hungary has not yet ratified the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships and the International Convention for the Control and Management of Ships' Ballast Water and Sediments.

In the 2019 EIR, Hungary received three priority actions for waste. As there is little to no progress, and in light of the 2022 Early Warning report, the actions are maintained.

2022 priority actions

- Gradually increase landfill taxes to phase out landfilling of recyclable and recoverable waste. Use the revenue for measures that improve waste management, in line with the waste hierarchy.
- Focus on making separate collections obligatory to increase recycling rates, including the collection of bio-waste. Develop and implement minimum service standards and support programmes for municipalities.
- Improve the extended producer responsibility systems, in line with the general minimum requirements[14].

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

2. Biodiversity and natural capital

The 2030 EU biodiversity strategy adopted in May 2020 aims to put the EU's biodiversity on a path to recovery and sets out new targets and governance mechanisms to achieve healthy and resilient ecosystems.
In particular, the strategy sets out ambitious targets to:
(i) protect a minimum of 30% of the EU's land area and 30% of its sea area and integrate ecological corridors, as part of a true trans-European nature network;
(ii) strictly protect at least a third of the EU's protected areas, including all remaining EU primary and old-growth forests;
(iii) effectively manage all protected areas, defining clear conservation objectives and measures, and monitoring them appropriately.
The strategy also sets out an EU nature restoration plan – a series of concrete commitments and actions to restore degraded ecosystems across the EU by 2030, and manage them sustainably, addressing the key drivers of biodiversity loss.

The EU's Birds and Habitats Directives are key legislative tools to deliver on the targets in the EU's biodiversity strategy for 2030 and are the cornerstone of European legislation aimed at conserving the EU's wildlife, natural habitats, and ecosystems[15].

Hungary's draft national biodiversity strategy for 2030[16] went to public consultation in October 2021 and has yet to be adopted by Parliament.

The draft strategy identifies 19 main objectives for 2030 to be achieved through 250 measures, each with corresponding indicators.

Nature protection and restoration

Natura 2000[17], the largest coordinated network of protected areas in the world, is the key instrument to achieve the Birds and Habitats Directives' objectives ensuring the long-term protection, conservation and survival of Europe's most valuable and threatened species and habitats and ecosystems they underpin. Setting up a coherent Natura 2000 network, designating of sites of community importance (SCIs) as special areas of conservation (SACs)[18], setting conservation objectives and measures for the Natura 2000 sites are key milestones in meeting the objectives of the Directives.

Setting up a coherent network of Natura 2000 sites

Hungary hosts 45 habitat types[19] and 212 species[20] covered by the Habitats Directive. The country also hosts populations of 88 bird taxa listed in Annex I to the Birds Directive[21].

By 2021, 21.4% of Hungary's territory was covered by Natura 2000 (EU average: 18.5%). Special protection areas (SPAs) classified under the Birds Directive were covering 14.8% (EU average: 12.8%). This overlapped to a large degree with the SCIs under the Habitats Directive, which covered 15.5% (EU average: 14.2%) of Hungarian territory.

Hungary legally protects 22.2% of its terrestrial areas (EU-27 average: 26.4%)[22] and strictly protects 1.28% of the EU's protected areas, as classified under the International Union for Conservation of Nature (categories 1A and 1B).

[15] These should be strengthened by the Nature Restoration Law, in line with the new EU biodiversity strategy.
[16] Készül a 2030-ig szóló Nemzeti Biodiverzitás Stratégia! | Biodiversity Clearing-House Mechanism and Biosafety Clearing-House
[17] Natura 2000 comprises sites of community importance (SCIs) designated under the Habitats Directive as well as special protection areas (SPAs) classified under the Birds Directive. Figures of coverage and no-coverage do not add up to 100% due to the fact that some SCIs and SPAs overlap. Special areas of conservation (SACs) are SCIs designated by Member States.
[18] SCIs are designated under the Habitats Directive, whereas SPAs are designated under the Birds Directive. Figures of coverage and no-coverage do not add up to 100% due to the fact that some SCIs and SPAs overlap. SACs are SCIs designated by Member States.
[19] European Environment Agency, Article 17 dashboard, Annex I total, 2019.
[20] European Environment Agency, Article 17 dashboard, Annex II + Annex IV excluding those in Annex II + Annex V excluding those in Annex II, 2019. This counting only takes into account species and habitats for which assessment of conservation status was requested.
[21] European Environment Agency, Article 12 dashboard, Annex I, 2020. This counting only takes into account birds taxa for which information was requested.
[22] European Environment Agency, Protected areas, terrestrial protected area percentage (2021), March 2022.

Figure 6: Terrestrial protected area coverage, 2021[23]

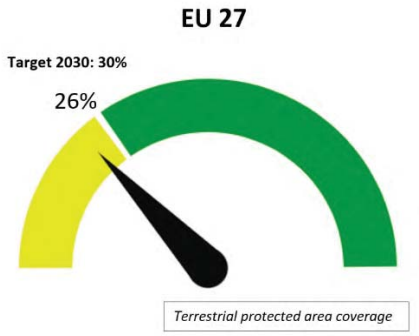
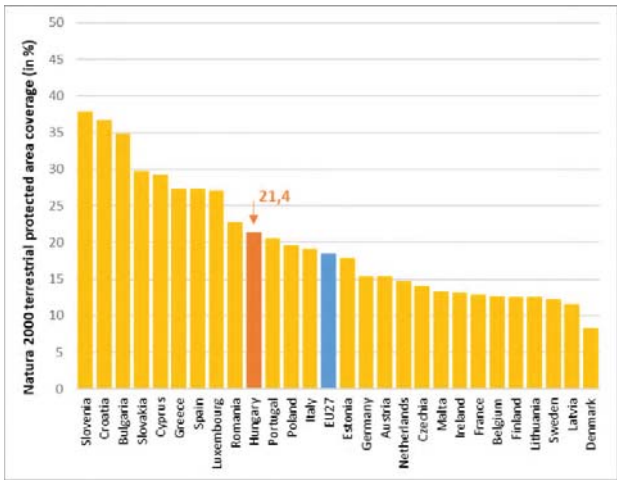


Figure 7: Natura 2000 terrestrial protected area coverage, 2021[24]



Designating SACs and setting conservation objectives and measures

Hungary has already designated all SCIs as SACs, and by the end of 2021, all but two sites had management plans and conservation objectives. By the end of 2022, all SACs and SPAs will have management plans. However, the conservation measures and objectives are not yet fully in line with the relevant guidance because they are not specific enough, measurable or time-bound. Their revision was started under an EU pilot investigation launched by the Commission and should be concluded by 2024 for all sites.

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

To measure the performance of Member States, Article 17 of the Habitats Directive and Article 12 of the Birds Directive require reporting on the progress made towards maintaining or restoring the favourable conservation status of species and habitats.

Hungary submitted its report on the conservation status of habitats and species covered by Article 17 of the Habitats Directive. Between 2013 and 2018, the share of assessments for habitats in good conservation status in 2018 was 13.33%. This is less than in the previous reporting period (2007-2012) when the share was 19.57%. On protected species, the share of assessments in good conservation status in 2018 was 34.91%, down from 35.89% reported in the previous reporting period (2007-2012). Of the forest habitats protected under the EU nature directives, less than 8% show a favourable conservation status[25]. On birds, 51% of breeding species showed short-term increases in their numbers or had stable population trends (the increasing trend dropped to 14% from 19% in the previous reporting period). For key wintering species, 21.05% showed short-term increases or stable population trends.

At the same time, the share of habitats in bad conservation status increased to 48.89%, and the share of assessments for species in bad conservation status also increased, rising to 11.79%. The main pressure comes from agriculture, natural processes and climate change, and 'extraction and cultivation of biological living resources' (including illegal killing and poaching).

[23] EU Biodiversity Strategy Dashboard, indicators A1.1.1 and A1.2.1, February 2022.
[24] European Environment Agency, Natura 2000 Barometer, February 2022.
[25] State of Nature Report, European Environment Agency, 2021.

Figure 8: Assessments on conservation status for habitats for the 2007-2012 and 2013-2018 reporting periods[26]

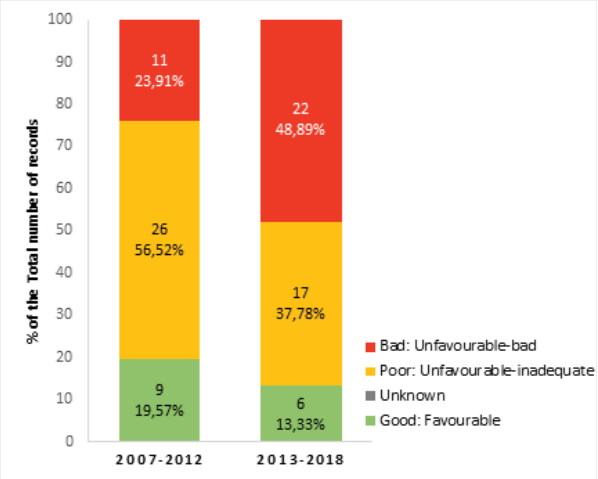
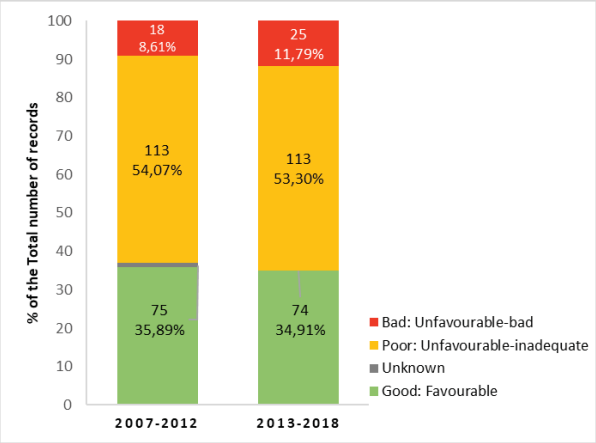


Figure 9: Assessments on conservation status for species for the 2007-2012 and 2013-2018 reporting periods[27]



The conservation status of habitats and species deteriorated further during the last reporting period (2013-2018). The proportion of those in favourable status decreased, while those in unfavourable status increased. In particular, there was a significant increase of habitats in bad status.

In the 2019 EIR, Hungary received two priority actions for nature and biodiversity. One action was to implement clearly defined conservation objectives and necessary conservation measures for the sites. There has been some progress on this, but it is essential to continue efforts in light of the conservation status of habitats and species. There has been limited progress on the other action to develop and promote of smart and streamlined implementation approaches (to ensure the necessary knowledge and data are available) and strengthen communication with stakeholders. As a result, this action is proposed again.

Bringing nature back to agricultural land and restoring soil ecosystems

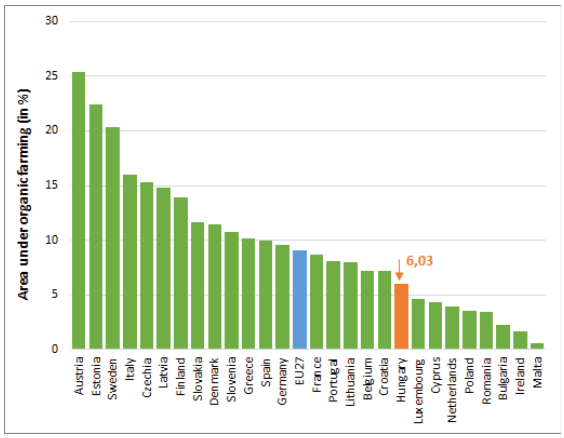
Agricultural land

The biodiversity strategy works alongside the new farm to fork strategy and the new common agricultural policy (CAP) to support and achieve the transition to fully sustainable agriculture.
The biodiversity and farm to fork strategies have set four important targets for 2030:
(i) a 50% reduction in the overall use of – and risk from – chemical pesticides;
(ii) a 50% reduction in the use of more hazardous pesticides;
(iii) a 50% reduction in losses of nutrients from fertilisers while ensuring there is no deterioration of soil fertility (which will result in a 20% reduction in the use of fertilisers);
(iv) bring back at least 10% of agricultural area under high-diversity landscape features and increase areas under organic farming to at least 25%.

With an estimated 6,03% of land under organic farming, Hungary is below the EU average of 9.07% (2020 data, Eurostat).

[26] European Environment Agency, Conservation status and trends of habitats and species, December 2021. Please note when comparing the figures shown for 2007-2012 and 2013-2018 that these differences may also be affected by changes of methods or better data availability.
[27] See previous footnote.

Figure 10: Share of total utilised agricultural area occupied by organic farming per Member State, 2020[28]



According to the Commission recommendations for Hungary's CAP strategic plan[29], rural areas in Hungary are under pressure from environmental and climate factors. There are several reasons for the general degradation of the situation: intensive agricultural practices, increases in greenhouse gas and ammonia emissions, rising nitrate concentrations, and climate change challenges. To counter loss of natural resources and biodiversity, Hungary should take action in line with the biodiversity strategy to: (i) restore non-productive assets and natural areas (in particular wetlands and grasslands); (ii) ensure sustainable forest management; (iii) develop organic farming (with business models that generate revenue and encourage changes in farming practices); and (iv) implement a more integrated policy (combining soil and nutrient policies, manure management, climate change mitigation, and biodiversity and landscape management).

Soil ecosystem

Soil is a finite and extremely fragile resource. It is increasingly degrading in the EU.
The new EU soil strategy, adopted on 17 November 2021, stresses the importance of soil protection, of sustainable soil management and of restoring degraded soils to achieve the Green Deal objectives as well as land-degradation neutrality by 2030.
This entails:
(i) preventing further soil degradation;
(ii) making sustainable soil management the new normal;
(iii) taking action for ecosystem restoration.

One factor in the degradation of soil ecosystems is the area of soil that is sealed or artificialised[30]. In Hungary (see Figure 11), the land taken[31] per year in 2012-2018 can be seen as a measure of one significant pressure on nature and biodiversity. At the same time, land use change constitutes an environmental pressure on people living in urbanised areas.

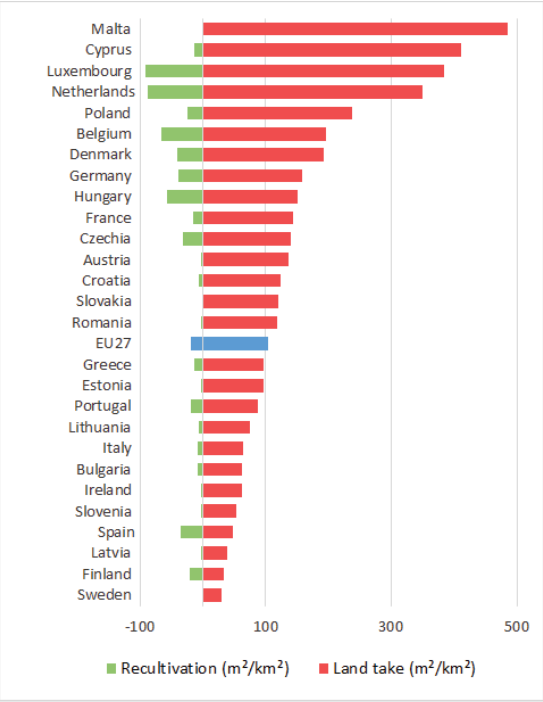
In 2021-2018, Hungary ranked above the EU average with a net land take of 92.4 m²/km² (EU-27 average: 83.8 m²/km²)[32]. More precisely, land take in Hungary is 150.5 m^2/km^2 while re-cultivation is 58,1 m^2/km^2 (see Figure 11).

In 2018, Hungary updated its reporting on land degradation according to the next performance review and implementation system (PRAIS3) reporting platform[33] with measures intended to reduce the degradation identified.

[28] Eurostat, Area under organic farming, February 2022.
[29] EUR-Lex - 52020SC0397 - EN - EUR-Lex (europa.eu)

[30] 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 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 dumpsites).
[31] 'Land taken' means land that is sealed or artificialised.
[32] Land take in Europe – European Environment Agency (europa.eu), Figure 6.
[33] All Reports | Prais3 (unccd.int)

Figure 11: Land take and re-cultivation in EU27 (m2/km2), 2012-2018[34]



Through the land degradation neutrality (LDN) target setting programme, the Global Mechanism (GM) and the secretariat of the United Nations Convention on Combating Desertification (UNCCD) are supporting interested countries with their national LDN target setting process. This includes support in setting national baselines, targets and associated measures to achieve LDN. The SUN ustainable Development Goal target 15.3 states: '*By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world*'. However, Hungary has not yet committed to setting LDN targets under the UNCCD[35].

Contamination can severely reduce soil quality and threaten human health and the environment. The latest information from Member States[36] estimated that potentially polluting activities have taken place or are still taking place in approximately 2.8 million EU sites. At EU level, 650 000 of these sites have been registered in national or regional inventories. Around 65 500 contaminated sites have already been remediated. Hungary registered 5 375 sites where potentially polluting activities had taken place or were taking place. The country had already remediated or applied aftercare measures on 347 sites.

Soil erosion by water is a natural process, which can be aggravated by climate change and human activities such as inappropriate agricultural practices, deforestation, forest fires or construction. High levels of soil erosion can reduce land productivity in agriculture and can have negative and transboundary impacts on biodiversity, ecosystem services, and rivers and lakes (increased volume of sediments, transport of contaminants). According to the RUSLE2015 model, Hungary has an average soil loss rate by water of 1.62 tonnes per hectare per year, which is lower than the EU average of 2.46 t ha. These figures are the output of a model run at EU level and should not be considered as values measured on-site. The real soil loss rate can vary greatly within a country depending on local conditions.

Soil organic matter plays a big role in the carbon cycle and in climate change. Soils are the second-largest carbon sink in the world after oceans.

Forests and timber

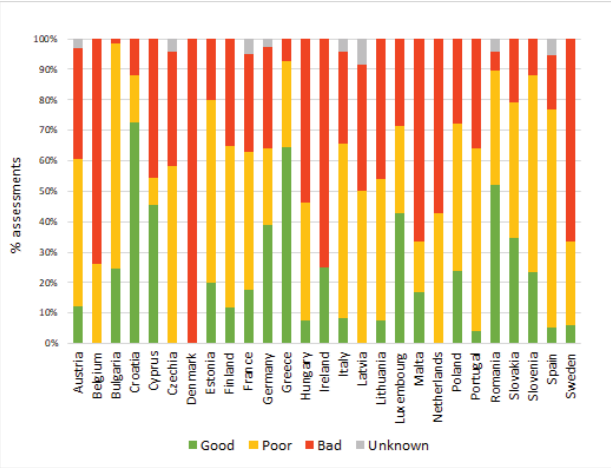
The EU forest strategy for 2030, adopted in July 2021, is part of the Fit for 55 package. The strategy promotes the many services that forests provide. Its key objective is to ensure healthy, diverse, and resilient EU forests that contribute significantly to the strengthened biodiversity and climate ambitions.
Forests are important carbon sinks and conserving them is vital if the EU is to achieve climate neutrality by 2050.

Of the 27% of EU forest area protected under the Habitats Directive, less than 15% of assessments show a favourable conservation status[37]. The share of forested areas in the EU with a bad conservation status increased from 27% in 2015 to 31% in 2018.

In Hungary, forests cover 23.92% of the country[38]. The situation of forest habitats protected under the Habitats Directive is particularly worrying as more than half of the assessed forests have a bad status[39].

[34] European Environment Agency, Land take in Europe, December 2021.
[35] The LDN Target Setting Programme | UNCCD
[36] 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'.
[37] European Environment Agency, State of Nature in the EU.
[38] European Environment Agency, Forest information system for Europe.
[39] JCR, Mapping and assessment of primary and old-growth forests in Europe, p. 13.

Figure 12: Conservation status of forests protected under the Habitats Directive in the EU-27, 2013-2018[40]



The European Union Timber Regulation (EUTR)[41] prohibits the placing on the EU market of illegally harvested timber. In line with the EUTR, Member States' competent authorities must conduct regular checks on operators and traders and apply penalties for non-compliance. With the amendment of Article 20 of the EUTR, reporting every 2 years has been changed to annual reporting and covers the calendar year as of 2019.

From March 2017 to February 2019[42], Hungary carried out 77 checks on domestic timber operators. It also carried out seven checks on operators importing timber. Over the reporting period, it is estimated that Hungary had 46 946 operators placing domestic timber type on the single market and 2 920 operators placing imported timber types on the single market.

The new Deforestation Regulation will repeal and replace the EUTR, and it will essentially integrate and improve the existing system to check the legality of timber.

Invasive alien species (IAS)

IAS are a key cause of biodiversity loss in the EU (alongside changes in land and sea use, overexploitation, climate change and pollution).
Besides inflicting major damage on nature and the economy, many IAS also facilitate the outbreak and spread of infectious diseases, posing a threat to humans and wildlife.
The implementation of the EU IAS Regulation and other relevant legislation must be stepped up.
The biodiversity strategy for 2030 aims to manage recognised invasive alien species and decrease the number of 'red list' species they threaten by 50%.

The core of Regulation (EU) 1143/2014 on IAS (the IAS Regulation)[43] is the list of IAS of Union concern.

The total number of IAS of Union concern is currently 66, of which: 30 are animal species; 36 are plant species; 41 are primarily terrestrial species; 23 are primarily freshwater species; 1 is a brackish-water species; and 1 is a marine species.

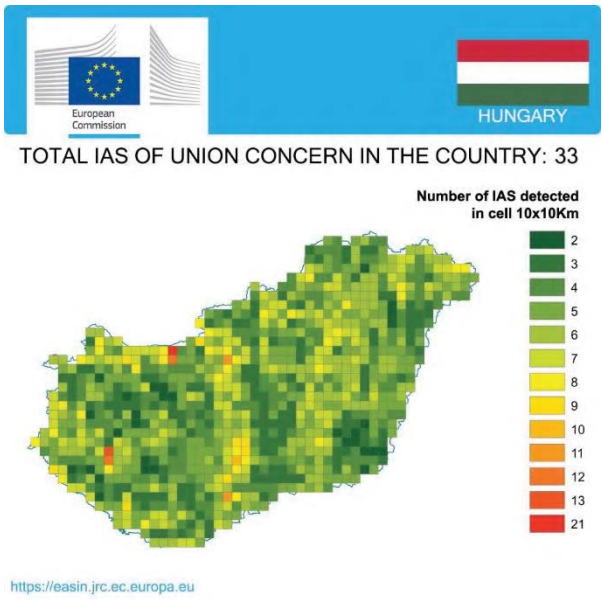
According to a 2021 review[44] of the application of the IAS Regulation, implementation of the Regulation is already starting to deliver on its objectives. These objectives include a consistent framework for addressing IAS at EU level and increased awareness of the IAS problem. At the same time, the review identified some challenges and areas for improvement. Given that the deadlines for implementing the different obligations of the IAS Regulation were between July 2016 and July 2019, it is too early to draw conclusions on many aspects of the Regulation's implementation.

A 2021 report[45] on the baseline distribution shows that of the 66 species on the EU list, 33 have been observed in the environment in Hungary. The distribution is shown in Figure 13.

[40] European Environment Agency, Conservation status and trend in conservation status by habitat group - forests, January 2022.
[41] Regulation (EU) No 995/2010 of the European Parliament and of the Council of 20 October 2010.
[42] COM/2020/629 final.

[43] Regulation (EU) No 1143/2014 of the European Parliament and of the Council of 22 October 2014 on the prevention and management of the introduction and spread of invasive alien species.
[44] Report from the Commission to the European Parliament and the Council on the review of the application of Regulation (EU) No 1143/2014 of the European Parliament and of the Council of 22 October 2014 on the prevention and management of the introduction and spread of invasive alien species, COM(2021) 628 final, 13.10.2021.
[45] Cardoso A.C., Tsiamis K., Deriu I., D'Amico F., Gervasini E., EU Regulation 1143/2014: assessment of invasive alien species of Union concern distribution, Member States reports vs JRC baselines, EUR 30689 EN, Publications Office of the European Union, Luxembourg, 2021, ISBN 978-92-76-37420-6, doi:10.2760/11150, JRC123170.

Figure 13: Number of IAS of EU concern, based on available georeferenced information for Hungary, 2021



A good example of a project dealing with IAS is the LIFE project LIFEforBUGS&BIRDS[46]. Since 2021, this project is working to improve grassland quality and remove unwanted game species from habitats by controlling invasive alien shrubs.

The Department of Nature Conservation of the Ministry of Agriculture maintains two webpages on IAS. The Hungarian action plan on IAS[47] has been prepared and is currently being implemented.

Direct eradication measures to suppress IAS have been performed throughout Hungary, mainly in protected areas or Natura 2000 sites. Most protective measures have targeted the control of milkweed (222 ha in 2019), hogweed species (3 ha in 2019), Himalayan balsam (36 ha in 2019) and Egyptian geese.

In the 2019 EIR, Hungary received one priority action requiring the country to investigate the apparent lack of data and improve the IAS surveillance system. There has been some progress, and monitoring efforts should be continued, notably by ensuring the implementation of the Hungarian action plan in line with Article 13(4) of Regulation (EU) No 1143/2014.

[46] LIFEforBUGS&BIRDS, innovative management of Pannonic salt steppes and loess steppic grasslands for the benefit of plants, insects and birds. Project website.

[47] In line with Article 13(4) of Regulation (EU) No 1143/2014.

2022 priority actions

- Complete and adopt the management plans for all Natura 2000 sites and finalise the revision of the conservation measures and site-specific conservation objectives to bring them in line with Commission guidance.
- Ensure proper protection and management of the Natura 2000 sites to curb the deterioration of habitats and species and put them on the path towards favourable conservation status.
- Decrease the pressure on habitats and species (including birds), in particular from agriculture, which is the most significant pressure on nature and biodiversity.
- Ensure that land under organic farming significantly contributes to the 2030 25% target.
- Step up efforts to implement the recommendations set out in Hungary's CAP strategic plan, especially on improving rural areas.
- Remediate degraded areas of soil and consider formally committing to LDN targets under the UNCCD agreement.
- Step up implementing the IAS Regulation.
- Continue collecting data on IAS and improve the surveillance system.

Ecosystem assessment and accounting

The EU biodiversity strategy for 2030 calls on Member States to better integrate biodiversity considerations into public and business decision making at all levels and to develop natural capital accounting. The EU needs a better-performing biodiversity-observation network and more consistent reporting on the condition of ecosystems.

A thorough national habitat mapping was carried out in Hungary between 2003 and 2006, and it can be considered as a preliminary study for MAES-HU. The quality of natural and semi-natural habitats (ecosystem state) was also assessed and mapped.

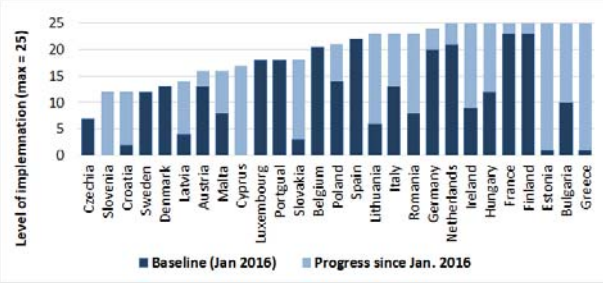
As part of the environment and energy efficiency operational programme for 2014-2020, the 'Strategic assessments supporting the long-term conservation of natural values of community interest as well as the national implementation of the EU biodiversity strategy to 2020' project has been fulfilled, including mapping and assessing ecosystems and their services. The project ran from November 2017 to April 2022.

The project made an online national ecosystem map publicly available in November 2019[48]. Building on this ecosystem map, national ecosystem condition maps were prepared using available databases[49]. The project also mapped and assessed 12 ecosystem services initially identified with stakeholders[50]. Lastly, 12 selected ecosystem services were linked with different groups of stakeholders, with different experiences in human well-being. The synthesis of results and input to policy was carried out in 2020.

A number of ongoing research projects target ecosystem services[51].

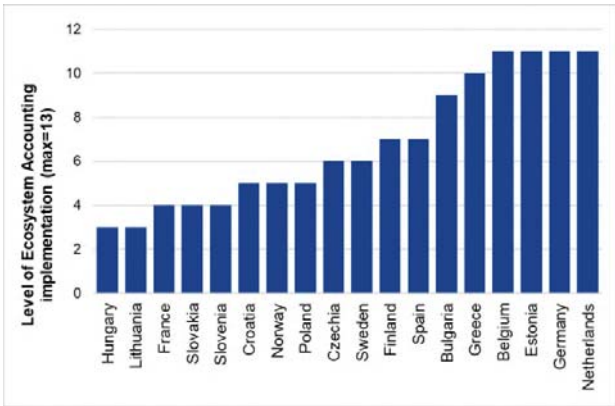
To assess progress in ecosystem mapping and assessment, the Commission sends out a questionnaire twice a year containing 27 implementation questions. Hungary has provided updated information, and encouraging progress has been recorded since January 2016 (see Figure 14).

Figure 14: ESMERALDA MAES Barometer, January 2016 - March 2021[52]



To assess the progress on the implementation of ecosystem accounting, the Commission conducts a survey of Member States by sending out a survey containing 13 questions (see Figure 15).

Figure 15: Ecosystem accounting barometer, September 2021[53]



In the 2019 EIR, Hungary received one priority action on the support to mapping and assessing ecosystems and their services and the evaluation and development of natural-capital accounting systems. There has been some progress and continued effort in that direction should be pursued.

2022 priority actions

- Continue supporting the mapping and assessment of ecosystems and their services and the development of ecosystem accounting. This should be done through appropriate indicators for integrating ecosystem extent, condition and services (including some monetary values) into national accounts. Continue supporting the development of national business and biodiversity platforms, including natural-capital accounting systems to monitor and value the impact of business on biodiversity.

[48] http://alapterkep.termeszetem.hu

[49] The mapping of ecosystem condition has been carried out based on a set of 45 environmental indicators. The methodology applied and a detailed analysis of the 45 indicators is available on the project website: https://termeszetem.hu/hu.

[50] A cascade system has been used as a methodological framework, including four levels, such as: (1) the state of ecosystems; (2) the capacity of ecosystem services; (3) the services actually used; and (4) the maintenance or improvement of well-being. Evaluation and assessment have been performed at all four levels.

[51] https://biodiversity.europa.eu/countries/hungary/maes-1

[52] European Commission, Joint Research Centre, Publication Office, EU Ecosystem assessment: summary for policymakers, p. 80, May 2021.

[53] MAIA Portal, Mapping, and assessment for Integrated Ecosystem Accounting (EU Horizon 2020 project), 2022. MAIA uses the System of Environmental Economic Accounting – Experimental Ecosystem Accounting (SEEA-EEA) as the methodological basis for ecosystem accounting. The SEEA EA is an integrated and comprehensive statistical framework, which is based on five core accounts: ecosystem extent, condition, services, and monetary ecosystem asset.

3. Zero pollution

Clean air

EU clean-air policies and legislation need to significantly improve air quality in the EU, moving the EU closer to the quality recommended by the WHO and curbing emissions of key air pollutants.
Air pollution and its impacts on 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 clean-air legislation and defining strategic targets and actions for 2030 and beyond.
The 2030 zero-pollution action-plan targets are to reduce the health impacts of air pollution by 55% and to reduce the EU ecosystems threatened by air pollution by 25%, compared to 2005.

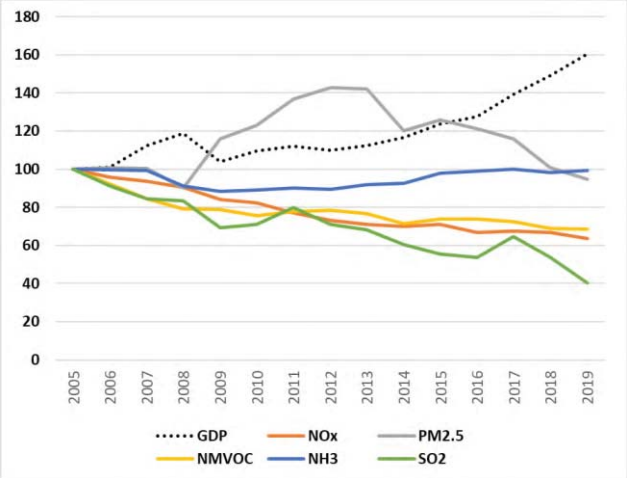
The EU has developed a comprehensive suite of air quality legislation, which sets health-based air quality standards[54] and emission reduction commitments[55] by Member State for a number of air pollutants.

Air quality in Hungary continues to give cause for serious concern. The latest available annual estimates (for 2019) by the European Environment Agency[56] point to Hungary suffering about 10 400 premature deaths (or 117 800 years of life lost (YLL)) attributable to fine particulate matter concentrations[57], 440 premature deaths each year (5 200 YLL) attributable to ozone concentration[58], and 880 premature deaths each year (10 000 YLL) attributable to nitrogen dioxide[59] concentrations[6061].

The emissions of several air pollutants have decreased significantly in Hungary in recent years, while GDP growth has continued (see Figure 16). According to the latest air pollutant emission projections as submitted under Article 10(2) of the National Emission reduction Commitments Directive (NECD)[62], Hungary projects to reach emission reduction commitments for sulfur dioxide (SO_2), non-methane volatile organic compounds (NMVOC), and nitrogen oxides (NO_x) for 2020 to 2029but only SO_2 for 2030 onwards. The projections, however, do not show meeting the 2020-2029 and 2030 onwards emission reduction commitments for ammonia (NH3) and fine particulate matter PM2.5 and the 2030 onwards emission reduction commitments for NO_X and NMVOC. Latest data submitted by Hungary, before the Commission's review, indicate that in 2020 the country complied with the emission reduction commitments for SO_2, NMVOC and NO_x but did not comply with the commitments for NH3 and PM2.5.

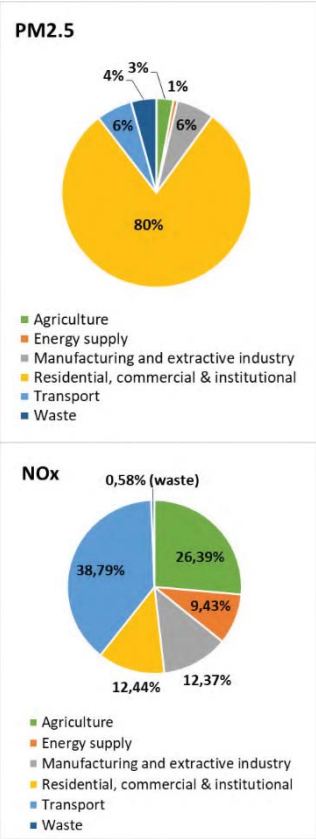
Hungary submitted its national air pollution control programme (NAPCP) to the Commission on 18 May 2020.

Figure 16: Emission trends of main pollutants/GDP in Hungary, 2005-2019[63]



[54] European Commission, 2016. Air Quality Standards.
[55] European Commission, Reduction of National Emissions.
[56] European Environment Agency, Air Quality in Europe –2021 Rapport. Please see details in this report on the underpinning methodology, p. 106.
[57] Particulate matter (PM) is a mixture of aerosol particles (solid and liquid) covering a wide range of sizes and chemical compositions. PM10 (PM2.5) refers to particles with a diameter of 10 (2.5) micrometres or less. PM is emitted from many human sources, including combustion.
[58] Low-level ozone is produced by photochemical action on pollution.
[59] NO_x is emitted during fuel combustion e.g. from industrial facilities and the road transport sector. NO_x is a group of gases comprising nitrogen monoxide (NO) and nitrogen dioxide (NO_2).
[60] European Environment Agency, Air Quality in Europe –2021 Rapport. Please see details in this report on the underpinning methodology, p. 106.
[61] Please note that these figures refer to the impacts of individual pollutants, and to avoid double-counting cannot be added up to derive a sum.
[62] Directive 2016/2284/EU.
[63] European Environment Agency.

Figure 17: PM2.5 and NO_X emissions by sector in Hungary, 2019[64]



In 2020, exceedances above the limit values set by the Ambient Air Quality Directive were registered for particulate matter emissions in one zone. In several other air quality zones, the target values for ozone concentration were also not met[65].

Persistent breaches of air quality requirements, which have severe negative effects on health and environment, are being followed up by the Commission through infringement procedures (mainly for PM10 and NO2 exceedances) covering all Member States concerned, including Hungary.

For exceedances of PM10 limit values, the CJEU delivered a judgment (C-637/18; COM vs Hungary) confirming non-compliance with Directive 2008/50/EC. The aim of this legal action is to put in place appropriate measures that bring all air quality zones into compliance. Hungary prepared an air quality protection action plan, which was adopted by the government in 2021 (Decision No 1403/2021. (VI. 30.)). In recent years, PM10 values have improved.

Hungary has not yet ratified: (i) the amended Gothenburg Protocol; (ii) the Heavy Metals Protocol; (iii) the Persistent Organic Pollutants Protocol under the United Nations Economic Commission for Europe (UNECE) Air Convention; and (iv) Annex VI to the International Convention for the Prevention of Pollution from Ships (MARPOL).

On 16 November 2021, Hungary participated in an EIR peer-to-peer event on technology and measures to reduce ammonia emissions. On 9 February 2022, the country participated in another peer-to-peer event on the EU zero pollution action plan, which gave advice and guidance, particularly on the plan's implementation and compliance aspects[66].

In the 2019 EIR, Hungary received five priority actions for clean air. The first action on the developing a suitable NAPCP has been fully implemented. There has been limited progress on the action to reduce the main emission sources under the NAPCP and meet all air quality standards. There has also been limited progress to reduce NO_2 concentrations, as described above. On reducing particulate matter emissions and concentrations, there has been some progress, as described above. On reducing the use of coal for domestic heating, there has been some progress. There has been limited progress in reducing NMVOCs emissions, as described above. Hungary also received a general priority action in 2019 to sign and ratify outstanding international agreements.

2022 priority actions

- As part of the NAPCP, take action to reduce emissions from the main emission sources.
- Ensure full compliance with EU air quality standards and maintain downward emissions trends for air pollutants to reduce adverse air pollution impacts on the public's health and the economy, with a view to reaching WHO guideline values in the future.
- Accelerate ratification of: (i) the amended Gothenburg Protocol; (ii) the Heavy Metals Protocol; (iii) the Persistent Organic Pollutants Protocol under the UNECE Air Convention; and (iv) Annex VI to the International Convention for the Prevention of Pollution from Ships (MARPOL).

Industrial emissions

The main objectives of EU policy on industrial emissions are to:

[64] See previous footnote.
[65] European Environment Agency, Eionet Central Data Repository.
[66] TAIEX - Environmental Implementation Review - PEER 2 PEER.

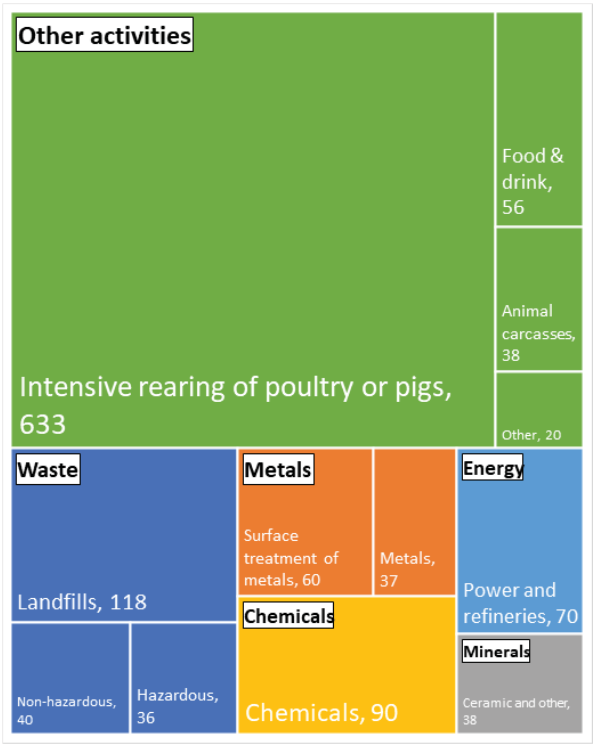
(i) protect air, water and soil;
(ii) prevent and manage waste;
(iii) improve energy and resource efficiency;
(iv) clean up contaminated sites.
To achieve this, the EU takes an integrated approach to the prevention and control of routine and accidental industrial emissions. The cornerstone of the policy is the Industrial Emissions Directive[67] (IED). The Commission tabled a proposal in April 2022[68]. The revision seeks to improve the Directive's contribution to the zero-pollution objective, as well as its consistency with climate, energy and circular-economy policies.

The overview of industrial activities below regulated by the IED is based on data reported to the EU registry (2018)[69].

In Hungary, around 1 240 industrial installations are required to have a permit based on the IED. The distribution of installations is shown in Figure 18.

The industrial sectors in Hungary with the most IED installations in 2018 were: (i) the intensive rearing of poultry and pigs (51%); (ii) the waste management sector, including landfills (13%); (iii) the production and processing of metals (8%); (iv) the chemicals sector (7%); (v) the food and drink industries (5%); and (vi) the power sector (5%).

Figure 18: Number of IED industrial installations per sector in Hungary, 2018[70]



The industrial sectors identified as contributing the largest burden to the environment for emissions to air were:

- the power sector for sulfur oxides (SOx), nitrogen oxides (NOx), arsenic (As), mercury (Hg), nickel (Ni) and zinc (Zn);
- 'other activities' (mostly intensive rearing of poultry or pigs and the food and drink industries) for non-methane volatile organic compounds (NMVOCs) and ammonia (NH3);
- the metal production sector for cadmium (Cd), chromium (Cr) and copper (Cu);
- the waste management sector for particulate matter (PM2.5) and dioxins.

The breakdown is shown in Figure 19.

[67] Directive 2010/75/EU covers industrial activities carried out above certain thresholds. It covers the energy industry, metal production, the mineral and chemical industry, waste management, and a wide range of industrial and agricultural sectors (e.g. intensive rearing of pigs and poultry, pulp and paper production, painting and cleaning).
[68] European Commission, proposal for a revision of the Industrial Emissions Directive, 4 April 2022. The revision of the IED is performed in parallel to the revision of Regulation (EC) No 166/2006 on the European Pollutant Release and Transfer Register (E-PRTR).
[69] European Environment Agency, European Industrial Emissions Portal.
[70] European Environment Agency, EU Registry, European Industrial Emissions Portal (data retrieved on 3 November 2021).

Figure 19: Emissions to air from IED sectors and rest of national total air emissions in Hungary, 2018[71]

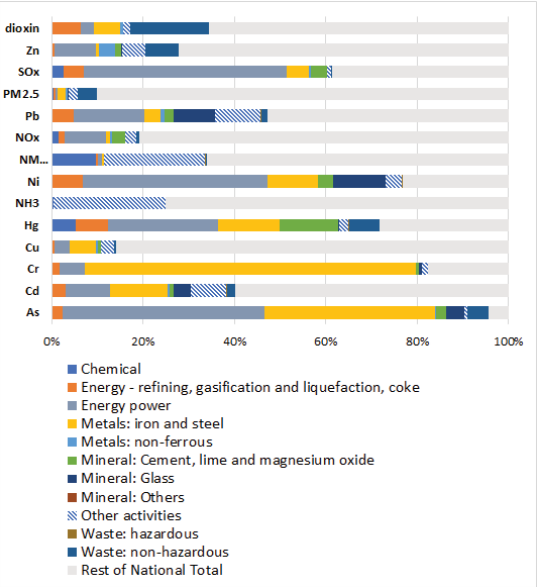
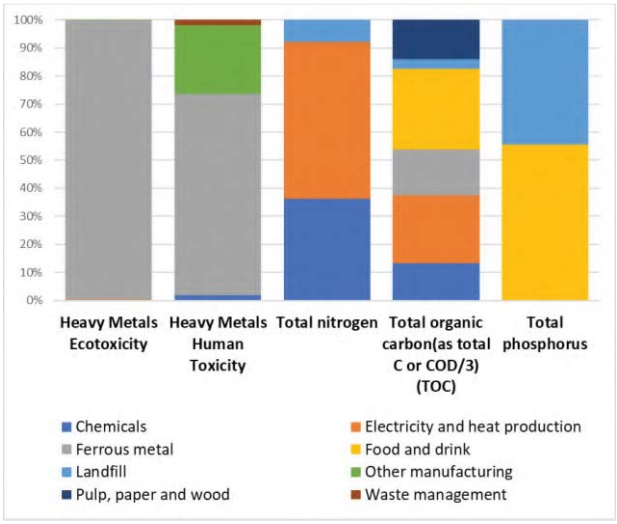


Figure 20: Relative releases to water from industry in Hungary, 2018[74]



In in its report *Costs of air pollution from European industrial facilities 2008-2017*[72], the European Environment Agency identified one thermal power station, Mátrai Eromu Zrt., among the 30 industrial facilities in Europe with the highest absolute damage costs from emissions of the main air pollutants and greenhouse gases in 2017[73].

The environmental burdens for industrial emissions to water mainly result from: (i) the energy and the chemicals sector for total nitrogen; (ii) landfills and the food and drink industries for total organic carbon; and (iii) ferrous metals processing and other heavy metals sectors. The breakdown, based on E-PRTR data, is presented in Figure 20.

The EU approach to enforcement under the IED creates direct rights for the public to have access to relevant information and to participate in the permitting process for potentially polluting installations. This empowers the public and NGOs to ensure that permits are appropriately granted and that conditions of these permits are complied with. As part of environmental inspection, competent authorities carry out site visits to IED installations to take samples and to gather necessary information. In line with Article 23(4) of the IED, site visits must be carried out between once a year and once every 3 years, depending on the environmental risks posed by the installations. In 2018, Hungary carried out 966 site visits. The largest number of visits were to installations for the intensive rearing of poultry or pigs (46% of visits), landfill sites (11% of visits), and the production and processing of metals (10%).

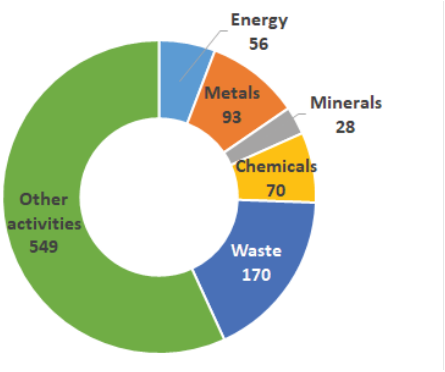
[71] European Environment Agency, LRTAP, Air pollutant emissions data viewer (Gothenburg Protocol, LRTAP Convention) 1990-2019 (data retrieved on 3 November 2021).

[72] European Environment Agency (2021). Costs of air pollution from European industrial facilities 2008-2017. Eionet Report - ETC/ATNI 2020/4. The ranking is based on the approach accounting for the value of a life year (VOLY), table 44, p. 141.

[73] European Environment Agency (2021). Costs of air pollution from European industrial facilities 2008-2017. Eionet Report - ETC/ATNI 2020/4. The ranking is based on the approach accounting for the value of a life year (VOLY), table 42, p. 129 and table 44, p. 141.

[74] European Environment Agency, E-PRTR, European Industrial Emissions Portal. The heavy metals are presented both as a weighted sum of eco toxicity and human toxicity factors to illustrate both the ecological and human impact (based on USEtox) (data retrieved on 3 November 2021).

Figure 21: Number of inspections of IED installations in Hungary in 2018[75]



The development of best available techniques (BAT) reference documents (BREFs) and BAT conclusions ensures good collaboration between stakeholders and enables better implementation of the IED[76]. Since the last EIR report, the Commission adopted BAT conclusions for: (i) waste incineration; (ii) the food, drink, and milk industries; and (iii) surface treatment using organic solvents including wood and wood products preservation with chemicals.

The Commission relies on the efforts of competent national authorities to implement the legally binding BAT conclusions and associated BAT emission levels in environmental permits. This should result in a considerable and continuous reduction in pollution.

Hungary has used the LIFE programme to co-finance projects to tackle industrial emissions and pollution from energy production, including the two examples below.

- The LIFE IP North-HU-Trans[77] project started in 2020 with a total budget of EUR 14.88 billion (including an EU contribution of EUR 8.9 billion). It aims to implement an effective roadmap for the low-carbon transition of the largest coal region in Hungary. This includes the decarbonisation of the Mátra power plant, the second-largest in the Hungarian electricity production system.
- The LIFE IP HungAIRy[78] project aims to improve air quality. It started in 2019 with a total budget of EUR 16.29 billion (including an EU contribution of EUR 9.5 billion).

In the 2019 EIR, Hungary received two priority actions. The first action was to review permits and to strengthen control and enforcement to ensure compliance with newly adopted BAT conclusions. This has been followed up by the Commission through the reporting by Hungary to the EU registry, and no non-compliant permits were reported in 2018. On the action to address air and water pollution caused by industrial emissions, there has been limited progress in the power sector, as described above.

2022 priority action

- Continue addressing pollution from large combustion plants.

Preventing major industrial accidents – Seveso

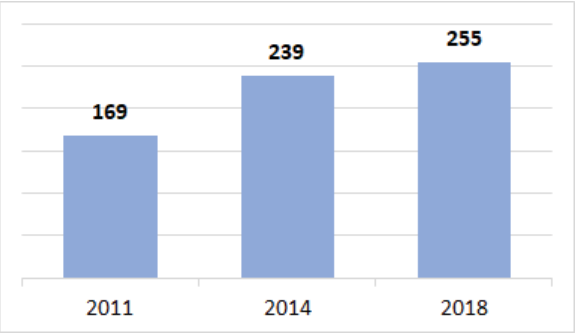
The main objectives of EU policy on the prevention of major industrial accidents are to:
(i) control major accident hazards involving dangerous substances, especially chemicals;
(ii) limit the consequences of such accidents for human health and the environment;
(iii) continuously improve prevention, preparedness and response to major accidents.
The cornerstone of the policy is Directive 2012/18/EU (the Seveso-III Directive)[79].

The overview below of industrial plants regulated by the Seveso III Directive ('Seveso establishments') is based on data reported to the eSPIRS database (2018)[80] and the report by Hungary on the implementation of the Seveso III Directive for 2015-2018[81].

In Hungary, of the 255 Seveso establishments, 141 are categorised as lower-tier establishments and 114 as upper-tier establishments (UTEs), based on the quantity of hazardous substances likely to be present in them. The UTEs are subject to more stringent requirements. The change in the number of Seveso establishments is presented in Figure 22.

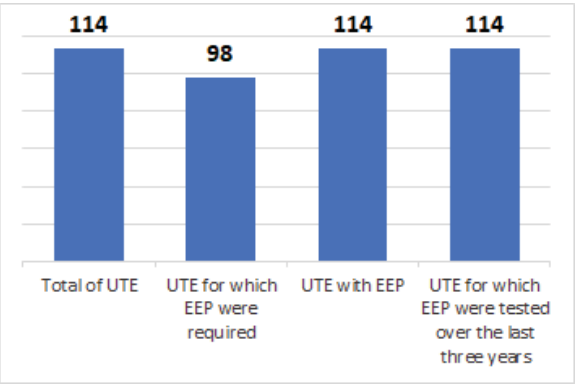
[75] European Environment Agency, EU Registry, European Industrial Emissions Portal (data retrieved on 3 November 2021).
[76] European Commission BAT reference documents
[77] LIFE IP North-HU-Trans, Secure and start to implement an effective roadmap for the low-carbon transition of the single largest coal region in Hungary, project website.
[78] LIFE-IP HungAIRy Improving air quality at eight Hungarian regions through the implementation of air quality plan measures, project website.
[79] Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances.
[80] European Commission, Seveso Plants Information Retrieval System.
[81] As provided for under Article 21(2) of the Seveso III Directive.

Figure 22: Number of Seveso establishments in Hungary, 2011, 2014 and 2018[82]



Many Seveso establishments are required to draw up external emergency plans (EEPs). These EEPs are essential to allow proper preparation and effective implementation of the necessary actions to protect the environment and the population should a major industrial accident occur at them. According to Hungary, an EEP is required for 98 UTEs. In 2018, 114 UTEs had an EEP, and 114 of these EEPs had been tested over the last 3 years. A summary of EEPs in Hungary is shown in Figure 23. The establishment of EEPs is essential to allow proper preparation, and effective implementation of the necessary actions to protect the environment and the population should a major industrial accident nevertheless happen.

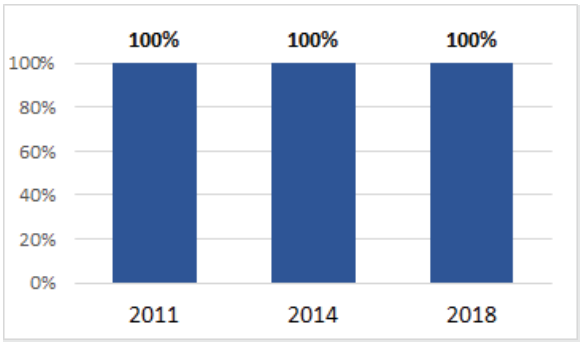
Figure 23: Situation regarding EEPs in Hungary, 2018[83]



The following types of information are permanently available for 100% of the Seveso establishments in Hungary: (i) information to the public referred to in Annex V of the Seveso III Directive especially about how the public concerned will be warned if there is a major accident; (ii) information about the appropriate behaviour in the event of a major accident; and (iii) information containing the date of the last site visit.

The share of UTEs for which information on safety measures and requisite behaviours were actively made available to the public in recent years are presented in Figure 24. This is an important rule in the Seveso III Directive as the public's knowledge of this information may reduce the consequences of a major industrial accident.

Figure 24: Share of UTEs for which information on safety measures and requisite behaviours were actively made available to the public in Hungary, 2011, 2014 and 2018[84]



In 2020, the Commission launched an infringement procedure against Hungary for failing to correctly turn the Seveso III Directive into national law. he identified issues include incorrect or imprecise definitions, improving checks, cross-border cooperation and less stringent requirements on information to the public. In 2020, Hungary amended its legislation and notified it to the Commission.

Noise

The Environmental Noise Directive provides for a common approach to avoid, prevent, and reduce the harmful effects of exposure to environmental noise, although it does not set noise limits as such. The main instruments it uses in this respect are strategic noise mapping and planning. A key target under the 2030 zero pollution action plan is to reduce by 30% the share of people chronically disturbed by transport noise compared to 2017.

Excessive noise from aircraft, railways and roads is one of the main causes of environmental health-related issues

[82] European Commission, Assessment and summary of Member States' implementation reports for Implementing Decision 2014/896/EU (implementing Directive 2012/18/EU on the control of major accident hazards involving dangerous substances), 2022.

[83] See previous footnote.

[84] See previous footnote.

in the EU. It can cause ischaemic heart disease, stroke, interrupted sleep, cognitive impairment and stress[85].

In Hungary, based on a limited set of data[86], environmental noise is estimated to cause at least 400 premature deaths and 1 100 cases of ischaemic heart disease annually[87]. Moreover, some 100 000 people suffer from disturbed sleep. In Hungary, the number of people exposed to noise dropped by 17% between 2012 and 2017. On the basis of the latest full set of information analysed, noise mapping of urban areas, roads and railways is complete.

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 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.

Water Framework Directive

The Water Framework Directive (WFD)[88] is the cornerstone of EU water policy in the 21st century[89]. The WFD and other water-related legislation[90] set the framework for sustainable and integrated water management, which aims at a high level of protection of water resources, prevention of further deterioration and restoration to good status.

By March 2022, all Member States had to report on the third generation of river basin management plans (RBMPs). Member States are required under the WFD to draw up RBMPs for all river basins on their territory. Hungary has reported on time. The Commission will now assess the reported status of river basins and progress made in these river basins, checking how the findings identified in the Commission's assessment of the second generation of RBMPs[91] have been addressed.

The Commission published in December 2021 the 6th Implementation Report[92], which assesses implementation of the WFD and the Floods Directive. This report includes an interim assessment on progress of the implementation of the programmes of measures and monitoring of the new priority substances. The assessment report for Hungary[93] showed that the measures implemented (135 measures accross 33 groups of action) are, in most cases, contributing to reaching the objectives of the second generation RBMPs and the WFD. However, the assessment found that agricultural measures are not advancing to meet the targets of the WFD – Hungary is planning large-scale irrigation projects to refurbish of existing infrastructure and expand the irrigated area.

Based on the second generation of RBMP reporting and data published in 2020[94], 8.3% of all Hungarian surface water bodies[95] reached good ecological status (with 13.5% of surface water bodies having unknown status), and only 45.7% have good chemical status (with 46.5% having unknown status). 20.5% of groundwater bodies failed to achieve good chemical status, and 20.0.% are in poor quantitative status.

Figure 25 illustrates the proportion of surface water bodies in Hungary and other European countries that failed to achieve good ecological status.

[85] WHO 2018, Environmental Noise Guidelines for the European Region.
[86] For further information: European Environment Agency, Noise Fact Sheets 2021.
[87] These figures are an estimation by the European Environmental Agency based on : (i) the data reported by the Member States on noise exposure covered by Directive 2002/49/EC; (ii) ETC/ATNI, 2021, Noise indicators under the Environmental Noise Directive 2021: Methodology for estimating missing data, ETC/ATNI Report No 2021/06, European Topic Centre on Air Pollution, Transport, Noise and Industrial Pollution; and (iii) the methodology for health impact calculations, ETC/ACM, 2018, Implications of environmental noise on health and wellbeing in Europe, Eionet Report ETC/ACM No 2018/10, European Topic Centre on Air Pollution and Climate Change Mitigation.
[88] The Water Framework Directive (2000/60/EC).
[89] The EU Water Policy.
[90] This includes the Groundwater Directive (2006/118/EC), the Environmental Quality Standards Directive (2008/105/EC), the Floods Directive (2007/60/EC), the Bathing Water Directive (2006/7/EC), the Urban Waste Water Treatment Directive (91/271/EEC), the new Drinking Water Directive (2020/2184/EC), the Nitrates Directive (91/676/EEC), the Marine Strategy Framework Directive (2008/56/EC), the Industrial Emissions Directive (2010/75/EU), and the new Regulation on minimum requirements for water reuse (2020/741).
[91] Detailed information can be found in the 5th Report from the Commission on the implementation of the Water Framework Directive and the Floods Directive, as well as in the 2019 EIR.
[92] See the 6th Implementation Report of the WFD and Floods Directive.
[93] European Commission, Directorate-General for Environment, Assessment of Member States' progress in Programmes of Measures during the second planning cycle of the Water Framework Directive. Member State: Hungary, 2022.
[94] WISE Freshwater (europa.eu).
[95] Surface water bodies are rivers, lakes, and transitional, coastal, and territorial waters.

Figure 25: Proportion of surface water bodies (rivers, lakes, transitional waters and coastal waters) in less than good ecological status per river basin district[96]

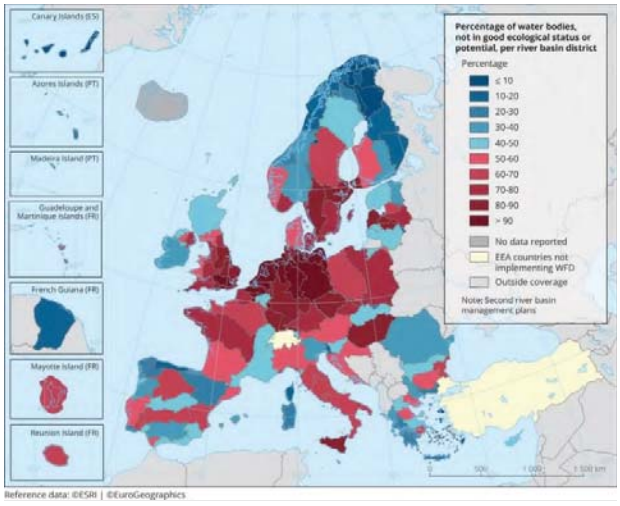
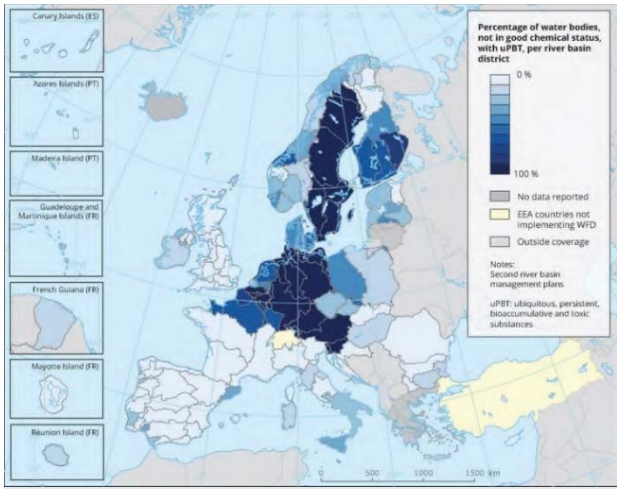


Figure 26 presents the percentage of surface water bodies in Hungary and other European countries not achieving good chemical status. For Hungary, this is 7.8% if one includes water bodies failing due to substances behaving as ubiquitous PBTs (uPBTs – persistent, bioaccumulative and toxic). Without uPBTs, 6% of Hungarian surface water bodies fail to achieve good chemical status.

Figure 26: Percentage of surface water bodies not achieving good chemical status[97]

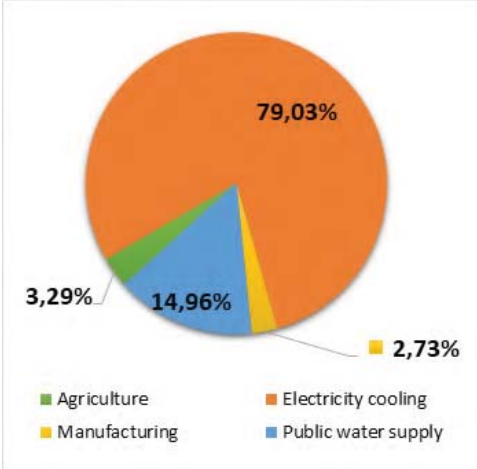


[96] European Environment Agency, Percentage of water bodies not in good ecological status or potential, per river basic district, 2021.
[97] European Environment Agency, Percentage of water bodies, not in good chemical status, with uPBT, per river basic district, December 2019.

Under the IED, Hungary showed a significant decrease over the last decade (80.4%) in releases of heavy metals like Cd, Hg, Ni, and Pb. It also saw a big decline (55.5%) in Total Organic Carbon released to water over the same period[98].

The total water abstracted annually (corresponding to 2019 as the baseline year) in Hungary from surface and groundwater sources is 4 300.30 hm^3 (European Environment Agency, 2022). The percentage for water abstraction per sector is 3.29% for agriculture, 14.96% for public water supply, 79.03% for electricity cooling, and 2.73% for manufacturing (see Figure 27). Hungary uses a register to monitor water abstractions. Small abstractions in Hungary do not require permits but must be declared. Nevertheless, not all abstractions are registered. In Hungary, there are several types of water abstraction records kept by water protection authorities, water management directorates, and notaries of municipalities.

Figure 27: Water abstraction by sector in Hungary[99]

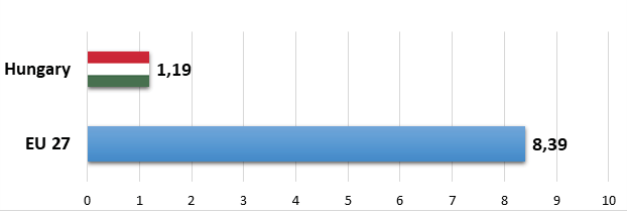


In Hungary, the water exploitation index plus (WEI+)[100] is 1.19%, which is less than the 20% that is generally considered to indicate water scarcity[101].

[98] European Environment Agency, Water pollutant releases changes from 2010 to 2019 for the EU Member States, June 2021.
[99] European Environment Agency, Water abstraction by source and economic sector in Europe, 2022.
[100] The water exploitation index plus (WEI+) is a measure of total freshwater use as a percentage of the renewable freshwater resources (groundwater and surface water) at a given time and place. It quantifies how much water is abstracted and how much water is returned to the environment after use.
[101] By May 2022, EEA will develop a seasonal WEI+ at river basin and NUTS2 level, which provides a more complete picture of water stress and water scarcity for each Member State.

Figure 28 presents the WEI+ index in Hungary and other EU countries. Hungary is ranked 19th in the EU on the WEI+ (with 1st indicating a country that has a high water exploitation capacity and therefore a country with water-scarcity problems).

Figure 28: Water exploitation index plus (WEI+) in the EU, 2017[102]



Floods Directive

As mentioned earlier, the Commission adoped the 6th Implementation Report in December 2021, which assesses the implementation of both the WFD and the Floods Directive. The report includes a review and update of the preliminary flood risk assessments (PFRAs) drawn up by Member States during the second cycle (2016-2021).

The report[103] showed that after the first cycle's PFRA report, Hungary significantly revised its areas of potential significant flood risk (APSFRs). As a result, 419 new APSFRs were identified and reported in the second cycle, which provides for better granularity in their analysis and designation. However, further consideration needs to be given to how long-term developments will be likely to affect flood risks in APSFRs. The assessment identified many other areas for further improvement, such as more clarity on criteria for defining the significant impact of flood events and making the PFRA report publicly available.

In Hungary, close to one quarter of the territory is exposed to floods.

Hugngary has not yet reported on the second generation of Flood Risk Management Plans (FRMPs) under the Floods Directive. The Commission will assess progress since the adoption of the first flood risk management plans and publish a new report, as it did in 2019.

River restoration projects in Hungary are considered to be successful in rehabilitation and flood risk management, in particular, the river restoration projects (using nature-based solutions) in the Mosoni-Danube River area and in Nagy-Pándzsa[104].

Drinking Water Directive

On the Drinking Water Directive[105], no new assessment of the quality of drinking water has been available since the 2019 EIR.

Since 2016, as part of a pending infringement procedure, the Commission has been calling on Hungary to ensure safe drinking water for the population. EU rules require that drinking water is free from micro-organisms, parasites and any substances that constitute a potential danger to human health. The last progress report submitted in January 2022 shows that, to date, 11 zones are still non-compliant with EU parametric values for arsenic and boron. The report also indicates that the deadline for the infrastructure work needed to resolve the issue was extended too afterwards.

The recast Directive[106] entered into force on 12 January 2021, and Member States have until 12 January 2023 to turn it into national legislation. Hungary will have to comply with these revised quality standards.

Bathing Water Directive

In 2020, of the 264 Hungarian bathing waters, 69.7% were of excellent quality (see Figure 29)[107]. Detailed information on Hungarian bathing waters is available from a national portal[108] and via an interactive map of the European Environment Agency[109].

[102] European Environment Agency, Water exploitation index plus, 2022.
[103] European Commission, Directorate-General for Environment, Assessment of Second Cycle Preliminary Flood Risk Assessments and Identification of Areas of Potential Significant Flood Risk under the Floods Directive: Member State: Hungary, 2022.
[104] EC, 2021
[105] OJ L 330, 5.12.1998, p. 32-54.
[106] OJ L 435, 23.12.2020, p. 1-62.
[107] European Environment Agency, 2021. State of bathing water – European Environment Agency (europa.eu), p. 17.
[108] Hungary's national bathing water portal.
[109] European Environment Agency, State of bathing waters in 2020 – European Environment Agency (europa.eu).

Figure 29: Bathing water quality in Europe in the 2020 season[110]

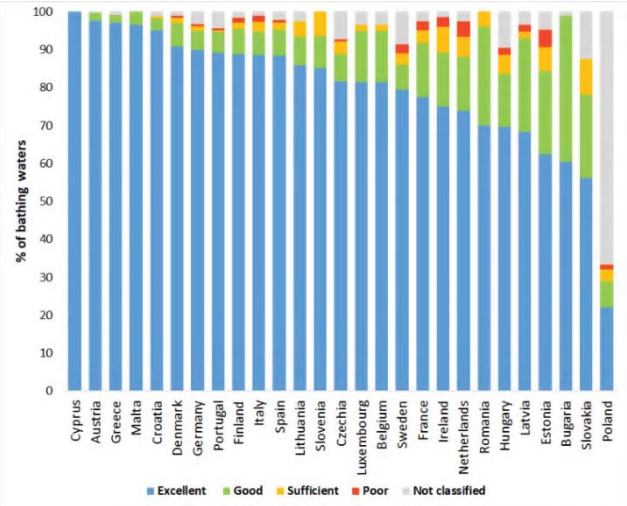
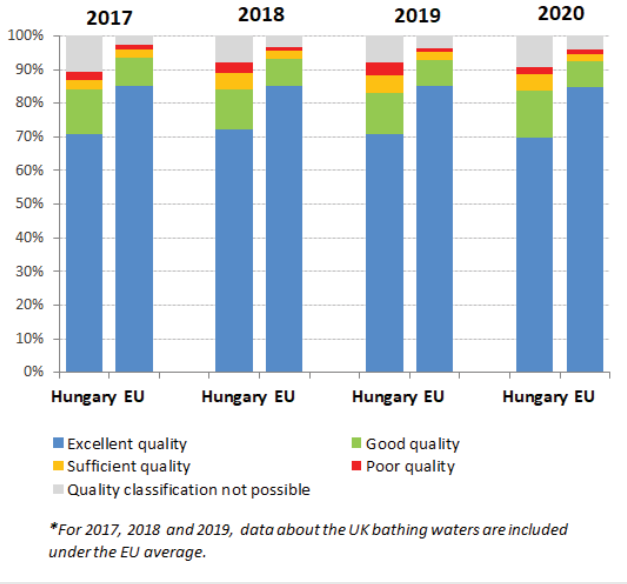


Figure 30: Hungary, Bathing water quality, 2017-2020[111]



*For 2017, 2018 and 2019, data about the UK bathing waters are included under the EU average.

Nitrates Directive

According to the last implementation report on the Nitrates Directive[112], groundwater quality in Hungary is generally good. However, there are some hotspots where nitrate concentration is increasing and with levels above 50 mg/l. A very high number of surface waters have been identified as eutrophic.

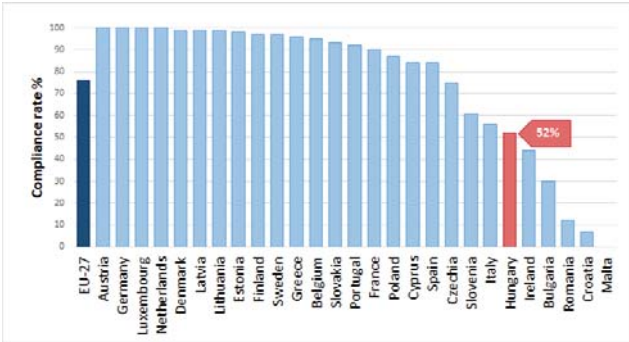
Hungary has a relatively low livestock density, the surplus of nitrogen is below the average for the EU, and there is a deficit of phosphorus. However, Hungary records bad water quality in several parts of the country and is among the Member States facing the biggest challenges in tackling nutrient pollution from agriculture.

The Hungarian action programme was published for the first time in 2001 and was reviewed in 2017 and 2019.

Urban Waste Water Treatment Directive

In recent years, Hungary has had difficulties in meeting its obligations under the Urban Waste Water Treatment Directive (UWWTD). The overall compliance rate is 52%, which is lower than the EU average in 2018. 3.1% of urban wastewater in Hungary is not collected, and 11.5% does not meet the requirements for biological treatment[113].

Figure 31: Proportion of urban wastewater that meets all requirements of the UWWTD (collection, biological treatment, biological treatment with nitrogen and/or phosphorus removal) in compliant urban areas of the UWWTD ('compliance rate'), 2018[114]



In recent years, there have been improvements in compliance with the UWWTD, for which the use of EU funding has been essential. In 2017, the Commission launched an infringement procedure against Hungary failing to comply with the UWWTD. As of 2021, 22 urban areas are still not compliant with the Directive, as these areas do not provide all their residents with a collection system for urban wastewater or an alternative with the same level of environmental protection. As it is not

[110] European Environment Agency, Bathing Water Quality in 2020, 2022.
[111] European Environment Agency, European Bathing Water Quality in 2017, 2018, 2019, 2020.
[112] Implementation of the Nitrates Directive in the EU.
[113] Hungary (europa.eu).
[114] European Commission, WISE Freshwater, 2021.

properly collected, the wastewater cannot be treated as required by EU law. In addition, Hungary is in breach of ensuring more stringent treatment for five other urban areas. Therefore, the Commission decided to refer Hungary to the CJEU in June 2021.

In the 2019 EIR, Hungary received four priority actions for water management. There has been significant progress on the first action to assess the status of all water bodies. The action is proposed again to encourage further efforts. On the action to ensure that abstractions are subject to effective permits, metering and checks, there is no information available. On the action to complete the implementation of the UWWTD, there has been limited progress, so it is proposed again. On clarifying the method for prioritising measures (including the assessment of costs and benefits of the flood risk management plan) there is no information available.

2022 priority actions

- Assess new physical modifications to water bodies in line with Article 4(7) of the WFD. These assessments should consider alternative options and propose suitable mitigation measures.
- Continue current efforts to prevent further nitrates pollution in groundwater.
- Review the designation of nitrate vulnerable zones and include areas where there is a lot of pressure from agriculture and where drainage reinforces the eutrophication of waters.
- Better coordinate implementation of water and nature policies.
- Fully implement the UWWTD for all urban areas by building up the necessary infrastructure.

Chemicals

The EU seeks to ensure that chemicals are produced and used in a way that minimises any significant adverse effects on human health and the environment. In October 2020, the Commission published its chemicals strategy for sustainability - 'Towards a Toxic-Free Environment'[115] which led to some systemic changes in EU chemicals legislation. The strategy is part of the EU's zero-pollution ambition – a key commitment of the European Green Deal.

The EU's chemicals legislation[116] provides baseline protection for human health and the environment. It also ensures stability and predictability for businesses operating within the single market.

Since 2007, the Commission has gathered information on the enforcement of the Regulation on the Registration, Evaluation, Authorisation and Restriction of Chemicals ('the REACH Regulation') and the Regulation on Classification, Labelling and Packaging ('CLP Regulation'). In December 2020, the Commission assessed Member States' reports of these Regulations[117], in line with Article 117(1) of the REACH Regulation and Article 46(2) of the CLP Regulation. According to the latest available data, national enforcement structures have not changed much in recent years. However, it is apparent from the latest report in 2020 that there are still many disparities in the implementation of the REACH and CLP Regulations, and notably in the area of law enforcement. Recorded compliance levels in Member States seem to be quite stable over time, but with a slight worsening trend, wich is likely due to : (i) enforcement authorities being more effective in detecting non-compliant products and companies; and (ii) more non-compliant products being put on the EU market.

In August 2021, the Commission published a measurable assessment of the enforcement[118] of the REACH and CLP Regulations using a set of indicators on different aspects of enforcement.

Hungary has devised and fully implemented REACH and CLP enforcement strategies[119], including:

- annual work plans at national level – regions can adopt priorities tailored to local level;
- focus on REACH-EN-FORCE projects topics;
- inspections reported quarterly to the National Public Health Centre – an evaluation of the enforcement strategy is based on these reports.

In Hungary, 160 inspectors (for all chemicals regulations and other areas) are assignated to REACH and CLP enforcement[120]. In the reporting period (2019), 20 574 REACH checks were carried out. The low percentage of non-complianct cases out of the total number of REACH

[115] COM(2020) 667 final.

[116] Mainly 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.

[117] European Commission, Final report REACH-CLP Member States reporting 2020.pdf (europa.eu).

[118] European Commission, REACH and CLP enforcement: EU level enforcement indicators, 2021.

[119] European Commission, Final report REACH-CLP Member States reporting 2020.pdf (europa.eu), p. 76.

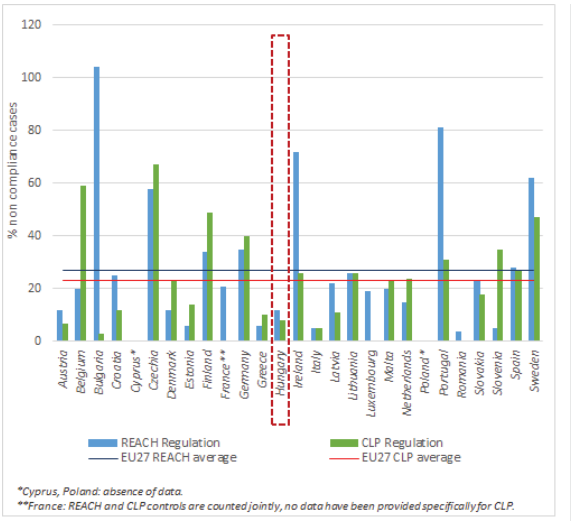
[120] European Commission, Final Report, on the operation of REACH and CLP, Final report REACH-CLP Member States reporting 2020.pdf (europa.eu), p. 74.

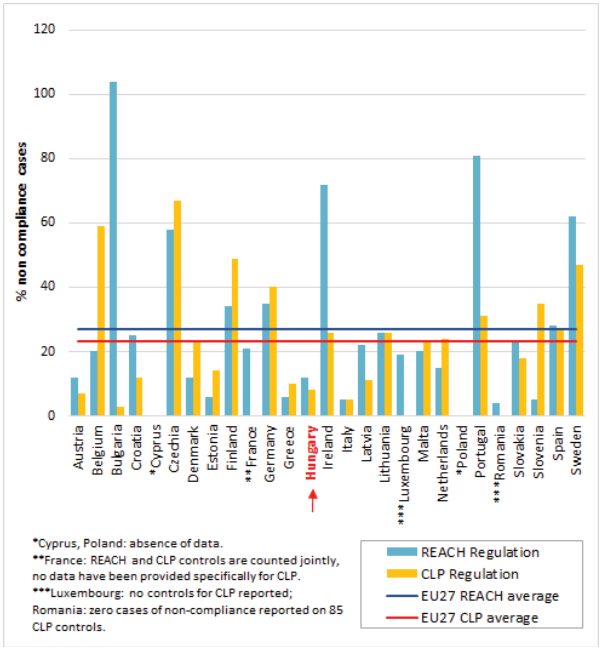
and CLP checks is far below the average[121]. Hungary is among the countries with the highest number of appeals filed against national enforcement decisions in the previous reporting period (2015-2019).

The number of enquiries received by helpdesks in 2019 was 143 for REACH and 196 for CLP. In Hungary, the main enquiries were about REACH the registration, chemical safety reports and safety data sheets (SDS), import obligations and general questions on SDS. On CLP, the main enquiries concern labelling and classifications. The competent Hungarian authority raised awareness using websites, social media, events, fairs, leaflets, newsletters, and articles.

The 2019 EIR did not set any priority actions for Hungary for chemicals.

Figure 32: Percentage of non-compliance cases out of the total number of REACH and CLP checks during 2019 per Member State and compared to the EU average[122]





2022 priority action

- Upgrade administrative capacities in implementation and enforcement towards a policy of zero tolerance to instances of non-compliances.

[121] Final report REACH-CLP Member States reporting 2020.pdf (europa.eu), p. 87-88.
[122] European Commission, Final report on the operation of REACH and CLP, p. 87-88, 2022.

4. Climate action

In line with the Paris Agreement and as part of the European Green Deal, the European Climate Law sets the EU target of reaching climate neutrality by 2050 and reducing greenhouse gas (GHG) emissions by 55% by 2030 compared to 1990. The law also limits the contribution that carbon removals can make towards emission reductions in 2030 to ensure a sufficient mitigation effort.

The EU and its Member States submitted updated nationally determined contributions (NDC) to the UNFCCC in December 2020.

The EU is working across all sectors and policies to cut GHG emissions and make the transition to a climate-neutral and sustainable economy, as well as addressing the unavoidable consequences of climate change.

EU climate legislation incentivises emissions reductions from transport, the maritime sector, and fluorinated gases (F-gases) used in products.

For road transport, EU legislation requires the GHG intensity of vehicle fuels to be cut by 6% by 2020 compared to 2010[123] and sets binding GHG emission standards for different vehicle categories[124].

Under the F-gas Regulation, the EU's F-gas emissions will be cut by two thirds by 2030 compared with 2014 levels.

From 2021, emissions and removals of GHGs from LULUCF have been included in the EU emission-reduction efforts.

The EU adaptation policy is an integral part of the European Green Deal. From 2021, Member States are required to report on their national adaptation policies[125], as the EU Climate Law recognises adaptation as a key component of the long-term global response to climate change. Member States will be required to adopt national strategies, and the EU will regularly assess progress as part of its overall governance on climate action. The updated EU adaptation strategy, published in February 2021, sets out how the EU can adapt to the unavoidable impacts of climate change and become climate resilient by 2050.

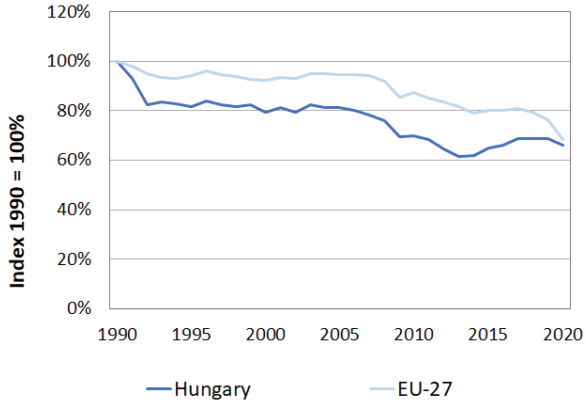
Key national climate policies and strategies

Hungary has an integrated national energy and climate plan for 2021-2030. The country is bound to reach climate neutrality in line with the EU general target. The national objective is to reduce emissions by 7% by 2030 and become climate-neutral by 2050.

The national adaptation strategy has been revised to maintain the natural and socio-economic conditions of Hungary. The strategy responds flexibly to climate change and prevents risks and minimises damage through an innovative framework supporting sustainable development.

Between 1990 and 2019, economy-wide greenhouse gas emissions decreased by 32%. In 2020, Hungary's total greenhouse gas emissions (excluding the land use sector) amounted to 64 Mt CO_2-eq, or 68% of its 1990 levels.

Figure 33: Total greenhouse gas emissions (incl. international aviation) in Hungary, 1990-2020



Effort sharing target

For emissions not covered by the EU's emissions trading scheme (ETS), Member States have binding national targets[126] under the Effort Sharing Regulation[127] (ESR) for the period 2021-2030. Under EU legislation, Hungary's 2020 target makes it possible to increase greenhouse gas emissions in the non-ETS sectors (buildings, road and domestic maritime transport, agriculture, waste, and small industries) by 10% and reduce emissions by 7% by 2030 compared to 2005 levels. Hungary significantly overachieved its 2020 target. With additional measures being considered, Hungary is projected to overachieve its 2030 effort sharing target by 15 percentage points.

[123] The Fuel Quality Directive (Directive 98/70/EC) sets strict quality requirements for fuels used in road transport in the EU to protect human health and the environment, and to make road travel across the EU safer.

[124] Directive 98/70/EC.

[125] Article 29 of Regulation (EU) 2018/1999.

[126] Effort sharing 2021-2030: targets and flexibilities (europa.eu)

[127] Regulation (EU) 2018/842

Figure 34: Emissions and targets under the Effort Sharing Decision/ Effort Sharing Regulation in Hungary, 2020 and 2030 as percentage change from 2005

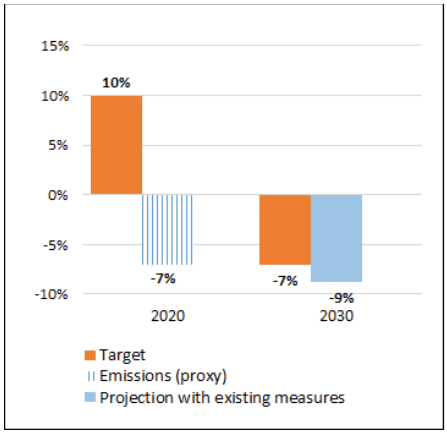
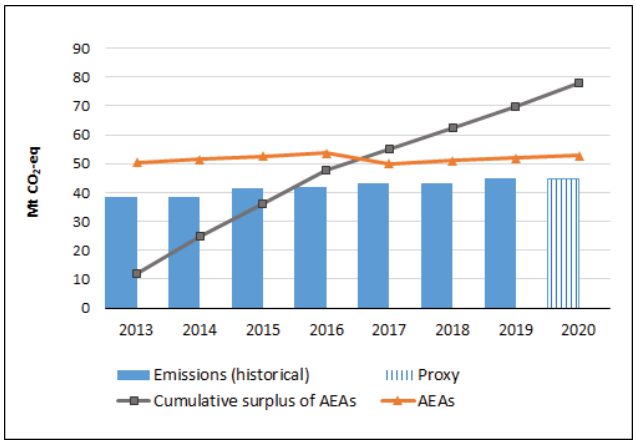


Figure 35: Emissions, annual emission allocations (AEAs) and accumulated surplus/ deficit of AEAs under the Effort Sharing Decision in Hungary, 2013-2020

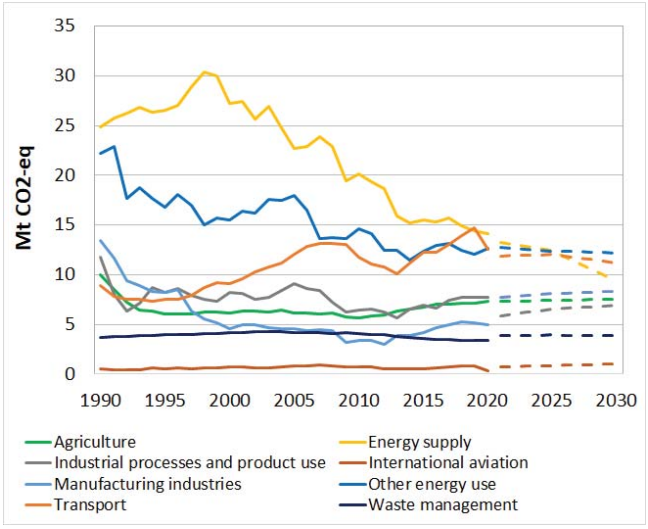


Key sectoral developments

In road transport, the greenhouse gas intensity of vehicle fuels in Hungary decreased by 3%. The country needs to act swiftly to meet the current EU reduction target of a 6% decrease by 2020. There are several types of measures that the Member States can take to achieve this, for example: (i) further expanding the use of electricity in road transport; (ii) supporting the use of biofuels, and advanced biofuels in particular; (iii) incentivising the development and deployment of renewable fuels of non-biological origin; and (iv) reducing upstream emissions before refining processes.

Road transport in 2019 in Hungary represented 22% of the country's total greenhouse gas emissions. Emissions of greenhouse gases from road transport have increased by 24% compared to 2005. Over the last 5 years, Hungary has experienced a strong increase in emissions from the transport sector, and comprehensive measures are needed to reverse this trend.

Figure 36: Greenhouse gas emissions by sector in Hungary[128] – historical emissions 1990-2019, projections 2021-2030[129]



To reduce emissions in the buildings sector, modernising buildings and heating systems is needed. After the most recent assessment of the national energy and climate plan, the Commission recommended supporting energy efficiency investment in residential housing and public buildings.

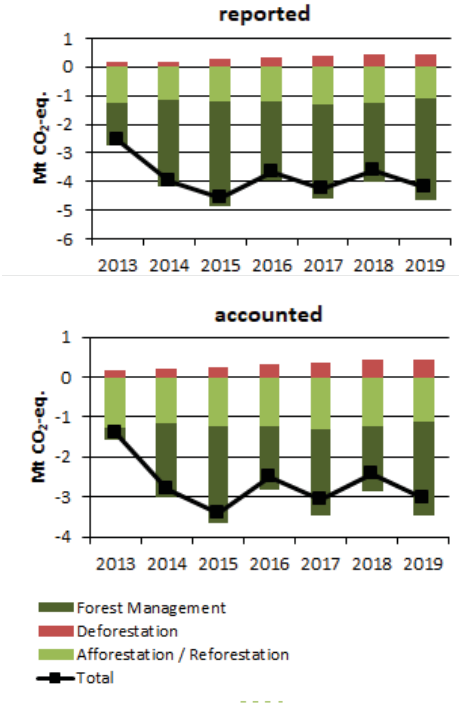
Greenhouse gas emissions in agriculture are increasing.

In the land use, land use change and forestry (LULUCF) sector, Hungary expects to see decreasing net removals of CO_2 equivalent by 2030. Reported quantities under the Kyoto Protocol for Hungary show net removals of, on average, -3.8 Mt CO_2-eq for 2013-2019. Hungary therefore contributes 1.1% to the EU-27's annual average carbon 'sink' of -344.9 Mt CO_2-eq. Using a separate measurement scheme, carbon accounting for the same period shows net credits of -2.7 Mt CO_2-eq on average, which corresponds to 2.3% of the EU-27 accounted sink of -115.0 Mt CO_2-eq. Reported net removals and accounted net credits show a strongly fluctuating pattern with a small increase over the 7-year period.

[128] The sectors in the figure correspond to the following Intergovernmental Panel on Climate Change (IPCC) sectors: Energy supply: 1A1, 1B and 1C; Energy use in manufacturing industries: 1A2; Industrial processes and product use: 2; Transport: 1A3; Other energy use: 1A4, 1A5 and 6; Agriculture: 3; Waste: 5; International aviation: 1.D.1.a.

[129] European Environmental Agency, Total GHG trends and projections.

Figure 37: Reported and accounted emissions and removals from LULUCF in Hungary[130]



Use of revenue from the auctioning of EU ETS allowances

Total revenue from the auctioning of emission allowances in Hungary under the EU ETS in 2012-2021 were almost EUR 1.3 billion. In Hungary, 50% of the revenue is spent on climate and energy, and the other 50% goes to the national budget.

2022 priority actions

- Make the most of the large energy efficiency potential in Hungary, especially in buildings and the transport sector.
- Accelerate further deployment of renewables and promote renewables in the electricity and heating sectors (including measures to boost electricity production with solar photovoltaics), and upgrade existing infrastructure.Improve sustainable transport and support electro-mobility, charging infrastructure and other alternative fuels.
- Ensure sustainability of biomass energy.

[130] The differences between reported and accounted emissions from LULUCF under the Kyoto Protocol are described in the *Explanatory note on LULUCF – accounted and reported quantities under the Kyoto Protocol*.

Part II: Enabling framework: Implementation tools

5. Financing

Environmental investment needs in the European Union

Financing environmental measures is essential for their success. Although most financing comes from national sources, various EU funds contribute significantly, helping to close the financing gaps.
Post-2020, environmental implementation will also be supported by the EU's COVID-19 Recovery Fund (via the RRF) and the 'do no significant harm' principle which runs across the EU budget. The renewed commitments made at COP26 (Glasgow, October-November 2021) and the Biodiversity Convention (April-May 2022)[131] will also be reflected in the EU budget.

Overall environmental investment gaps (EU-27)

The EU's investment needs for the green transition cover a range of interlinked areas. The additional investment needs over the baselines (i.e. the gap between what is needed and what is forecast to be invested if no additional action is taken) for climate, energy and transport were estimated in 2021 at EUR 390 billion year (EU-27)[132] with a further EUR 130 billion a year to deliver the EU's core environmental objectives[133]. The costs of climate adaptation can also be significant and are estimated to reach a total of EUR 35-62 billion (narrower scope) or EUR 158-518 billion (wider scope) a year[134]. Those investment needs do reflect the implementation objectives to 2020 and to 2030 (except for climate adaptation, the costs of which are expected to last over a longer time horizon).

A preliminary update of the EU's core environmental investment gap is provided in Table 1[135]. Almost 40% of the environmental investment needs relate to dealing with pollution, which accounts for almost 65% of the total gap if combined with water management. The investment gap in circular economy and waste and is estimated between EUR 13-28 billion a year, depending on the levels of circularity implemented. The annual biodiversity financing gap is estimated at around EUR 20 billion.

Table 1: Estimated breakdown of the EU's environmental investment needs, by environmental objective , 2021-2030 (per year)[136]

Environmental objective	Estimated investment gap (EU-27, p.a.)	
	EUR billion	%
Pollution prevention & control	42.8	39%
Water management & industries	26.6	24%
Circular economy & waste	13.0	12%
Biodiversity & ecosystems[137]	21.5	20%
Research, development & innovation	6.2	6%
Total	**110.1**	**100%**

Environmental investment needs in Hungary

There is a clear shift of investment priorities in Hungary to support climate, energy and transport policies. There is also a great need in Hungary for investment in water and waste infrastructure, biodiversity and nature. Climate investment priorities address the needs or 'investment gaps' in several economic sectors such as the energy renovation of housing, e-mobility and

[131] The Convention on Biological Diversity (cbd.int); Post-2020 Global Biodiversity Framework | IUCN.
[132] SWD(2021)621, accompanying proposal COM(2021)557 to amend the REDII Directive (EU) 2018/2001.
[133] SWD(2020) 98 final/2.
[134] SWD(2018)292. Impact assessment accompanying the Proposal for the LIFE Regulation (COM(2018)385).
[135] With decreases due to Brexit and some reconciliation among the objectives.
[136] European Commission, DG Environment, 'Study supporting EU green investment needs analysis' (ongoing, 2021-2023) and DG Environment internal analysis 'Environmental investment needs and financing in the EU's green transition', July 2020.
[137] To meet the needs of the 2030 biodiversity strategy (Natura 2000, green infrastructure), at least EUR 20 billion a year should be unlocked for nature (COM/2020/380 final) while EUR 30-35 billion may be needed to fully cover the strategy (including restoration), indicating a gap of EUR 10-20 billion a year compared to current baseline expenditure.

transportation infrastructures. The following environmental investment needs have been identified by sector.

Pollution prevention and control

The EU's first Clean Air Outlook[138] under the clean air programme estimated that, to reach the emissions reduction requirements in the NECD by 2030[139], total air pollution control costs for Hungary would be equivalent to EUR 874 million a year. This includes EUR 592 million for capital investment (assuming Hungary achieves the 2030 climate and energy targets).

The second Clean Air Outlook[140] suggests that the EU would achieve the reductions of air pollutant emissions that correspond to the obligations under the NECD for 2030 if: (i) all relevant legislation adopted up to 2018 is implemented (including all air pollution targets and the 2030 climate and energy targets set in 2018); and (ii) Member States also implemented the measures announced in their national air pollution control programmes. The only exception is for ammonia for 15 Member States, excluding Hungary.

Water management

According to the OECD study Financing a Water Secure Future (2022)[141], Hungary ranks first in terms of population connected to water supply, the quality and extent of the wastewater infrastructure are closer to the EU average. Climate change is likely to affect the availability and quality of water in Hungary because the climate is expected to become more like in the Mediterranean. Water resources in Hungary already show regional and seasonal variations, which may escalate with climate change and cause changes in water consumption patterns. Droughts can be observed, especially in the Great Plains – extreme droughts resulted in financial losses of around 1.4% of GDP in 2012[142]. However, an increase in the frequency and intensity of heavy precipitation will increase costly floods in inhabited areas.

EU funding has provided a significant share of public funding over the past decade[143]. It is estimated that Hungary will need to invest an additional cumulative EUR 2.237 billion by 2030 over the baselines for drinking water and sanitation – corresponding to an investment need (capital expenditure) of around EUR 223.7 million a year, with over 90% of that for wastewater[144]. Moreover, the recent 6th WFD and Floods Directive implementation report[145] and the financial - economic study[146] accompanying it, are also a relevant source of information in this domain.

Waste and circular economy

According to a Commission study[147], if Hungary is to meet its recycling targets for municipal waste and packaging waste, it still needs to invest an additional EUR 348 million (around 49.7 million a year) over its baselines in 2021-2027. Investment is needed in collection, recycling reprocessors, biowaste treatment, waste sorting facilities, and waste registry digitalisation. This does not include the investment necessary in other key waste streams (plastics, textiles, furniture) or the investment to increase circularity and waste prevention across the economy.

Biodiversity and ecosystems

The recently submitted priority action framework (PAF) for Hungary shows that nature protection costs (including Natura 2000) in 2021-2027 are EUR 361.6 million a year, of which EUR 168 million (around half) constitutes one-off costs[148]. This excludes additional costs to implement the biodiversity strategy to 2030, including those for increased protection and restoration.

EU environmental funding 2014-2020

The multiannual financial framework (MFF) for 2014-2020 allocated almost EUR 960 billion (in commitments,

[138] International Institute for Applied Systems Analysis (IIASA), Progress towards the achievement of the EU's air quality and emissions objectives, 2018.
[139] Covering the reductions of and the emission ceilings for five atmospheric pollutants, SOx, NOx, PM2.5, NH3 and VOC by 2030, compared to 2005. Requirements are based on Directive (EU) 2016/2284.
[140] COM(2021) 3 final. International Institute for Applied Systems Analysis (IIASA), Support to the development of the Second Clean Air Outlook, 2020 and Annex.
[141] OECD, Financing a Water Secure Future, 2022.
[142] OECD, Hungary - Country fact sheet- Financing Water Supply, Sanitation and Flood Protection.
[143] OECD, Financing a Water Secure Future, 2022.
[144] OECD, Hungary - Country fact sheet- Financing Water Supply, Sanitation and Flood Protection.
[145] WFD and FD Implementation Reports – DG Environment – European Commission.
[146] European Commission, Directorate-General for Environment, Economic data related to the implementation of the WFD and the FD and the financing of measures, Final report. Publications Office, 2021.
[147] European Commission, Study on investment needs in the waste sector and on the financing of municipal waste management in the Member States, 2019.
[148] The N2K Group, Strengthening investments in Natura 2000 and improving synergies with EU funding instruments report to the European Commission, 2021.

2011 prices)[149] for the EU to spend over this period. The commitment in the 2014-2022 MFF to the green transition included a 20% climate spending target. It also included funding opportunities for the environment, in particular, under the European Structural and Investment (ESI) Funds[150]. The 2014-2020 MFF budget was subsequently topped up with over EUR 50 billion (in current prices) from the REACT-EU programme for cohesion policy action against COVID-19[151].

Hungary received EUR 26.8 billion from the ESI Funds in 2014-2020 to invest in job creation and a sustainable and healthy European economy and environment. The planned direct environmental investment amounted to EUR 3.3 billion, with a further EUR 1.9 billion identified as indirect environmental investment, totalling EUR 5.1 billion. Figure 39 gives an overview of (planned) individual ESI Funds earmarked for Hungary (EU amounts, without national amounts).

Figure 38: ESI Funds allocated to Hungary, including environmental investments, 2014-2020[152]

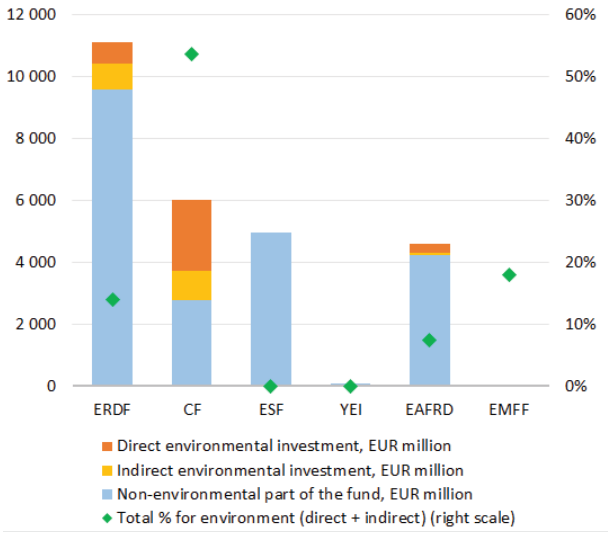


Table 2: Direct and indirect Environmental investments under the ESI Funds in Hungary, 2014-2020[153]

Instrument	Allocations for the environment (EUR million)
Under cohesion policy (ERDF + CF)	**4 792.1**
Direct environmental investments	3 001.1
water	1 115.8
waste	401.4
air quality	17.6
biodiversity and nature	208.0
land rehabilitation	352.7
climate and risk management	905.6
Indirect environmental investments	1 791.0
renewable energy	247.4
energy efficiency	440.7

[149] Council Regulation (EU, Euratom) No 1311/2013.

[150] The European Structural and Investment (ESI) Funds include the European Regional Development Fund (ERDF), the Cohesion Fund (CF), the European Social Fund (ESF) with the Youth Employment Initiative (YEI), the European Agricultural Fund for Rural Development (EAFRD) and the European Maritime and Fisheries Fund (EMFF).

[151] Regulation (EU) 2020/2221.

[152] European Commission, DG Environment - Data analysis, DG Environment analysis based on ESI Funds Open Data Portal (cohesiondata.ec.europa.eu), Integration of environmental concerns in Cohesion Policy Funds (COWI, 2017), Regulation (EU) No 1303/2013, Regulation (EU) 2021/1060 and Implementing Regulation (EU) No 215/2014. Cut-off date for data: December 2021. Environmental investments here are captured via the combined use of intervention fields and coefficients under Regulation (EU) No 1303/2013 and Regulation (EU) 2021/1060 allowing for a more precise identification and valuation of relevant environmental investments. N.B. Indirect environmental investments are valued using the Annex I environmental coefficients of the Regulation (EU) 2021/1060 (as opposed to full value).

[153] European Commission, DG Environment - Data analysis. The values of environmental investments identified here in the specific environmental areas may differ from the tracking values at cohesiondata.ec.europa.eu, e.g. for clean air or biodiversity due to two factors: the set of environmental coefficients used and the range of funds assessed. DG Environment's analysis covered the full range of ESI Funds.

other energy[154]	41.5
sustainable transport	902.2
sustainable tourism	159.2
Under EAFRD/rural development	**345.1**
Direct environmental investments	275.8
water	34.0
climate and risk management	241.8
Indirect environmental investments	69.3
renewable energy	9.9
energy efficiency	59.3
Under EMFF	**6.9**
Direct environmental investments	6.9
environment protection & resource efficiency	6.9
Under ESI Funds total	**5 144.1**
Direct environmental investments	3 283.9
Indirect environmental investments	1 860.3

Funding for the environment from the ESI Funds has also been supplemented by other EU funding programmes available to all Member States such as the LIFE programme, Horizon 2020, or European Investment Bank (EIB) financing. This amounts to an estimated total of EUR 5.5 billion of EU environmental financing for Hungary in 2014-2020.

The LIFE programme[155] is entirely dedicated to environmental and climate objectives. It finances demonstration and best-practice actions for green solutions to be deployed. In 2014-2020, Hungary received EU support for seven LIFE projects (for nature and environment) worth EUR 31.2 million (out of 1 028 EU27 LIFE projects with a total EU contribution of EUR 1.74 billion)[156]. In 2019, two LIFE-integrated projects started. LIFE IP GRASSLAND[157] aims to improve the conservation status of grasslands and related species (with an EU contribution of EUR 10,3 million), and LIFE IP HungAIRy aims to improve air quality (with an EU contribution of EUR 9.5 million).

In 2014-2020, Horizon 2020 allocated about EUR 11.6 million to Hungary for the environment, representing 3.1% of the country's total allocation[158]. The Horizon 2020 funds directed at Hungarian environmental projects focused, in particular, on the circular economy, research and innovation, raw materials, nature and resources.

From the European Fund for Strategic Investments, Hungary did not receive any environmental funding out of its total allocation (EUR 364.9 million)[159]. From the EIB, Hungary received EUR 283.8 million for direct environmental investments specifically for water and sewerage and some limited funding for waste. This is 4.9% of the total EIB loans for Hungary (EUR 5.8 billion)[160]. The country ranks 15th in the amount of total EIB lending it received in this period.

In 2020, the EIB[161] provided EUR 24.2 billion in funding across Europe to fight climate change, 37% of its total financing. It also provided EUR 1.8 billion (3% of its financing) for broader environment lending[162].

EU environmental funding 2021-2027

The 2020 European Green Deal investment plan calls for EUR 1 trillion in green investments (public and private) to be made across the EU by 2030. The 2021-2027 MFF and the NextGenerationEU spending programme will mobilise EUR 2.018 trillion (in current prices) to support the recovery from COVID-19 and the EU's long-term priorities, including environmental protection[163]. Following the Green Deal's[164] pledge to 'do no harm' and the Interinstitutional Agreement on the 2021-2027 MFF[165], 30% of the EU budget will support climate efforts, while biodiversity will receive 7.5% as of 2024 and 10% as of 2026. Reaching the biodiversity targets requires increased programming of financial resources, specifically under the 2021-2027 cohesion policy and the 2023-2027 CAP.

Sustainable finance significantly increases transparency on environmental sustainability (a goal promoted by the EU Taxonomy)[166]. It also strengthens non-financial reporting requirements and facilitates the issuance of green bonds (by developing the EU Green Bond Standard)[167]. Reinforced by the renewed sustainable

[154] Intelligent energy distribution systems (smart grids) and high efficiency co-generation and district heating, based on intervention field 53 and 54 respectively (with 40% environmental coefficients) of Regulation (EU) 2021/1060, Annex I.
[155] European Commission, LIFE Programme.
[156] Source: LIFE (europa.eu).
[157] LIFE-IP GRASSLAND, Long term conservation of Pannonian grasslands and related habitats through the implementation of Prioritised Action Framework (PAF) strategic measures, project website.
[158] EASME, Horizon 2020 Environment and resources data hub.
[159] Approved and signed EFSI financing - EIB, 2015-2020.
[160] EIB loans in EU countries in 2014-2020. Source: EIB Open Data Portal.
[161] The EIB Group jointly works with the European Commission in implementing several programs that finance environmental implementation: InvestEU, the successor of EFSI, Pillar II and III of the Just Transition Mechanism. The EIB Group stands as a key implementing partner for InvestEU with responsibility for managing 75% of the overall budgetary capacity of the mandate.
[162] EIB, Activity Report, 2021.
[163] European Commission, 2021-2027 long-term EU budget & NextGenerationEU.
[164] COM/2019/640 final.
[165] Interinstitutional Agreement, OJ L 433I.
[166] European Commission, EU taxonomy for sustainable activities.
[167] EU Green Bond Standard - 2021/0191 (COD).

finance strategy (2020)[168], sustainable finance will increase investment flows to climate and the environment. The new strategy on adaptation to climate change[169] can help close the insurance protection gap , which currently leaves many risks from uninsured climate-related events[170]. The EIB will align 50% of its lending for climate and environmental projects by 2025[171] with a EUR 250 billion contribution to the Green Deal investment plan by 2027.

Table 3 gives an overview of the EU funds earmarked specifically for Hungary in 2021-2027. These funds are supplemented by other EU funding programmes available to all Member States.

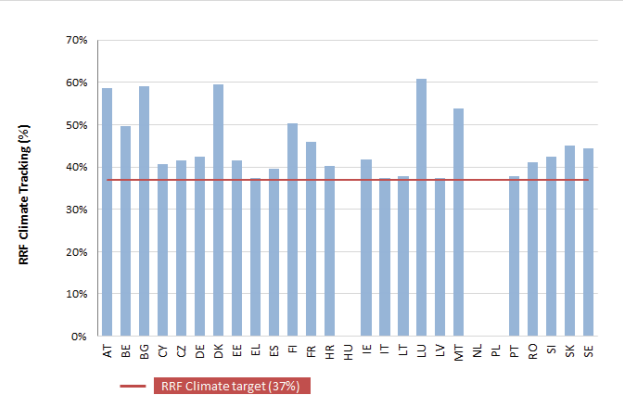
Table 3: Key EU funds allocated to Hungary (current prices), 2021-2027

Instrument	Country funding allocation (million EUR)
Cohesion policy	**Total: 21 727.9[172]**
ERDF	13 359.5
CF	2 602.2[173]
ESF+	5 507.4
ETC (ERDF)	258.8[174]
Just Transition Fund	**261.1[175]**
EAFRD/rural development under 2023-2027 CAP strategic plans[176]	**2 084.3[177]**
European Maritime, Fisheries and Aquaculture Fund (EMFAF)	**37.7[178]**

In Hungary, programming for most EU funds (cohesion policy funds, EAFRD and the European Maritime, Fisheries and Aquaculture Fund) and of the RRF are ongoing. Therefore, the policy objectives and priorities are not yet available.

The Hungarian RRP has not been adopted yet.

Figure 39: Climate expenditure in RRPs, 2021-2026[179] (without data for Hungary, the Netherlands and Poland)



Under NextGenerationEU, the Commission will issue up to EUR 250 billion of EU green bonds (one third of all bonds issued under NextGenerationEU) until 2026 that will comply with the general spirit of the 'do no significant harm'. However, this EUR 250 billion in green bonds will not be subject to the currently developed delegated acts related to the EU Taxonomy. They will not fully align with the proposed EU standard for green bonds.

In addition to EU funds earmarked specifically for Hungary in 2021-2027, there are also funding programmes that can be accessed at EU level and are open to all Member States. These include the LIFE programme[180] (EUR 5.4 billion), Horizon Europe (EUR 95.5 billion)[181], the Connecting Europe Facility[182] (EUR 33.7 billion)[183] and the funds to be mobilised via InvestEU[184].

[168] COM (2021) 390 Final - European Commission, Strategy for Financing the Transition to a Sustainable Economy.
[169] COM(2021) 82 final.
[170] The strategy would support improved coverage of the insurance gap including through the natural catastrophe markets as reflected with the EIOPA (European Insurance and Occupational Pensions Authority) dashboard on the insurance protection gap for natural catastrophes. See: The pilot dashboard on insurance protection gap for natural catastrophes | Eiopa (europa.eu).
[171] EIB Climate Bank Roadmap 2021-2025, November 2020.
[172] European Commission, 2021-2027 Cohesion policy EU budget allocations.
[173] The transfer to the Connecting Europe Facility (Transport) is not included.
[174] Interreg initial allocations per Member State including ETC transnational and ETC cross-border cooperation.
[175] European Commission, 2021-2027 Cohesion policy EU budget allocations.
[176] European Commission, CAP strategic plans.
[177] Regulation (EU) 2021/2115, Annex XI.
[178] Regulation (EU) 2021/1139, Annex V.
[179] European Commission. The contributions to climate objectives have been calculated using Annex VI of the RRF Regulation (EU) 2021/241.
[180] European Commission, LIFE Programme.
[181] European Commission, Multiannual financial framework 2021-2027 (in commitments) - Current prices.
[182] The CEF (Transport) also includes EUR 11.3 billion transferred from the Cohesion Fund. 30% of the transferred amount will be made available, on a competitive basis, to all the Member States eligible for the Cohesion Fund. The remaining 70% will be attached to national envelopes until 31 December 2023. Any amount, under national envelopes that is unspent by that date will support all the Cohesion Fund's Member States.
[183] Regulation (EU) 2021/1153.
[184] The InvestEU Fund is set to mobilise over EUR 372 billion of investment through an EU budget guarantee of EUR 26.2 billion to back

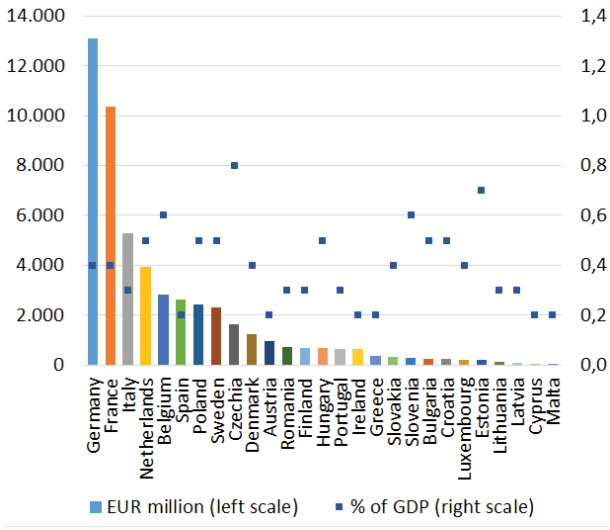
These other sources of funding will also support the green transition, including through research and innovation activities for environmental protection (Horizon Europe)[185], clean transport and energy (the Connecting Europe Facility)[186] and sustainable infrastructure (InvestEU)[187].

National environmental protection expenditure

Total national expenditure on environmental protection (including all relevant current and capital expenditure)[188] in the EU-27 was EUR 272.6 billion in 2020, representing 2% of EU-27 GDP. This percentage has remained quite stable over time. Although the largest absolute amounts of expenditure are concentrated in a few countries, most countries spend between 1-2% of their GDP on environmental protection, with Hungary spending 1.7% of its GDP.

Of this spending, the EU-27's capital expenditure on environmental protection (i.e. investment) amounted to EUR 56.3 billion in 2018, falling to EUR 54.5 billion in 2020, representing around 0.4% of EU-27 GDP. Most Member States invested 0.2-0.5% of their GDP in environmental protection – Hungary invested 0.5% of its GDP. In 2014-2020, this totalled around EUR 376 billion in environmental investment in the EU-27, and EUR 6.7 billion for Hungary.

Figure 40: Direct and indirect Environmental protection investments in the EU-27 (EUR million and % of GDP), 2018[189]



By institutional sector, around 37% of Hungary's investment in environmental protection (capital expenditure) came from the general government, 41% came from specialist producers (of environmental protection services, e.g. waste and water companies) and 22% came from businesses not specialised in environmental protection. At EU level, the spread is more balanced: 37% comes from governments, 33% from specialist producers, and 30% from businesses not specialised in environmental protection.

the investment of financial partners such as the European Investment Bank (EIB) Group and others.

[185] European Commission, Horizon Europe.

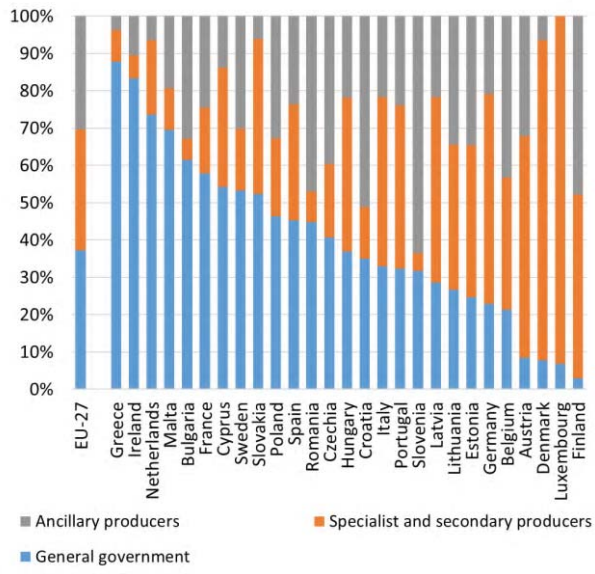
[186] European Commission, Connecting Europe Facility.

[187] European Union, InvestEU.

[188] At economy level, including final consumption, intermediate consumption and capital expenditure of households, corporations and governments related to environmental protection goods and services. It excludes EU funds, although it may include some international expenditure beyond strictly domestic expenditure. Data source: Environmental Protection Expenditure Accounts (EPEA), Eurostat. EPEA accounts are based on the CEPA 2000 classification, excluding climate, energy and circular economy.

[189] Eurostat, Environmental Protection Expenditure Account, 2021.

Figure 41: EU-27 Member States' environmental protection investments (Capex) by institutional sectors (Total economy = 100%), 2018[190]

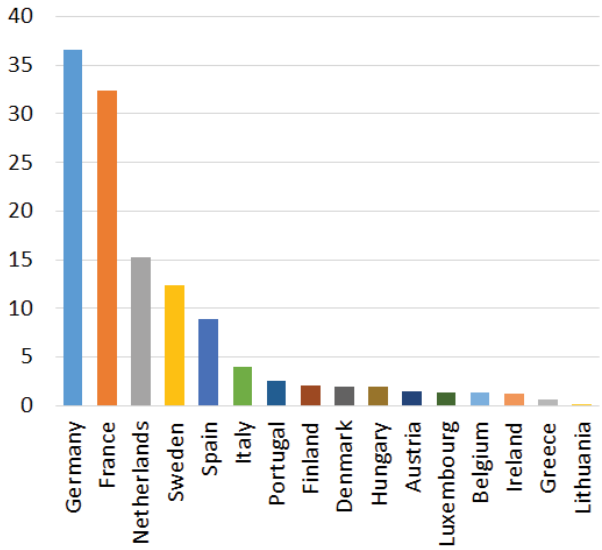


A breakdown of investment by environmental topic is partially available, but only at the level of institutional sectors (rather than at economy level), due to different reporting patterns across the sectors.

At Hungary's general government level in 2018, 70% of environmental protection investments went to wastewater, 18% to waste management and 8% to biodiversity. For the country's specialist producers of environmental protection services, 48% went to wastewater, and 48% to waste management, and 4% to water and soil protection. For businesses not involved in the specialist production of environmental protection services, investment shares included 36% in air pollution, 12% each in wastewater, waste, and biodiversity, and around 15% in pollution from sources other than air .

In 2020, the total annual issuance of European green bonds (including some non-EU countries)[191] was USD 156 billion (EUR 137 billion)[192], up from USD 117 billion (EUR 105 billion) in 2019. Looking only at EU-27 Member States, green bond issuance in 2020 was EUR 124 billion. In 2014-2020, 83% of the green bonds issued by European countries served objectives in energy, buildings, or transport, while 8% supported water and waste, with a further 6% supporting sustainable land use, with links to ecosystem conservation and restoration. These data are based on the climate bonds taxonomy, which is broadly similar to the EU Taxonomy[193]. Of the EU green bond issuance in 2020, Hungary issued EUR 1.92 billion in bonds (data available for 16 Member States, see Figure 43).

Figure 42: Annual EU green bond issuance in 2020 (EUR billion)[194]



Green budget tools

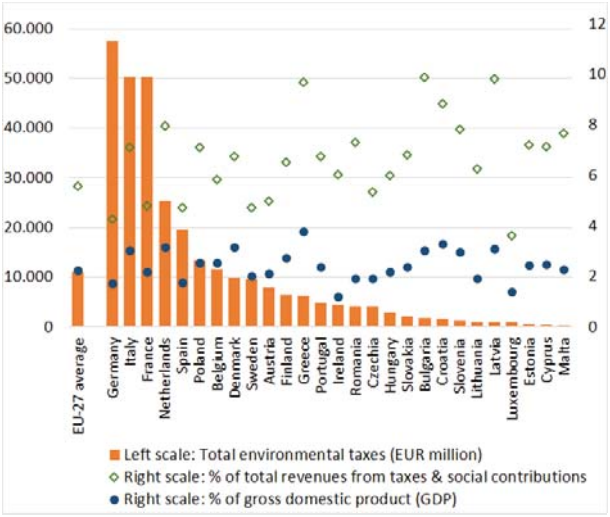
Green taxation and tax reform

Hungary's revenue from environmentally-related taxes was 2.18% of GDP in 2020 and remains close to the EU average (2.37%) (see Figure 44).

Within this, energy taxes accounted for 1.67% of GDP (below the EU average of 1.74%), transport taxes accounted for 0.3% (below EU average of 0.42%), and pollution and resource taxes accounted for 0.21% (above the EU average of 0.08%). In the same year, environmental taxes came to 6.01% of total revenue from tax and social security contributions (slightly above the EU average of 5.57%).

[190] Eurostat, Environmental Protection Expenditure Accounts (env_epe).
[191] Green bonds were created to fund projects that have positive environmental and/or climate benefits. Most green bonds issued are green 'use of proceeds' or asset-linked bonds. The very first green bond was issued in 2007 with a AAA-rated issuance from multilateral institutions, the European Investment Bank (EIB) and the World Bank.
[192] At Eurostat's annual average EUR/USD exchange rates.
[193] Interactive Data Platform; Climate Bonds Taxonomy.
[194] Climate Bonds Initiative, 2022.

Figure 43: Environmental taxes in the EU27, 2020[195]



The 2019 European Green Deal underlines that well-designed tax reforms can boost economic growth and resilience, foster a fairer society, and promote a just transition. Tax reforms can contribute to this by sending the right price signals and incentives to economic actors. The Green Deal creates the context for broad-based tax reforms, the removal of fossil fuel subsidies, and a shift in the tax burden from labour to pollution. It achieves this while simultaneously taking account of social considerations[196]. The Green Deal promotes the 'polluter pays principle'[197] which stipulates that polluters should bear the cost of measures to prevent, control and remedy pollution. The polluter pays principle is facilitated by the Commission's Technical Support Instrument (TSI) project on greening taxes.

There is potential to increase environmental taxation in Hungary. For instance, the tax on biomass fuels could improve air quality or a beverage container tax could incentivise beverage packaging producers to achieve higher recycling rates[198]. According to the Commission study *Green taxation and other economic instruments* (2021), Hungary applies polluter pays economic instruments on air, water and soil pollution – there are charges on emissions (of nitrogen oxides, sulfur dioxides and non-toxic dust) and water abstraction[199].

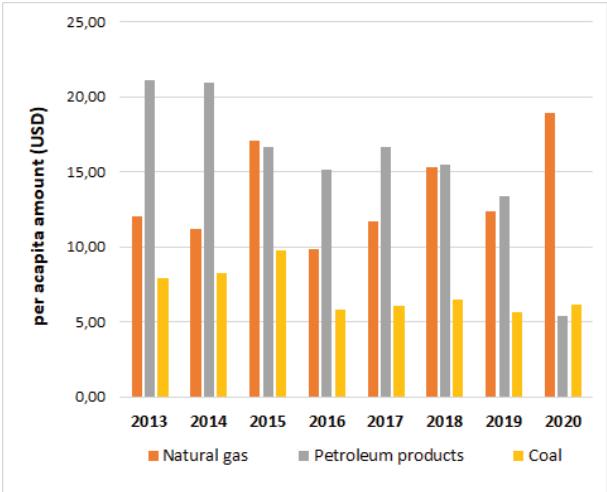
[195] Eurostat, Environmental taxes accounts (env_eta).
[196] European Commission, The European Green Deal, COM (2019/640 final), p.17.
[197] Article 191(2) of the Treaty on the Functioning of the European Union states that: 'Union policy on the environment (…) shall be based on the precautionary principle and on the principles that preventive action should be taken, that environmental damage should as a priority be rectified at source and that the polluter should pay'.
[198] European Commission, Ensuring that polluters pay, Hungary.
[199] European Commission, Green taxation and other economic instruments, 2021.

Environmentally-harmful subsidies

Addressing and removing environmentally-harmful subsidies (EHS) is a further step towards wider fiscal reforms[200]. Fossil fuel subsidies are costly for government budgets and undermine the green transition. They often work against incentives for green investments and do not contribute to levelling the playing field. Since 2015, annual fossil-fuel subsidies have been around EUR 55 billion in the EU. They rose by 4% between 2015 and 2019, however, some countries, such as Latvia, Lithuania, Sweden, Greece and Ireland, managed to decrease them. Subsidies on petroleum products in sectors such as transport and agriculture continued to grow in this period. However, subsidies on coal and lignite decreased, due to the diminishing role of solid fuels in electricity generation.

As a share of GDP, fossil fuel subsidies ranged from 1.2% in Hungary (where they amounted to EUR 1.8 billion in 2019) to less than 0.1% in Malta in 2019 (the EU average is 0.4%). In 2020, the EU27's total fossil fuel subsidies fell to EUR 52 billion (due to reduced consumption caused by COVID-19-related restrictions). However, without action by Member State, these subsidies are likely to rebound as economic activity picks up[201]. Figure 45 shows further details on fossil fuel subsidies in Hungary.

Figure 44: Trends in natural gas, petroleum products and coal subsidies in Hungary[202]



% GDP	2013	2014	2015	2016	2017	2018	2019	2020
Natural gas	0.09	0.08	0.13	0.07	0.08	0.09	0.07	0.12
Petroleum	0.15	0.15	0.13	0.11	0.11	0.09	0.08	0.03

[200] European Commission, Study on assessing the environmental fiscal reform potential for the EU 28, 2016.
[201] See table on EU FFS data in 2019, which is based on (for info) COM(2021) 950 and Annex.
[202] OECD, Fossil Fuel Subsidy Tracker.

products								
Coal	0.06	0.06	0.08	0.04	0.04	0.04	0.03	0.04

Railway companies in Hungary are refunded the excise tax they pay on diesel fuel intended for passenger and freight services. This is an example of a partly environmentally friendly subsidy. It funds environmental research and development, but CO_2 emissions from the production and use of coal remain.

Current green budgeting practices

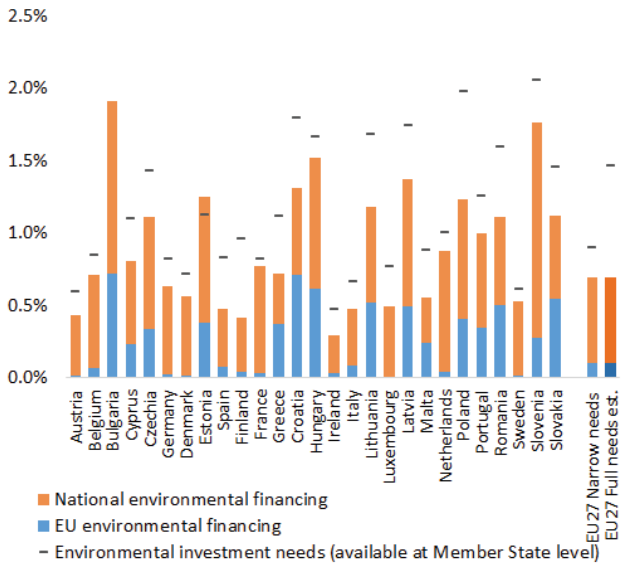
'Green budgeting' encompasses various climate and environmental tagging[203] and tracking practices in budgets. Some Member States already use certain green budgeting practices[204]. Green budgeting helps identify and track green expenditure and green revenues to increase transparency on how green the budgetary policies are. This is aimed at improving policy coherence and support green policies (including climate and environmental objectives)[205].

The Commission has also drawn up climate-proofing and sustainability-proofing guidance as tools to assess project eligibility and a project's compliance with environmental legislation and criteria[206]. The Commission developed a green budgeting reference framework[207] and launched a TSI project on green budgeting in 2021 to help Member States develop national green budgeting frameworks to improve policy coherence and support the green transition. Hungary participates in the EU Commission's green budgeting project, which started in 2021.

Environmental financing versus financing needs

The EU's overall financing for environmental investments is estimated to have been 0.6-0.7% of GDP in 2014-2020, comprising both major EU funds and national financing. This ranged from 0.3% (Ireland) to 1.91% (Bulgaria), depending on the level of environmental challenges in different Member States. The overall EU environmental investment needs in 2021-2027 are estimated to range between 0.9-1.5% of the projected GDP in that period, suggesting a potential environmental financing gap of 0.6-0.8% of GDP (EU level), compared to previous financing levels[208].

Figure 45: Total environmental financing (2014-2020) and estimated needs (2020-2030) in the EU-27 (% of GDP)[209]



Hungary's financing for environmental investments is estimated to have been almost 1.52% of GDP in 2014-2020, with around 40% of financing from the EU. The country's environmental investment needs in 2021-2027 are estimated to be over 1.66% of its GDP (reflecting needs where country breakdown is available). This suggests an environmental financing gap of at least 0.14% of GDP. This is likely to be higher when taking into account needs currently only estimated at EU level (e.g., water protection, circularity, biodiversity strategy).

In the 2019 EIR, Hungary received one priority action to provide adequate funding to tackle the main environmental challenges it was facing, including through

[203] Tagging is explained in European Commission, Green budgeting practices in the EU: a first review , 2021 (p.7).
[204] European Commission, Green Budgeting Practices in the EU: A First Review, 2021.
[205] European Commission, European Commission Green Budgeting Reference Framework..
[206] European Commission, Technical guidance on sustainability proofing for the InvestEU Fund.
[207] European Commission, Green Budgeting Reference Framework, based on the review of the OECD Paris Collaborative on Green Budgeting initiative, 2017.
[208] DG Environment data analysis. EU financing sources covered: ESI Funds (ERDF, CF, ESF, YEI, EAFRD, EMFF), Horizon 2020, LIFE, EFSI (EU amount), EIB loans. National financing: total national environmental protection capital expenditure (investments) - Eurostat EPEA dataset. Cut-off date for data: end 2021. N.B. Total financing may be higher, in particular through further indirect investments, requiring further analysis in the future.
[209] Eurostat, ESI Funds Open Data, 2021.

mobilising investment and using of EU funds. The action is proposed again because, although there has been progress, further efforts are still needed.

2022 priority actions

- Prepare an environmental financing strategy to maximise opportunities for closing environmental implementation gaps, including by increasing environmental taxes.
- Tackle the main environmental challenges affecting the country, through adequate funding, including through the mobilisation of private investments (which currently makes up 40% of total investments) and the use of EU funds.

6. 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;
(iii) access to justice in environmental matters.
It is of crucial importance to public authorities, the public and businesses that environmental information is shared efficiently and effectively[210]. 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[211]. It includes the right to bring legal challenges ('legal standing')[212].

Environmental information

This section focuses on Hungary's implementation of the INSPIRE Directive. The INSPIRE Directive aims at setting up a European spatial data infrastructure for sharing environmental spatial information between public authorities across Europe. It is hoped that this will help policy-making across boundaries and facilitate public access to this information. Geographic information is needed for good governance at all levels and should be transparent and readily available.

Hungary's implementation of the INSPIRE Directive is poor. Hungary's performance has been reviewed based on the country's 2021 country *fiche*[213]. No progress has been made in data identification and documentation, and implementation levels are poor. More effort is needed to:make the data more widely accessible; improve the conditions for data reuse; prioritise environmental datasets in implementation, especially those identified as high-value spatial datasets for implementing environmental legislation[214].

Table 4: Country dashboard on the implementation of the INSPIRE Directive, 2016-2020[215]

	2016	2020	Legend
Effective coordination and data sharing			■ Implementation of this provision is well advanced or (nearly) completed. Outstanding issues are minor and can be addressed easily. Percentage: >89%
Ensure effective coordination	■	■	
Data sharing without obstacle	■	■	
INSPIRE performance indicators			■ Implementation of this provision has started and made some or substantial progress but is still not close to being complete. Percentage: 31–89%
i. Conformity of metadata	■	■	
ii. Conformity of spatial data sets[216]	■	■	
iii. Accessibility of spatial data sets through view and download services	■	■	■ Implementation of this provision is falling significantly behind. Serious efforts are necessary to close the implementation gap. Percentage: <31%
iv. Conformity of network services	■	■	

Public participation

Further effort is needed to promote public participation in processes under the Strategic Environment Assessment (SEA) and Environmental Impact Assessment (EIA) Directives beyond implementing the legal requirements for notifying procedures and making it possible to provide comments.Structured information on

[210] The Aarhus Convention, the Access to Environmental Information Directive (Directive 2003/4/EC) and the INSPIRE Directive(Directive 2007/2/EC) together create a legal foundation for the sharing of environmental information between public authorities and with the public. This EIR focuses on the INSPIRE Directive's implementation.
[211] These guarantees are explained in the Commission Notice on access to justice in environmental matters, OJL 275, 18.8.2017 and a related Citizen's Guide.
[212] This EIR focuses on the means implemented by Member States to guarantee rights of access to justice, legal standing and to overcome other major barriers to bringing cases on nature and air pollution.
[213] INSPIRE knowledge base Hungary, 2021.
[214] European Commission, List of high value spatial data sets.
[215] INSPIRE knowledge base Hungary 2021.
[216] In 2016, the deadlines for implementation of the spatial data interoperability were in the future: 23.11.2017 for Annex I data and 21.10.2020 for Annex II and III data. It must be also considered that this conformity indicator will in many cases never reach 100% conformity as most countries provide in the existing circumstances data-sets in addition to the INSPIRE harmonised data sets.

public participation in environmental matters can be found on the website of the Commissioner of Fundamental Rights[217]. A centralised website[218] also offers easy access to the public to information. .

However, some documents, such as those submitted by developers to remedy deficiencies identified by authorities in EIA reports are not published and can only be consulted at the offices of the relevant environmental authority[219]. A statistical database on public participation in SEA and EIA procedures could provide valuable information to assess public activity in environmental procedures to facilitate implementation of Directive 2011/92/EU and Directive 2001/42/EC.

The 2019 EIR recommended Hungary to facilitate public participation in implementing EU environmental legislation. Since 2019, Hungary has made limited progress, and there are still some measures to be implemented to improve more effective public participation.

Access to justice

An NGO has legal standing if an administrative activity affects its registered activity. The registered activity must be one that protects any fundamental right or enforces any public interest in a geographical territory for at least one yearIn general, NGOs do not have to prove their legal standing in an environmental court case or in cases related to the environment. However, NGOs have to meet some conditions related to their legal status and operations.

Nevertheless, there are some difficulties in challenging plans or programmes.

Challenging the legality of laws and/or public administrative measures by a natural person or by an organisation is possible by lodging a constitutional complaint with the Constitutional Court. The Court can annul a contested legal measure if the measure adopting the plan or programme is contrary to fundamental law and thus infringes fundamental rights (e.g., the right to a healthy environment).

There is also a system of regular supervision of regulatory legislation, but it is difficult for the public and NGOs to access it. Instead, the public and NGOs can only bring a measure to the attention of those bodies or officials who are entitled to initiate an extraordinary supervision procedure. The supervisory body may review both the decision and the procedure of the environmental authority. It can do so as a result of the body's status. The client or other interested parties may also draw its attention to the fact.

There is some information on access to justice, usually only in Hungarian maintained by the government[220]. The most important national legislation can be found on the official website of the Official Journal[221] and in the national database of laws[222].

In the 2019 EIR, Hungary received three priority actions for information, participation and justice. There is no information available about the first action to improve access to spatial data and services by making stronger linkages between the country's INSPIRE portals, there is no information available. There has been limited progress on the second action to facilitate public participation in implementating EU environmental legislation. On the action on environmental NGOs' rights to bring challenges on environmental issues, there has been some progress, but further improvements are needed for plans or programmess. There have also been improvementson information about access to justice on environmental matters.

2022 priority actions

- Significantly improve the information available on SEA and EIA procedures, ideally through a central database, and ensure that all relevant documentation is made available, ideally online.
- Collect and publish data on the level of public participation in SEA and EIA procedures, and encourage public participation by making clear and useable information available on how to comment on proposals.
- Improve access to courts by the public concerned when it comes to challenging administrative or regulatory decisions, in particular in planning related to water, nature and air quality.
- Better inform the public about their access to justice rights, in particular by referring on national judicial and administrative portals to the Commission eJustice fact sheets on access to justice in environmental matters[223].

[217] Társadalmi részvétel a környezetvédelmi ügyekben.
[218] Hirdetmények.
[219] National EIA law does not require these documents to be published online, although these documents possibly contain information required under Articles.3 and 5 or Annex II or IV of the EIA Directive.
[220] Access to justice in environmental matters.
[221] Magyar Közlöny.
[222] Nemzeti Jogszabálytár.
[223] Access to justice in environmental matters.

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 waste224.
It includes support measures provided by the authorities such as:
(i) compliance promotion[225];
(ii) inspections and other checks that they carry out, i.e. compliance monitoring[226];
(iii)the steps that they take to stop breaches, impose sanctions and require damage to be remedied, i.e. enforcement[227].
Citizen science and complaints enable authorities to focus their efforts better. Environmental liability[228] ensures that the polluter pays to remedy any damage.

Compliance promotion and monitoring

Since the 2019 EIR was published, a new dataset, the Ecosystem Map of Hungary has been set up. There is a wide range of online information and tools for farmers and land managers on how to implement the Birds and Habitats Directives. In addition to detailed information on protected areas and species and management plans for protected sites, specific information for farmers is available. Online resources include the website of the Hungarian Chamber of Agriculture[229], which provides several products, including a guide to nature-friendly farming.

On the Nitrates Directive, a handbook is available which explains the legislation, including through case studies. Public sector information is complemented by the environmental NGO MME (Birdlife Hungary)[230]. The NGO provides an online tool to let farmers generate, store and print the management specifications for their own land from the management plans of four Natura 2000 sites in the Kiskunság region.

Environmental inspection schedules are available and annual inspection plan published by the relevant county government office. However, environmental inspections are just one of a number of activities in these plans, andthe information is often not provided in an accessible or useable form (for example, scanned documents are provided that cannot be searched). Information past inspections can be found in the national environmental protection information system[231] (OKIR), but the database is not user-friendly and requires some knowledge of specific search terms to use. Decisions taken by the environmental authority in cases of non-compliance, and a summary of individual cases are published in OKIR , but no aggregated information is available. There is no single source of information on environmental inspections and enforcement decisions, and there are big differences between county government offices in making the information available and in the formats made available.

Complaint handling and citizen science

The public has a formal right[232] to alert the relevant authorities to incidents of environmental damage or the risk of environmental damage. However, there is no consistency between the systems which make it possible for the public to do this. In practice, it is necessary to know which authority is responsible for a particular law (e.g. county government offices, district offices, national authorities, municipalities, police or specific sectoral organisations). The systems put in place by the different authorities for receiving environmental complaints and dealing with them vary. There does not appear to be any official website with online guidance or dedicated to environmental complaints. NGOs, such as Greenpeace Hungary, have attempted to fill this gap[233].

The lack of a coordinated approach to -complaints from the public means there is no data on complaints received, action taken to investigate them, and the outcomes. There are some one-off examples of citizen science in action. For example, since the 2019 EIR[234], it is now possible for the public to report sightings of specific species of biodiversity interest and the Waste Radar. However, there is little evidence of the government encouraging the public or NGOs to take part in implementing and enforcingenvironmental legislation.

[224] 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.
[225] This EIR focuses on the help given to farmers to comply with nature and nitrates legislation.
[226] This EIR focuses on inspections of major industrial installations.
[227] This EIR focuses on the availability of enforcement data and co-ordination between authorities to tackle environmental crime.
[228] The Environmental Liability Directive, 2004/35, creates the framework.
[229] Nemzeti Jogszabálytár.
[230] www.naturaterv.hu.
[231] Használati útmutató.
[232] Article 97 (2) of the Environmental Protection Act.
[233] See for example Greenpeace.
[234] Vadonleső.

Enforcement

Statistics on environmental crime and its enforcement are limited. An aggregated number of the main types of environmental crimes is available on the Ministry of the Interior's online database. However, there is no breakdown of environmental offences or waste-related offences. A dedicated environmental crime database does not exist, and data on the results of criminal court proceedings are not published. The outcome of individual environmental crime cases can be found on the website of the courts, but no overall summary is available. The annual parliamentary reports of the Prosecutor General provide statistics on the number of registered environmental crimes[235]. Some progresshas been made – the National Environmental Security Task Force was established in 2021.

Public authorities, including the police, are legally required to cooperate in environmental protection issues. In 2021 a memorandum of understanding was signed between seven bodies setting up a cooperation platform[236] for tackling environmental crime, including sharing information and training resources. The bodies are the Ministry of Agriculture, the National Tax and Customs Authority, the Hungarian National Police Headquarters, the Ministry of Innovation and Technology, the National Directorate-General for Disaster Management, the Ministry of the Interior, the Pest County Government Office, and the National Food Chain Safety Office. Details on how the platform operates have not been published.

Environmental Liability Directive (ELD)

Hungary implemented a project to process and publish cases of damage (under the ELD) in the Environmental Liability Database. The project was led by the Ministry of Agriculture and involved the regional authorities in 2020-2021[237]. The main source of information analysed is the Deputy Ombudsman for Future Generations' opinion on environmental liability[238] from 2019, which concludes that a series of major changes are necessary both in legislation and in the implementation of environmental liability laws. These initiatives have been examined and developed further by an inter-ministerial working group in 2020-2022. A mandatory financial security system for liabilities under the ELD has not been fully introduced yet. However, as of now, this system mostly deals with waste management where the Act on Waste requires, under certain circumstances, the licensee to have a financial deposit, bank guarantee or environmental insurance.

In the 2019 EIR, Hungary received three priority actions for compliance assurance. There has been no progress on the first action related to public information about promoting compliance, monitoring and enforcement. There has been some progress on the action to ensure there is more information on how professionals dealing with environmental crime work together. More progress needs to be made on the action related to financial security for liabilities, ELD guidance and publication of information on environmental damage.

2022 priority actions

- Provide clear information on how the public and interest groups can report environmental issues or incidents, and encourage the public to make such reports.
- Provide information to the public on environmental liability cases and other cases involving environmental damage.
- Make information available on the enforcement of environmental law, including information on the prosecution of environmental crimes and the outcome of criminal proceedings.
- Improve the information available onenvironmental inspections and their results, ideally drawing together information from the different public bodies with environmental compliance responsibilities. This will improve enhance transparency and public knowledge.
- Set up a financial security system for environmental liability to meet the costs of environmental damage.

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

Overall, an improvement in the implementation of EU environmental law in the different sectors can be observed, but there remains a long way to go in particular for air quality and water management. While the number of complaints and infringements related to

[235] Prosecution service of Hungary.
[236] Európai Környezeti Információs és Megfigyelő Hálózat.
[237] The results of this project was published on Európai Környezeti Információs és Megfigyelő Hálózat as a ZIP-document "az ELD hatálya alá tartozó káresemények térképe (Google Earth fedvény)".
[238] Jövő Nemzedekek Érdekeinek Vedelmet Ellato Biztoshelyettes.

the environment are below the EU average, the time needed to resolve identified breaches of EU environmental laws is slow.

There has been progress in implementing environmental assessments. However, the legislative package aiming to speed up licensing 'projects of national interest' has raised some concerns, and its implementation is being followed closely.

Hungary has no dedicated environment ministry. The three ministries dealing with the environment are the Ministry for Innovation and Technology (for energy and climate, including the circular economy and waste management), the Ministry of Agriculture (for environmental policy, nature, air quality, noise, SEA, EIA, remediation and other environmental issues), and the Ministry of the Interior (for water management, including drinking water and flood prevention). These ministries should work closely and together solve environmental problems. Hungary should ensure good coordination between the different authorities and provide the appropriate resources to environmental issues. Moreover, upskilling and reskilling staff on green issues should be organised, including field trips, to determine the specific situation and needs of affected areas.

In the 2019 EIR, Hungary received one priority action to improve environmental governance (e.g. transparency, citizen engagement, compliance and enforcement, and administrative capacity and coordination). There has been limited progress so the action is proposed again.

2022 priority action

- Continue to improve environmental governance, in particular the administrative capacity and coordination at national level.

Coordination and integration

As mentioned in the 2019 EIR Report, turning the revised EIA Directive[239] into national law provides an opportunity to streamline the regulatory framework of environmental assessments. Hungary has turned the revised Directive into national law. However, the Commission's assessment, as part of a horizontal exercise revealed over 20 points, in how the Directive was turned into national law, that may constitute grievances (including incorrect publication requirements (in particular for building permit procedures), civil society involvement, and incorrect categorisation of certain activities, which should be subject to EIAs). Hungary's reply to this assessment shows a willingness to adopt amendments for most of the issues but also maintains the country's position on a few points. According to exchanges between Hungarian and Commission departments, as of February 2021 the amendments outlined in the reply were under preparation. In May 2021, Hungary notified amending legislationto the Commission.

The Commission encourages streamlining environmental assessments to reduce duplication and avoid overlaps in environmental assessments applicable to projects. Moreover, streamlining helps to reduce unnecessary administrative burdens and accelerates decision-making, provided it is done without compromising the quality of the environmental assessment procedure[240]. Hungary has introduced streamlining environmental assessments under the EIA and Habitats Directives before the revision of the EIA Directive. Joint procedures have been drawn up for the EIA Directive, the Water Framework Directive and the Industrial Emissions Directive.

Reforms through the Commission's Technical Support Instrument (TSI)

The Commission has provided expert advice to help design more than 1200 reform projects in 27 Member States since 2017. It has done so first through the structural reform support programme, and since 2021, through the TSI, its successor programme. The TSI's main objective is to promote the EU's economic, social and territorial cohesion by supporting Member States' efforts to implement the necessary reforms to achieve economic and social recovery, resilience and more economic and social convergence[241].

The Commission's TSI supported several environment-related projects in Hungary. Under the 2020 TSI, the Commission supported a project to develop the national circular economy strategy (NCES) and action plan and another to promote green and blue municipal infrastructure. As for the TSI 2021, three other projects were selected: 'Strengthening green procurement', 'Strengthening water monitoring' and 'Government strategy and action plan for sustainable development in Hungary'. In 2022, a request was approved to develop a

[239] 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.

[240] The Commission issued a guidance document in 2016 on setting up 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.

[241] European Commission, Technical Support Instrument.

supervisory framework for financial risks stemming from biodiversity-related losses in Hungary.

TAIEX EIR peer to peer projects

The TAIEX EIR peer to peer tool[242] was launched by the Commission to facilitate peer-to-peer learning between environmental authorities.

Besides the previously mentioned events on ammonia reducing technology and measures in November 2021 and the EU action plan 'Towards Zero Pollution for Air, Water and Soil' in February 2022, Hungary also participated in another EIR peer-to-peer event on the inclusion of green criteria in public procurement on 9 September 2020.

[242] TAIEX - Environmental Implementation Review - PEER 2 PEER.