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# COMMISSION STAFF WORKING DOCUMENT

## Environmental Implementation Review 2022
## Country Report - SLOVAKIA

***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***

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# Executive summary

The main challenges identified in past Environmental Implementation Reports (EIRs) with regard to implementation of EU environmental policy and law by Slovakia were:

- to improve waste management, particularly by increasing recycling, rolling-out separate collection of waste and reducing landfilling;
- to complete the Natura 2000 network and to reduce the pressures on nature ecosystems, in particular on forest and on water bodies;
- to improve air quality in critical regions and the quality of monitoring, and to roll out scheme for exchanging household boilers to improve air quality;
- to complete the environmental infrastructure in water and waste water management sectors; and
- to advance the phase-out of environmentally harmful subsidies to brown coal.

Slovakia is still facing a **serious implementation gap** in almost all environmental sectors and is underperforming in the transition to a resource-efficient economy.

A poor performance in **waste management**, with strong dependence on landfilling of municipal waste, remains the main concern. A full assessment is pending, but Slovakia continues to be at risk of not meeting the 2020 municipal waste recycling target, and most likely forthcoming targets too. Slovakia's recycling rate has been growing since 2015; however the steep increase in 2014-2017 was mainly due to statistical adjustments.

Slovakia has one of the largest Natura 2000 networks, but **biodiversity** continues to be under pressure. There are still gaps in designation of sites and adoption of management plans. Nature protection and forestry law have been amended since 2020 and nature protection reform was launched in 2022 to address the negative impacts from forestry and logging in protected areas; however, its application is yet to be evaluated. Regarding the conservation status of habitats and species, there were no major changes for habitats. Meanwhile, the share of species in both good and bad conservation status increased slightly, due to improved knowledge.

In the **air sector**, Slovakia still needs to reduce emissions from the burning of solid fuel in homes and from agriculture, transport and industry. Slovakia projects to reach emission reduction commitments for all air pollutants except ammonia. Persistent breaches of air quality limits for particulate matter continue to cause serious health risks for the Slovak people.

Despite the progress achieved, it is not clear if this is sufficient to achieve good water status of **water** bodies by 2027. The south-western part of the country is one of the biggest sources of drinking water in Central Europe and the intensity of freshwater abstraction is comparatively low, but there are impacts from old environmental burdens. Grievances linked to small water hydro-plants are unsolved. Furthermore, the completion of urban waste water infrastructure is pending.

EU financing continues to provide substantial support for the **environmental implementation gap**, and Slovakia is due to receive EUR 6.3 billion in grants under its Recovery and Resilience plan (RRP) in 2021-2026 and EUR 12.3 billion under the cohesion policy in 2021-2027. Slovakia's environmental financing for investments came to 1.12% of GDP (EU average: 0.7%) in 2014-2020, relying both on EU funding and national sources. The overall environmental investment needs for 2021-2027 are estimated to reach at least 1.46% of GDP, indicating an additional financing need (gap) of over 0.33% of the country's GDP for environmental implementation.

Although several measures included in the national RRP positively contributed to the attainment of the 37% climate target, in a number of cases these were long over-due. Additional reforms and investments are therefore needed from other EU funding (especially cohesion funds) and national sources to to close the implementation gap and to meet the objectives of the European Green Deal (EGD).

Slovakia has to take urgent action to implement fully the measures in the RRP, and break with its poor performance record in the absorption of EU funds. Priorities include: phasing out EHSs to lignite; construction and demolition waste reform, the boiler replacement scheme and reform on landscape planning and on nature protection and water management. Additional investments are needed while investments to potentially stranded assets are to be avoided, like mechanical-biological treatment (MBTs) or waste-to-energy facilities and to ensure that support for renewable energy sources (RES) is compliant with the 'do no significant harm' (DNSH) principle. Finally, the enhanced use of economic instruments to make **polluters pay** is relevant for number of sectors.

The **environmental governance** framework remains unstable. Although some legislative acts improved public participation and access to justice, it seems that these improvements will not sustain. For example, a new reform of the permitting system was adopted, which, subject to further assessment, might lower the level of environmental protection.

# Part I: Thematic Areas

## 1. Circular economy and waste management

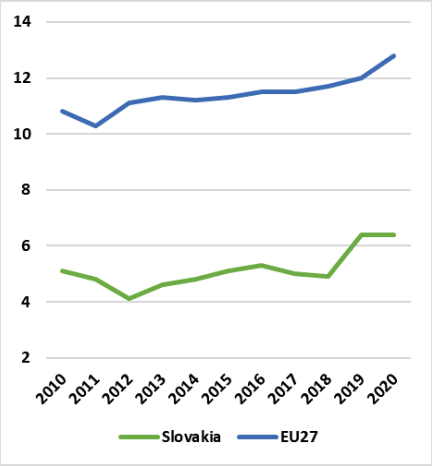
### Measures towards a circular economy

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 across countries. To help achieve the EU Circular Economy Action Plan's goal of doubling the EU circular material use rate by 2030, ambitious measures targeting the whole product life cycle are needed at Member States' level. Such measures range from sustainable product design to increase durability, reparability, upgradability and recyclability of products, to other measures like remanufacturing, increasing circularity in production processes, recycling, and boosting eco-innovation and increasing the uptake of green public procurement.

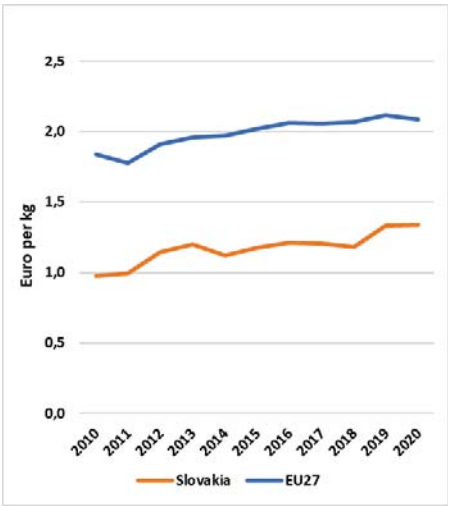
Slovakia's circular (secondary) use of material was 4.8% in 2014 and 6.4% in 2020, compared with the EU average of 12.8% in 2020. Slovakia is therefore well below the EU average and the pace of its performance increase is still slow.

**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 1.34 generated per kg of material consumed in 2020, resource productivity in Slovakia is well 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. Such strategies are one of the most effective ways to progress towards a more circular economy at Member State level. Since the launch of the European Circular Economy Stakeholder Platform in 2017[3], national, regional or local authorities have used the platform to share their strategies and roadmaps.

Slovakia started with integration of circular economy principles into various strategies[4], with the first comprehensive circular economy strategy developed finally in 2022 in cooperation with OECD[5] under the Commission's Technical Support Instrument (TSI), called 'Closing the Loop in the Slovak Republic'[6]. It is a roadmap towards circularity for competitiveness, eco-innovation and sustainability with more than 30 concrete policy recommendations supported by an implementation plan and a monitoring framework that would need to be introduced by 2040. Priority areas are food and biowaste, the construction sector, sustainable production and consumption, and economic instruments as a horizontal area. Some CE information platfom also exist[7] and first examples of methodologies on circular private and public procurement are available[8].

Slovakia has included one circular economy-related reform - on the management of construction and demolition waste - in its national RRP.

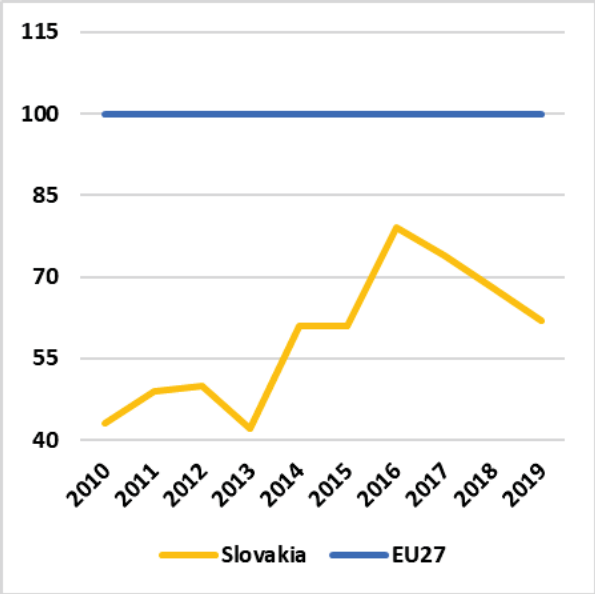
Slovakia has taken some first steps were towards circularity. A fee for light plastic bags was introduced in 2018. The landfill fees were gradually increased since 2019 and there is a plan to increase the fees further. As of the beginning of 2022, the deposit-refund system for single-use beverage packaging became operational and Slovakia is among the first EU Member States to introduce it[9].

### Eco-innovation

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

Slovakia ranked 21st in the list of EU countries in the 2021 Eco-Innovation Scoreboard of, scoring 82 and it belongs to the group of 'catching up countries'. Slovakia performs below the EU average in all components of the 2021 Eco-innovation index, except for the component 'resource efficiency outcomes'.

**Figure 3: Eco-innovation performance**[10]




### Green public procurement (GPP)

Public procurement accounts for a large proportion of European consumption, with public authorities' purchasing power representing 14% of EU GDP. This can help drive the demand for sustainable products that meet repairability and recyclability standards. At present, reporting to monitor the uptake of GPP is voluntary.

Slovakia adopted a National Action Plan for Green Public Procurement covering the period 2016-2020 period.

[3] Circular Economy Stakeholder Platform

[4] Greener Slovakia - Strategy of the Environmental Policy of the Slovak Republic until 2030, Vision and Sustainable Development Strategy of Slovakia up to 2030 (hereafter "Slovakia 2030", Economic Policy Strategy 2030

[6] https://www.oecd.org/environment/waste/highlights-closing-the-loop-in-the-slovak-republic-roadmap_EN.pdf

[7] Example is the Information platform about the Green and Circular Economy: Informačná platforma zelené a obehové hospodárstvo (enviroportal.sk)

[8] https://www.incien.sk/aktuality/metodika-cirkularneho-verejneho-obstaravania-vo-verejnych-a-sukromnych-zakazkach/

[9] All you need to know about the deposit system for bottles and cans (Q&A) - spectator.sme.sk

[10] European Commission - Directorate-General for Environment (DG ENV), Eco-innovation Observatory, Eco-innovation index.

However, monitoring showed that the strategic objective to achieve a 50% share of green contracts in 12 selected product groups procured by public authorities, including counties and municipalities, was not yet met. A new concept for development and implementation of GPP in Slovakia was adopted by the government in 2019[11], to encourage ministries and other central state administration bodies to make more intensive use of the GPP[12]. The latest amendment to the procurement act extended the mandatory social aspect in public procurement with the environmental aspect, with a 6% quota (to be reached for both and/or separately, depending on type of public authority)[13]. The Greener Slovakia Strategy sets a long-term goal to achieve, by 2030, 70% of GPP for the total value of public procurement and for the total number of contracts.

### EU Ecolabel and the Eco Management and Audit Scheme (EMAS)

The number of EU Ecolabel products and EMAS-licensed[14] organisations in a given country provides some indication of the extent to which the private sector and national stakeholders 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, Slovakia had five products and one license registered in the EU Ecolabel scheme. Compared with the EU totals of 83590 products and 2057 licences, this shows a further decline in what was already a low take-up[15]. 53 organisations from Slovakia are currently registered in EMAS, the European Commission's Eco-Management and Audit Scheme[16]. In this case, Slovakia shows a strong increase compared with the 2019 report[17].

Although Slovakia has taken first steps in strengthening the circular economy policy framework, a number of 2019 priority actions remain relevant and are retained, and a new one on circular material usage is added.

#### 2022 priority actions

- Strengthen the policy framework to speed up the transition towards the circular economy by all economic sectors, including priority sectors like 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 management of municipal waste[18] 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 top the waste hierarchy. The amount of municipal waste generated is a good indicator of the effectiveness of waste prevention measures.

Although Slovakia's municipal waste generation remained below the EU average in 2020 (433 kg/y/capita as against 505 kg/y/capita), there had been a significant increase since 2013 (304 kg/y/capita)[19], as Figure 4 shows. The first Waste Prevention Programme (WPP) was put in place in 2014, but it has had no positive effects in reducing the levels of municipal waste, which can be influenced by many factors (including population and

[11] Concept for development and implementation of GPP in Slovakia, 2019: Legislatívny proces - SLOV-LEX
[12] Following the concept, four methodologies for GPP were prepared and adopted by the government in 2020 and 2021; these are mandatory for ministries and central administration bodies.
[13] Public Procurement Act, 2021: SLOV-LEX
[14] EMAS is the European Commission's Eco-Management and Audit Scheme, a programme to encourage organisations to behave in a more environmentally sustainable way.
[15] European Commission, Ecolabel Facts and Figures.
[16] As of May 2018. European Commission, Eco-Management and Audit Scheme.
[17] According to the Slovak register, there are 72 organisations currently registered in EMAS and 3 organisations with residency in Slovakia that are registered under the Germany's corporate registration.
[18] Municipal waste consists of (a) mixed waste and separately collected waste from households, including paper and cardboard, glass, metals, plastics, bio-waste, wood, textiles, packaging, waste electrical and electronic equipment, waste batteries and accumulators, and bulky waste, including mattresses and furniture; (b) mixed waste and separately collected waste from other sources, where such waste is similar in nature and composition to waste from households. (Directive 2008/98/EC, Article 3(2)(b)).
[19] Eurostat - Data Explorer (europa.eu)

household expenditure). Slovakia's waste generation (excluding major mineral waste) generally shows an increasing trend (except between 2012 and 2014). A similar trend can be observed for Slovakia's GDP, particularly after 2016, indicating that Slovakia's economic growth is not yet decoupled from its generation of waste[20].

**Figure 4: Municipal waste by treatment in Slovakia, 2010-2020**[21]

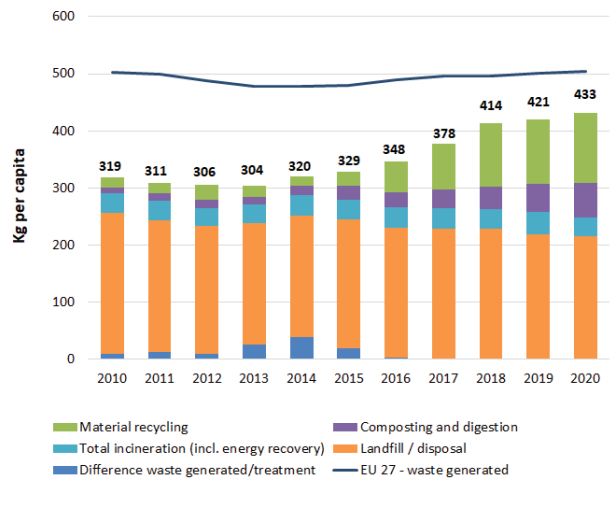



Figure 4 also shows municipal waste by treatment, in terms of kilos per capita. Although some decrease has been observed (50% in 2020 compared with 66 % in 2016), Slovakia still has one of the highest rates in the EU for landfilling of municipal waste (EU average in 2020 at 23%), confirming that managing waste efficiently remains an important challenge for Slovakia. Also, although the incineration rate is low (around 8% in 2020), concerns exist that the waste will be simply shifted from landfills to incinerators, because the development of new energy recovery facilities is foreseen in the updated Waste Management Programme (WMP) for 2021-2025.

Based on information available to the Commission, a significant number of irregular and substandard landfills operate in Slovakia and present serious risks for human health and the environment. Studies and investigations launched by the European Commission found that, in all 111 landfills operating in Slovakia, waste is not subject to appropriate treatment as these do not have sufficient installations to ensure the selection of different types of waste. Also, Slovakia did not correctly transpose the pre-treatment obligation into its national legislation and the network of installations for treatment of waste is insufficient. Therefore, in November 2021, the Commission initiated an infringement procedure against Slovakia for failing to comply with the Landfill Directive[22] and the Waste Framework Directive[23, 24].

Furthermore, an infringement procedure[25] against Slovakia is still ongoing as concerns landfills that were open before 2004 and are currently still in operation, but which lack a sufficient conditioning plan, as required by the Landfill Directive. In addition, a number of old landfills that are out of operation still have not been closed and rehabilitated as also required by the Landfill Directive. Also, old environmental burdens[26] require significant investments.

The legislative framework for separate collection of bio-waste improved in Slovakia as the amendment of the Waste Act (in effect as of 1 January 2021) repealed most of exceptions from the obligation of separate collection of household kitchen waste which has stalled together with the waste management market. However, some derogations are still in place until end of 2022 because relevant infrastructure is missing[27, 28]. The 'pay-as-you-throw' (PAYT) scheme has not been extended since the 2017 EIR report and, in any case, the level of uptake is low. To increase reuse and recycling rates, PAYT combined with an increase in the landfill tax (LFT) should be considered[29].

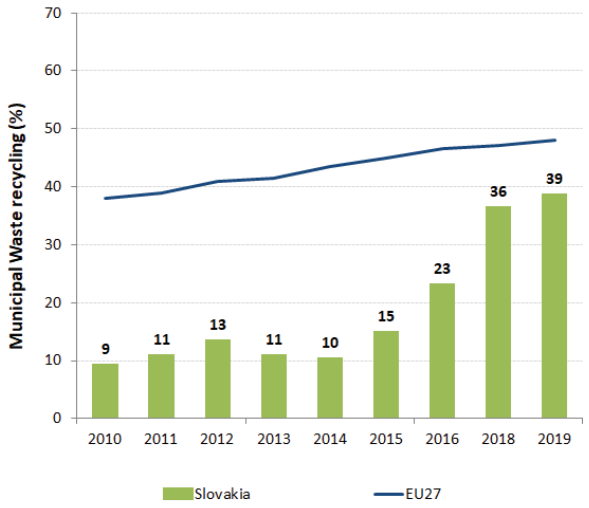
Recycling (including composting) seems to be growing (42% vs the EU average of 47% in 2020)[30]; however, the steep increase in the recycling rate in 2014-2017 was mainly due to adjustments in the statistical reporting methodology rather than by an improvement in

[20] Slovakia Waste Prevention Country Profile 2021 — European Environment Agency (europa.eu)
[21] Eurostat, Municipal waste by waste operation, April 2022.
[22] Directive 1999/31/EC.
[23] Directive 2008/98/EC.
[24] Circular economy: Commission takes action against five Member States (europa.eu)
[25] Waste: Commission calls on POLAND and SLOVAKIA to comply with EU rules on landfills: March infringements package: key decisions (europa.eu)
[26] The inventory of old environmental burdens in Slovakia took place in 2006-2008 and identified almost 2 000 sites, of which around 250 are of high risk. For example, the most known, Vrakuňa landfill, is the site of a former chemical plant that has an impact on one of the most important sources of drinking water in Central Europe located in southern Slovakia. The implemenation of the sanation
[27] Revízia výdavkov na životné prostredie (minzp.sk)
[28] Municipalities get ready for new waste collections as postponements are binned - spectator.sme.sk
[29] Factsheet_Polluters_pay_Slovakia_V1.pdf (europa.eu)
[30] According to Slovak authorities, in accordance with the definition of municipal waste, municipal waste from other sources will be added to the statistics of the Slovak Republic in the course of 2022 and revised data will be reported to Eurostat.

performance. Slovakia has a very high number of municipalities (around 3 000). This leads to fragmentation, inefficiencies and a lack of economy of scale in waste collection and treatment. Another problem is that despite overall revamping of Slovakia's waste legislation in 2016, it is deemed to be quite complex now and has since failed to deliver on extended producer responsibility (EPR) schemes.

Figure 5 shows that Slovakia needs to step up investment in recycling to meet the EU 2020 recycling targets. The country will need to make an even greater effort to meet the post-2020 recycling targets.

**Figure 5: Recycling rate of municipal waste, 2010-2020**[31]




The Commission's Early Warning report'[32] listed Slovakia was as one of the countries at risk of missing the EU 2020 target of recycling 50% of municipal waste. The report listed key priority measures that Slovakia should take to close the implementation gap. The Commission is currently finalising its analysis of the progress on recommendations from the 2018 Early Warning Reports and of progress towards achieving the 2025 waste recycling targets. This report will be presented at the end of 2022 and will assess the progress made to date.

### Implementation of the 2018 waste legislative package

Waste Management Plans and Waste Prevention Programmes are instrumental for the sound implementation of EU waste legislation. They set out key provisions and investments to ensure compliance with existing and new legal requirements.

By 5 July 2020, Member States had to bring their national laws in line with modifications included in the revised Waste Framework Directive, the Packaging and Packaging Waste Directive and the Landfill Directive[33]. With a delay[34], Slovakia has notified to the Commission its transposition of the 2018 waste package. A conformity assessment is now ongoing. Slovakia has also notified transposition of the Packaging and Packaging Waste Directive to the Commission. A conformity assessment is ongoing too.

Slovakia adopted a revised Waste Management Program[35] (WMP) for 2021-2025 in November 2021. The update of the Waste Prevention Programme[36] (WPP) for 2019-2025 forms a part of Chapter VI of the approved WMP. The two revised programmes were sent to the Commission in December 2021. Assessment by the Commission services is on-going.

Given that there was limited progress on the 2019 priority actions of  and in the light of the Early warning report yet to be released, the priority actions are largely proposed again, as in the 2019 report. Actions related to landfills and incinerators were also extended and one action on waste prevention was added.

## 2022 priority actions

- Further increase landfill taxes to divert recyclable waste from landfill. Channel the resulting revenues into measures to improve waste management in line with the waste hierarchy.
- Avoid building excessive infrastructure for the treatment of residual waste, e.g. mechanical-biological treatment (MBT) facilities and avoid investment in potentially stranded assets like installations for (co-) incineration for mixed municipal waste.
- Improve and extend the separate collection of waste, including for bio-waste. Use economic deterrents, e.g. PAYT schemes and set mandatory recycling targets for municipalities with measures (e.g. fines) if there is non-compliance.

[31] Eurostat, Recycling rate of municipal waste, April 2022.

[32] 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.

[33] 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.

[34] Commission urges 7 Member States to fully enact new EU rules on waste streams into national legislation: June infringements package: key decisions (europa.eu)

[35] vestnik-2021-3.pdf (minzp.sk)

[36] ppvo-sr-19-25.pdf (minzp.sk)

- Close and rehabilitate non-compliant landfills as a matter of priority. Ensure that all landfilled waste has been subject to (pre-)treatment.
- Improve the functioning of EPR systems, in line with the general minimum requirements on EPR[37].
- Implement the waste prevention measures.

[37] 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 Europe'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 Habitats and Birds Directives are key legislative tools to deliver on targets in the EU's Biodiversity Strategy, and are the cornerstone of European legislation aimed at the conserving the EU's wildlife[38].

Slovakia's 2030 National Biodiversity Strategy and Action Plan is currently in preparation. However, sufficient funding for biodiversityis lacking and a broader financing plan for biodiversity, including activities identified in Natura 2000 Prioritised Action Framework (PAF) is also missing.

Slovakia's RRP includes the component on climate adaptation and biodiversity. Under this, investments are coupled with reforms in landscape planning, nature protection and water management contributing to the climate adaptation. Examples of investments include the renaturation of watercourses or wetlands or afforestation of forest land by native tree species. Among the first results, Slovakia passed a national park reform at the end of 2021, which sets the first step in the transition to the unified management of state-owned lands located within national parks[39].

## Nature protection and restoration

Natura 2000[40], the largest coordinated network of protected areas in the world, is the key instrument to achieve the objectives in the Birds and Habitats Directives. These are to ensure the long-term protection, conservation and survival of Europe's most valuable and threatened species and habitats; and of the ecosystems they underpin. Key milestones towards meeting the objectives of the Birds and Habitats Directives are: setting-up of a coherent Natura 2000 network; the designation of sites of Community importance (SCIs) as special areas of conservation (SACs), and setting of site-specific conservation objectives and measures for all Natura 2000 sites.

### Setting up a coherent network of Natura 2000 sites

Slavakia hosts 66 habitat types[41] and 195 species[42] covered by the Habitats Directive. The country also hosts populations of 83 bird taxa listed in the Birds Directive Annex I[43].

As shown in Figure 7, by 2021, 29.8% of Slovakia was covered by Natura 2000 sites (EU coverage 18.5%). Special Protection Areas (SPAs) classified under the Birds Directive covered 26.7% (EU coverage 12.8%) and Sites of Community Importance (SCIs) designated under the Habitats Directive covered 12.5% of the Slovak territory (EU coverage 14.2%).

Considering both Natura 2000 and other nationally designated protected areas, Slovakia legally protects 37,40% of its terrestrial areas (EU-27 average 26,4%)[44].

The latest assessment of the SCI part of the Slovak Natura 2000 network shows that, after adding of 169 sites in

[38] These should be reinforced by the Nature Restoration Law, according to the new EU Biodiversity Strategy.
[39] Slovak national parks won't need to envy Poland and Ukraine anymore - spectator.sme.sk

[40] Natura 2000 comprises Sites of Community Importance (SCIs) designated pursuant to the Habitats Directive and Special Protection Areas (SPAs) classified pursuant to the Birds Directive; figures of coverage do not add up exactly due to the fact that some SCIs and SPAs overlap. Special Areas of Conservation (SACs) means a SCI designated by Member States.
[41] EEA, Article 17 dashboard, Annex I total, 2019.
[42] EEA, 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.
[43] EEA, Article 12 dashboard, Annex I, 2020. This counting only takes into account birds taxa for which information was requested.
[44] European Environment Agency, Protected Areas, terrestrial protected area percentage (2021) , March 2022.

2017, there remain a number of insufficiencies which Slovakia has committed procedure itself to resolve. There is an ongoing infringement against Slovakia related to these insufficiencies. New sites were identified in 2018-2020 and negotiated with land owners and users in 2020-2021;the legal procedure should be finalised in spring 2022 (please see also further).

**Figure 6: Terrestrial protected area coverage, 2021**[45]

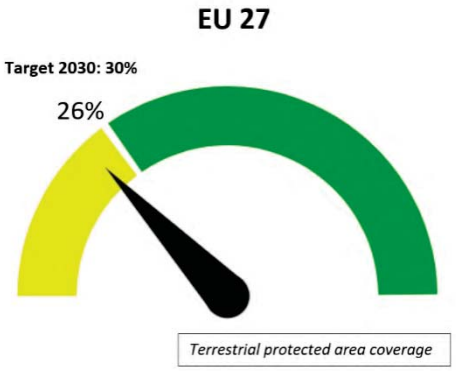
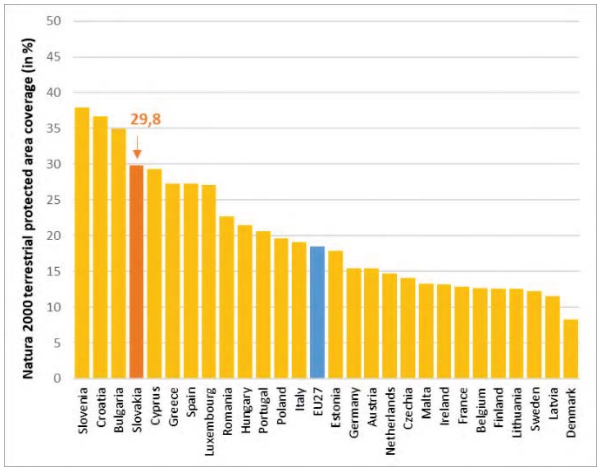



**Figure 7: Natura 2000 terrestrial protected area coverage, 2021**[46]




## Designating Special Areas of Conservation (SACs) and setting conservation objectives and measures

The six-year deadline set by the Habitats Directive to designate SCIs as SACs, and establish appropriate conservation objectives and measures, has expired for 473 sites in Slovakia.

Nevertheless, 446 SCIs have not yet been designated as SACs. In addition, Slovakia has persistently failed to set detailed site-specific conservation objectives and the necessary conservation measures that would ensure effective protection and restoration of the 473 sites. For this reason the Commission opened an infringement procedure against Slovakia in July 2019[47] and issued a reasoned opinion in February 2022[48].

Figure 6 shows the situation in 2021 at EU level for terrestrial and marine protected area coverage in meeting the Biodiversity Strategy 2030 target.

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

In accordance with of Habitats Directive Article 17 and Birds Directive Article 12, reports are prepared to assess progress towards maintaining or restoring favourable conservation status of species and habitats. The results of these reports are key to measure the performance of Member States.

According to the report submitted by Slovakia on the conservation status of habitats and species covered by Article 17 of the Habitats Directive for the period 2013-2018[49], the share of assessments for habitats in good conservation status was nearly the same as in the previous reporting period 2007-2012. The share of species in good conservation status increased from 20% to 23% between the two reporting periods[50]. As far as birds are concerned, about 58% of the breeding species showed short-term increasing or stable population trends while the same figure for wintering species was 67%.

The share of habitats in bad conservation status decreased slightly to 10%, while that share for species increased to 22%. For most habitats and species, Slovakia also resolved the unknown classifications between the two reporting periods.

[45] EU Biodiversity Strategy Dashboard, indicators A1.1.1 and A1.2.1, February 2022.
[46] European Environment Agency, Natura 2000 Barometer, February 2022.
[47] Nature protection: Commission calls on SLOVAKIA to complete Natura 2000 network: https://ec.europa.eu/commission/presscorner/detail/en/INF_19_4251
[48] Nature: Commission calls on SLOVAKIA to ensure that EU nature protection laws are respected: February infringements package: key decisions (europa.eu)
[49] Černecký, J., Čuláková, J., Ďuricová, V., Saxa, A., Andráš, P., Ulrych, L., Šuvada, R., Galvánková, J., Lešová, A., Havranová, I. 2020. Správa o stave biotopov a druhov európskeho významu za obdobie rokov 2013 – 2018 v Slovenskej republike. Banská Bystrica: ŠOP SR, 109 pp, ISBN 978-80-8184-076-0
[50] State of Nature Report. EEA 2021.

**Figure 8: Assessments of conservation status for habitats for 2007-2012 and 2013-2018 reporting periods**[51]

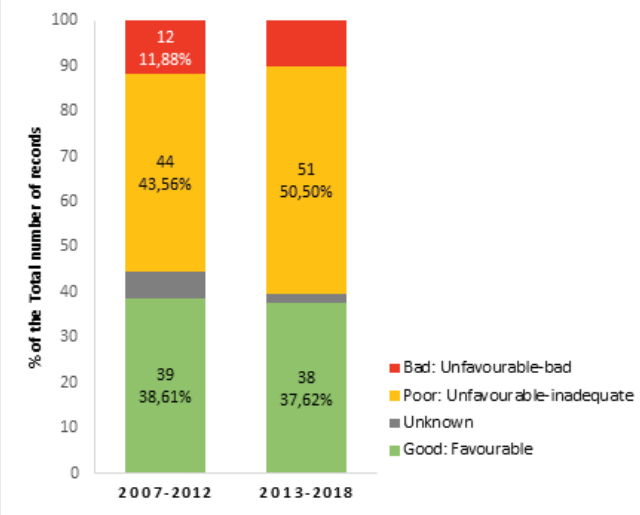
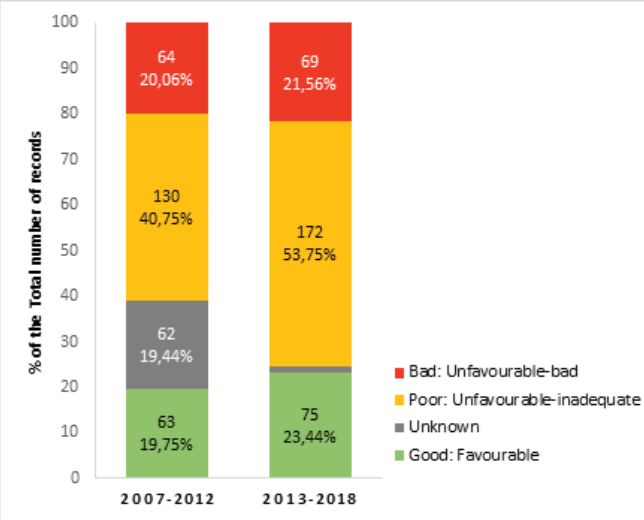



**Figure 9: Assessments of conservation status for species for 2007-2012 and 2013-2018 reporting periods**[52]




Slovakia has taken the first steps[53] to address specific problems with sustainable forest management in protected areas. Slovak forests in Natura 2000 sites are facing high levels of logging, especially sanitary logging in reaction to forest disturbances such as bark beetle infestations or storm damage. Article 6(3) of the Habitats Directive requires that plans and projects not directly connected with or necessary to the management of a Natura 2000 site but likely to have a significant impact thereon undergo an appropriate assessment of their effects on the site before their implementation. According to the Commission, Slovak legislation still does not ensure that sanitary logging activities, which might have a significant impact on Natura 2000 sites, undergo these assessments. At the same time, forest management plans, which did not undergo such an assessment in the past, are still in force. Therefore, in July 2020, the Commission decided to refer Slovakia to the Court of Justice of the EU over failure to assess the impact of sanitary logging on Natura 2000 sites[54].

The case also addresses the failure to take measures for the protection of a bird species in breach of Article 6(2) of the Habitats Directive concerning the need to avoid habitat deterioration and disturbance of a protected species. Since Slovakia joined the EU in 2004 the population of the Capercaillie has decreased by half in the 12 Special Protection Areas (SPA) classified for its protection under the Birds Directive. The main reason for this large decline has been the disappearance of suitable habitats due to logging.

As shown in Figures 8 and 9 on the conservation status of habitats and species, there were no major changes between the two reporting periods. Changes in status occurred mainly due to improved knowledge based on an established monitoring system and the redistribution of previously unknown status; the share of those in unknown status fell almost to zero. The share of species in bad conservation status increased while that status for habitats slightly decreased between the two reporting periods. At the same time, the share of habitats in good conservation status has hardly changed and the share of species in the same status increased. Natural processes, agriculture and alien species were the main pressures for habitats. For species, agriculture and the development, construction and use of infrastructure and areas and natural processes, were most important.

[51] 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 these may also be affected by changes of methods or due to better data availability.

[52] idem

[53] Amended legislation entered into force in January 2022 that regulates/limits forest management in protected areas, namely National Parks and SPAs.

[54] Commission decides to refer Slovakia to the Court of Justice of the EU over failure to assess the impact of sanitary logging on Natura 2000 sites and failure to take measures for the protection of a bird species: Infringement - Nature - Slovakia (europa.eu)

## Bringing nature back to agricultural land and restoring soil ecosystems

### *Agricultural land*

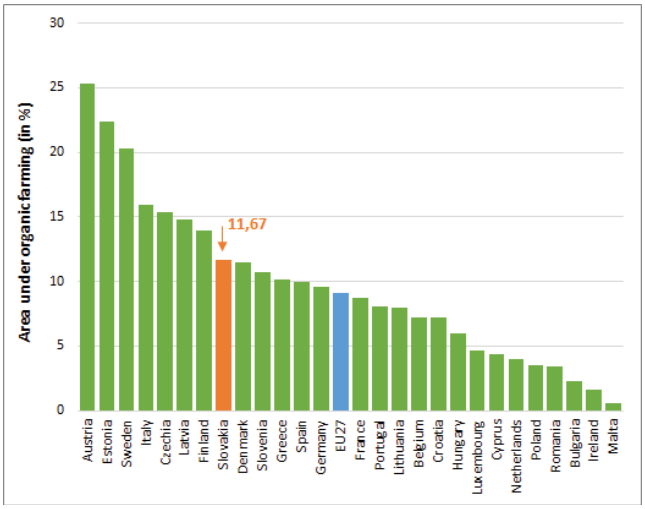
The Biodiversity Strategy works alongside the new Farm to Fork Strategy and the new Common Agricultural Policy (CAP) to support and achieve the transition to fully sustainable agriculture. The Biodiversity and Farm to Fork strategies have set four important targets for 2030:
- a 50% reduction in the overall use of – and risk from – chemical pesticides;
- a 50% reduction in the use of more hazardous pesticides;
- 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);
- bring back at least 10% of agricultural area under high-diversity landscape features and increase areas under organic farming to at least 25%.

According to the analysis in the Commission recommendations for Slovakia's CAP strategic plan[55], Slovak farms and forests are facing major challenges linked to the management of natural resources and biodiversity, especially in light of the intensification of agricultural production and the impacts of climate change. Changing weather patterns are making Slovakia's agricultural sector vulnerable to higher yield variability and crop disturbances due to water imbalances, pests (that also damage forests) and, heat-induced stress for livestock. However, there are some opportunities linked to increased productivity and new crops.

As in many other Member States, the biodiversity situation in Slovakia is continuously worsening especially for bird species, amphibians and reptiles, agricultural and forest habitats in Natura 2000 sites, and aquatic and wetlands ecosystems. Another continuing challenge is the lack of proper protection and management of overall variety in landscape features on agricultural land. Data on the common farmland bird index show a declining trend (the index for Slovakia was 103.45 in 2012 and it went down to 83.50 in 2018 whereas the value for EU-27 in 2018 was 70).

The numbers both of hectares of organically farmed agricultural land and of organic farmers show the importance that organic farming has gained in Slovakia over recent decades. Slovakia, with an estimated 11.67% of area under organic farming, is slightly above the EU average of 9.07% in 2020[56]. Nevertheless, conversion to organic farming should speed up, since it has stagnated in recent years. This leaves ample room for improvement to reach by 2030 EU targets of the Biodiversity and Farm to Fork Strategies.

**Figure 10: Share of total utilised agricultural area occupied by organic farming per Member State, 2020[57].**




As recommended by the Commission, Slovakia should bolster environmental care and climate action to contribute to the EU's environmental and climate-related objectives. Among others, this should include: i) increasing resilience to climate change by increasing water efficiency through modernisation of water infrastructure and rainwater harvesting, crop adaptation, and appropriate land management practices improving water retention in soils; (ii) reducing greenhouse gas emissions from agriculture; and (iii) fostering sustainable forest management and enhancing multifunctionality, forest protection and restoration of forest ecosystems.

### *Soil ecosystems*

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.

[55] Commission recommendations for Slovakia's CAP strategic plan SWD(2020) 392 final EUR-Lex - 52020SC0392 - EN - EUR-Lex (europa.eu)

[56] Area under organic farming Statistics | Eurostat (europa.eu)

[57] https://ec.europa.eu/eurostat/databrowser/view/sdg_02_40/default/table?lang=en Eurostat, Area under organic farming, February 2022).

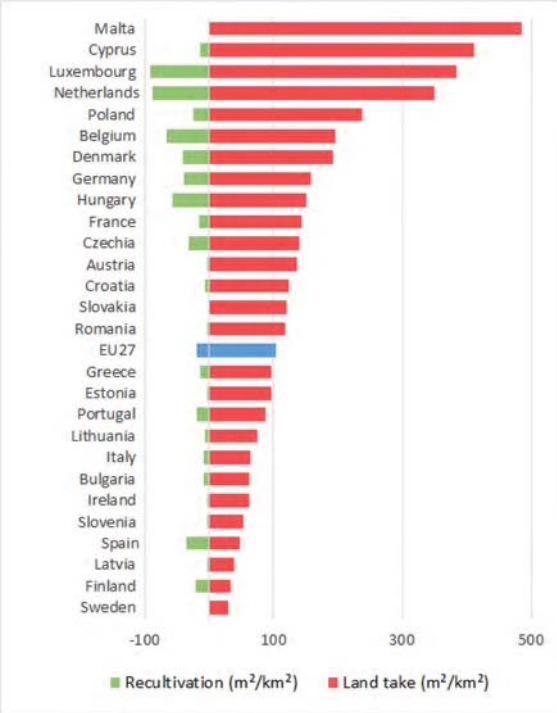
This entails:
(i) preventing further soil degradation;
(ii) making sustainable soil management the new normal;
(iii) taking action for ecosystem restoration.

One factor in the degradation of soil ecosystems is the area of soil that is sealed or atificialised[58]. The land taken (land 'taken' means land that is sealed or artificialised) per year in 2012-2018 can be seen as a measure of one significant pressure on nature and biodiversity - land-use change. At the same time, land-use change constitutes an environmental pressure on people living in urbanised areas.

Despite a reduction in the last decade (land take was over 1 000 km$^2$/year in the EU-28 between 2000-2006), land take in the EU-28 still amounted to 539 km$^2$/year in 2012-2018. The concept of 'net land take' combines land take with the return of land to non-artificial land categories (re-cultivation). While some land was re-cultivated in the EU-28 in 2000-2018, 11 times more land was taken than returned. Slovakia ranks above the EU average as regards land take with net land take of 151.9 m$^2$/km$^2$ (EU-27 average: 83.8 m$^2$/km$^2$)[59].

In 2018, Slovakia updated its reporting on land degradation according to the Performance Review and Implementation System (PRAIS3) with actions intended to combat the degradation identified[60].

**Figure 11: Land take and re-cultivation in EU27 (m$^2$/km$^2$), 2012-2018[61]**




In 2015, the United Nations Convention to Combat Desertification reached an agreement[62] to endorse a vision of land-degradation neutrality and link this vision to the implementation of the UN's sustainable development goals (SDGs) in general, and to SDG 15.3[63] in particular. Slovakia has not yet committed to set land degradation neutrality targets under UNCCD agreement[64].

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

### Forests and timber

The EU Forest Strategy for 2030 adopted in July 2021 is a part of the 'Fit for 55' package[65]. 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 strengthened biodiversity and

[58] Artificial land cover is defined as the total of roofed built-up areas (including buildings and greenhouses), artificial non-built-up areas (including sealed area features, such as yards, farmyards, cemeteries, car parking areas etc. and linear features, such as streets, roads, railways, runways, bridges) and other artificial areas (including bridges and viaducts, mobile homes, solar panels, power plants, electrical substations, pipelines, water sewage plants, and open dump sites).
[59] Land take in Europe — European Environment Agency (europa.eu) fig 6
[60] All Reports | Prais3 (unccd.int)
[61] European Environment Agency, Land take in Europe, December 2021.
[62] The LDN Target Setting Programme | UNCCD.
[63] '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.'
[64] The LDN Target Setting Programme | UNCCD
[65] COM SWD (2021) 652

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[66]. The share of forested areas in the EU in a bad conservation status increased from 27% in 2015 to 31% in 2018[67].

In Slovakia, forests cover 45.32% of territory[68] but only a third of assessments show a good conservation status[69].

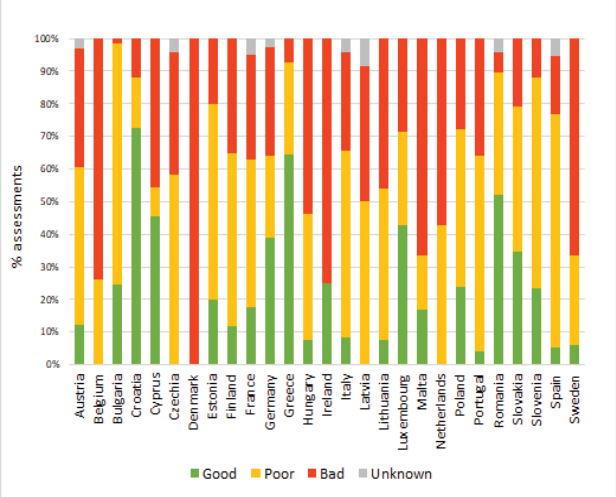
The European Union Timber Regulation (EUTR)[70] prohibits the placing on the EU market of illegally harvested timber. EU Member States' competent authorities must conduct regular checks on operators and traders, and apply penalties for non-compliance. With the amendment of Article 20 of the EUTR, reporting every 2 years has been changed to annual reporting and covers the calendar year as of 2019.

In the period March 2017 - February 2019[71], Slovakia carried out 14 checks on domestic timber operators. It also carried out 1 check on operators importing timber. It is estimated that Slovakia had 2 550 operators placing imported timber types onto the single market over the reporting period.

The 2019 EIR reported on problems with sustainable use of (woody) biomass in certain regions of Slovakia. While a positive change of national RES Act was adopted at the end of 2018, the preparation of criteria for sustainable use of renewable sources, including for biomass, committed by Slovak government in February 2019 under the Environmental Policy Strategy 2030[72], seems to be pending. At the same time, new concerns were triggered by amendment of RES Act proposed at the end of 2021[73].

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

**Figure 12: Conservation status of forests protected under the Habitats Directive in EU Member States, 2013-2018 (% assessments)[74]**




## 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 Invasive Alien Species 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 Invasive Alien Species (the IAS Regulation[75]) is the list of invasive alien species of Union concern.

The total number of invasive alien species of Union concern is currently 66, of which: 30 are animal species and 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.

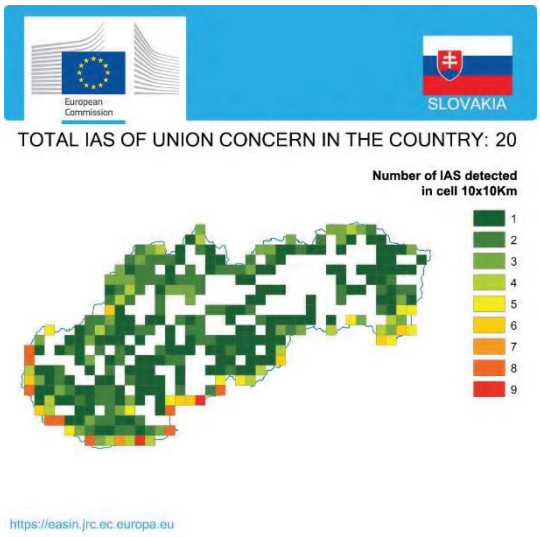
A 2021 report[76] on the review of the application of the IAS Regulation shows that the implementation of the IAS

[66] EEA, State of Nature in the EU
[67] The state of nature in the European Union Report on the status and trends in 2013 - 2018 of species and habitat types protected by the Birds and Habitats Directives. COM/2020/636 final.
[68] EEA, Forest information system for Europe.
[69] JCR, Mapping and assessment of primary and old-growth forests in Europe, p. 13.
[70] Regulation (EU) No 995/2010 of the European Parliament and of the Council of 20 October 2010.
[71] COM/2020/629 final
[72] Legislatívny proces - SLOV-LEX
[73] Hromadná pripomienka — Ekoforum.sk
[74] European Environment Agency, Conservation status and trend in conservation status by habitat group - forests, January 2022.
[75] 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
[76] Report from the Commission to the European Parliament and the Council on the review of the application of Regulation (EU) No

Regulation is already starting to deliver on its objectives such as a coherent framework for addressing IAS at EU level and increased awareness of the problem of invasive alien species. At the same time, the report identified some challenges and areas for improvement. Given that the deadlines for implementing the various obligations of the IAS Regulation applied gradually between July 2016 and July 2019, it is premature to draw conclusions on several aspects relating to implementation of the IAS Regulation.

A 2021 report[77] on the baseline distribution shows that of the 66 species on the EU list, 20 have been observed in the environment in Slovakia. The spread can be checked in Figure 13.

**Figure 13: Number of invasive alien species of EU concern, based on available georeferenced information for Slovakia**




An infringement case is ongoing for Slovakia. It failed to establish and implement one single action plan or a set of action plans to meet the requirements specified in Article 13 of the IAS Regulation by 13 July 2019, and to transmit it/them to the Commission without delay[78].

### 2022 Priority Actions

- Establish site-specific conservation objectives and measures for all sites.
- Provide adequate resources and strengthen capacity to implement the above conservation measures.
- Complete the SCI part of the Natura 2000 network.
- Integrate biodiversity considerations into other policies and their associated funds (notably agriculture, forestry and infrastructure planning).
- Reduce pressure from the agricultural sector on natural resources and in particular via the land management practices improving water retention in soils
- Improve incentives for foresters and farmers to better protect forest and biodiversity. Ensure sustainable forest management through effective planning taking into account ecosystem services provided by forests. Prevent the deterioration of Natura 2000 sites including by ensuring that forestry management plans are assessed in accordance with EU law.
- Take the necessary steps to ensure full compliance with the requirements specified in Article 13 of the IAS Regulation.

## 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.

An ecosystem assessment is an analysis of the pressures on – and the condition of – terrestrial, freshwater and marine ecosystems and their services. It uses spatially explicit data and a comparable methodology based on European data about the functions of ecosystem assets and the ecosystem services they produce.

Ecosystem accounting is built on five core accounts (ecosystem extent, ecosystem condition, physical ecosystem services, monetary ecosystem services and monetary ecosystem assets). These accounts are compiled using indicators of ecosystem assets and the ecosystem services they produce.

In 2014, Slovakia approved an Action Plan on implementation of the updated National Strategy for Biological Diversity by 2020, including several activities on ecosystem assessment.

Subsequently, the working group on mapping and evaluation (MAES-SK) was set up with experts and

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.

[77] 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.

[78] Biodiversity: Commission calls on 18 Member States to protect the environment against invasive alien species: June infringements package: key decisions (europa.eu)

representatives from various sectors of state and scientific institutions.

Several studies focused on ecosystem assessment. Among them, was a comprehensive biophysical and monetary assessment completed in 2020 based on the quality of Slovak ecosystems/habitats and their degradation rate. The assessment allowed the creation of a detailed map and geo-database of ecosystems, an evaluation of the potential and production of Slovak ecosystems to provide ecosystem services, as well as an assignment of the economic value to individual ecosystems in EUR/ha/year by the value transfer method according to prices.

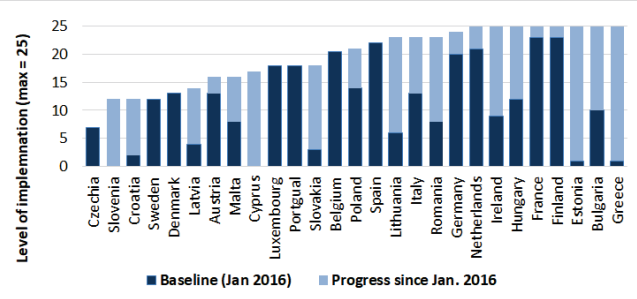
Another study from 2020 focused on a national ecosystem services assessment and a catalogue of ecosystem services. The catalogue defines and describes 18 ecosystem services. It assesses the national landscape's capacity for ecosystem services provision based on evaluation of the landscape units and selected properties and indicators at ecosystem level. Also, under the guidance of Slovak experts, the Carpathian ecosystem services toolkit was developed for the Carpathian countries in 2021[79]. In the scope of the LIFE 2020-2030 IP project, an evaluation of socio-economic benefits and ecosystem services in the Natura 2000 framework is ongoing[80].

A proposal for a regulation amending Regulation (EU) No 691/2011 on European environmental economic accounts might lead to mandatory reporting of ecosystem accounts (extent and ecosystem services) from 2025.

The establishment of pilot accounts (extent, condition, capacity) and their monetisation are ongoing priorities. It needs to be further elaborated, particularly concerning the development of a methodological base for measurement and valuation of ecosystem services supply and use, overall balance, trade-offs and synergies.

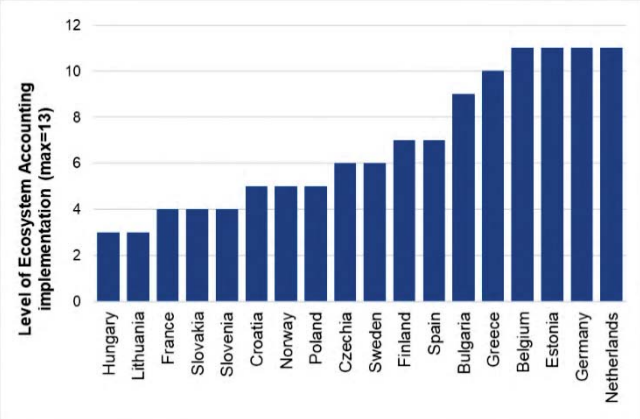
Slovakia has provided updated information and this shows that significant progress has been recorded since January 2016 (Figure 14). This assessment is based on 27 implementation questions and is updated every 6 months.

**Figure 14: ESMERALDA MAES barometer, January 2016 – March 2021**[81]




Progress on ecosystem accounting implementation is assessed at national scale based on 13 questions (see Figure 15).

**Figure 15: Ecosystem accounting Barometer, September 2021**[82]




## 2022 priority action

- Continue supporting the mapping and assessment of ecosystems and their services, and ecosystem accounting development, 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

[79] https://www.interreg-central.eu/Content.Node/Centralparks/Carpathian-Ecosystem-Services-Toolking-EN.pdf

[80] Role of the Natura 2000 network and management of some prioritized habitats in the integrated landscape protection in the Slovak Republic: LIFE 3.0 - LIFE Project Public Page (europa.eu)

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

[82] 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 the ecosystem accounting. The SEEA-EEA is an integrated an comprehensive statistical framework that is based on five core accounts: ecosystem extent, condition, services and monetary ecosystem asset.

accounting systems to monitor and value the impact of business on biodiversity.

# 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.

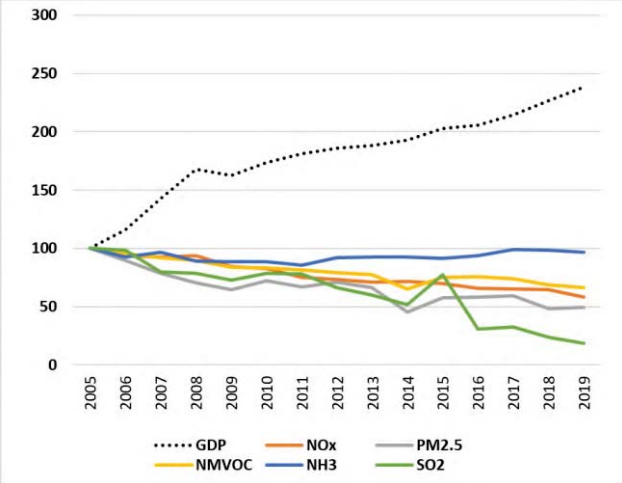
The EU has developed a comprehensive suite of air quality legislation. It establishes health-based air quality standards[83] and emission reduction commitments per Member State for a number of air pollutants[84].

Air quality in Slovakia continues to give cause for severe concern. The latest available annual estimates (for 2019) by the European Environment Agency[85] point to about 4 200 premature deaths (or 50 900 years of life lost (YLL)) attributable to fine particulate matter concentrations[86], 90 (2 500 YLL) to ozone concentrations[87] and 10 (100 YLL) to nitrogen dioxide concentrations[88, 89, 90].

Emissions of key air pollutants have decreased significantly in Slovakia over the last years, while GDP growth continued (Figure 16). According to the latest projections as submitted under Article 10(2) of the National Emission Reduction Commitments Directive (NECD)[91], Slovakia projects to reach emission reduction commitments for all air pollutants covered by the Directive for the period 2020 to 2029 and for most pollutants for 2030 onwards. However, the projections do not demonstrate reaching the 2030 onwards emission reduction commitments for $NH_3$. Latest inventory data submitted by Slovakia, prior to review by the Commission, indicate that Slovakia is in compliance with the emission reduction commitments for all pollutants in 2020.

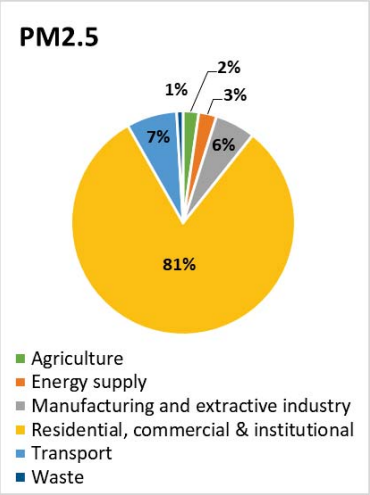
Slovakia submitted its National Air Pollution Control Programme on 3 March 2020.

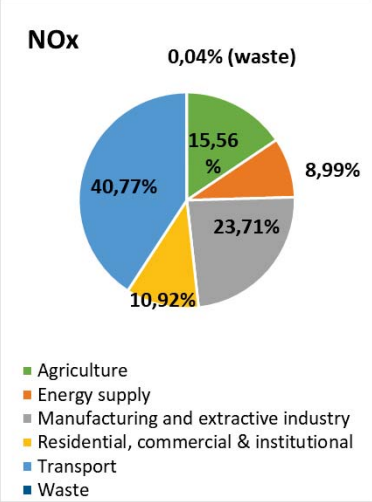
**Figure 16: Emission trends of main pollutants/GDP in Slovakia, 2005-2019**[92]




[83] European Commission, 2016. Air Quality Standards
[84] European Commission, Reduction of National Emissions
[85] European Environment Agency, Air Quality in Europe –2021 Rapport. Please see details in this report as regards the underpinning methodology, p.106
[86] Particulate matter (PM) is a mixture of aerosol particles (solid and liquid) covering a wide range of sizes and chemical compositions. PM10 refers to particles with a diameter of 10 micrometres or less. PM2.5 refers to particles with a diameter of 2.5 micrometres or less. PM is emitted from many human sources, including combustion.
[87] Low-level ozone is produced by photochemical action on pollution.
[88] NOx is emitted during fuel combustion e.g. from industrial facilities and the road transport sector. NOx is a group of gases comprising nitrogen monoxide (NO) and nitrogen dioxide (NO2).
[89] 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.
[90] According to the report Drivers and health impact of ambient air pollution (2021) prepared by Institute for Environmental Policy and the World Bank, current concentrations of PM2.5, PM10 and NO2 result in the mortality and morbidity costs amounting to EUR 3.0 billion (using value of life year lost methodology) and EUR 5.8 billion (using the value of statistical life methodology), making them equal to 3.6% to 6.9% respectively of the gross domestic product (GDP) in 2017.
[91] Directive 2016/2284/EU
[92] European Environment Agency

**Figure 17: PM2.5 and NOx emissions by sector in Slovakia, 2019**[93]




For the year 2020, exceedances above the limit values established by the Ambient Air Quality Directive (AAQD) were registered for particulate matter ($PM_{10}$) in one air quality zone (SKBB01 – Banskobystricky kraj). Furthermore, for two air quality zones the target values regarding ozone[94] concentration have not been met[95].

Persistent breaches of air quality requirements, which have severe negative effects on health and environment, are being followed up by the European Commission through infringement procedures (mainly over $PM_{10}$ and $NO_2$ exceedances) covering all Member States concerned, including Slovakia. The European Commission has referred Slovakia to the Court of Justice of the European Union over exceedances of $PM_{10}$ limit values[96]. Slovakia has not taken adequate measures for the reduction of the $PM_{10}$ concentrations in the air quality zone Banskobystrický kraj, the agglomeration Košice and the air quality zone Košický kraj. The air quality measures presented by Slovakia, have not proven to be timely and effective to reduce pollution within the agreed limits and contribute to keeping the exceedance periods as short as possible, as required under EU law.

An infringement procedure on-going since 2017 for shortcomings in the air quality monitoring system was finally closed in 2022 after the system was improved with EU funding under the Operational Programme Quality of Environment (OPQoE) for the period 2014 – 2020[97].

In the 2019 EIR, the Commission suggested that Slovakia takes, as part of its national air-pollution control programme, actions to reduce emissions from its main emission sources including, for example, further reducing emissions from energy production and heat generation using solid fuels, or promoting efficient and clean district heating and/or fiscal incentives. However, a subsidy scheme for replacement of obsolete households' boilers launched in 2019 under OPQoE has been cancelled in 2021. It shall be replaced by a new scheme for large-scale renovation of family houses to be made more energy-efficient, foreseen under Slovak RRP to be implemented as of 2022[98]. Therefore, in comparison with the 2019 EIR outlook, Slovakia has not put in place adequate measures to make sufficient progress in reducing the concentrations of some pollutants (in particular $PM_{10}$) and additional efforts are still needed to ensure full compliance with the EU air quality legislation.

## 2022 Priority Actions

- Take, in the context of the National Air Pollution Control Programme (NAPCP), actions towards reducing emissions from the main sources mentioned above.
- Ensure full compliance with the EU air quality standards and maintain downward emissions trends of air pollutants, to reduce adverse air pollution impacts on health and economy with a view to reaching WHO guideline values in the future.

[93] European Environment Agency

[95] European Environment Agency, Eionet Central Data Repository

[96] Commission refers SLOVAKIA to the Court of Justice over poor air quality February infringements package: key decisions (europa.eu)

[97] Air - Op-kzp

[98] Plán Obnovy Rodinných Domov 2022, Dotácie na obnovu rodinného domu (plan-obnovy-dotacie.sk)

## Industrial emissions

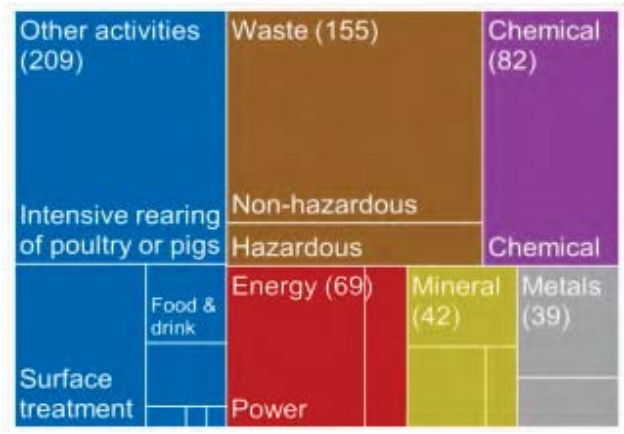
The main objectives of EU policy on industrial emissions are to:
(i) protect air, water and soil;
(ii) prevent and manage waste;
(iii) improve energy and resource efficiency;
(iv) clean up contaminated sites.

To achieve this, the EU takes an integrated approach to prevention and control of routine and accidental industrial emissions. The cornerstone of the policy is the Industrial Emissions Directive (IED)[99]. The Commission tabled a proposal in April 2022[100]. 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 regulated by the IED below is based on the project 'industrial emissions policy country profiles' (2015)[101] because, unlike for other Member States, no information was reported for more recent years[102]; thus, this is partly a repeat of the 2019 EIR.

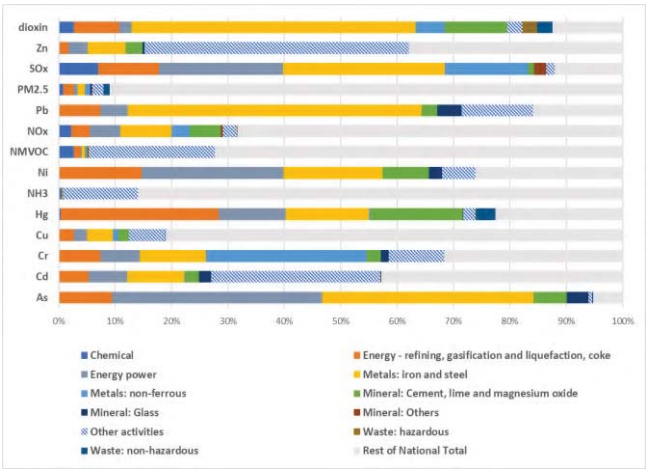
In Slovakia, around 600 industrial installations must have a permit in accordance with the IED. In 2015, the industrial sectors in Slovakia with the most IED installations were intensive rearing of poultry or pigs (21%), followed by non-hazardous waste management (22%) and chemicals (14%).

**Figure 18: Number of IED industrial installations by sector in Slovakia (2015)[103]**




The industrial sectors identified as contributing the largest burden to the environment for emissions to air were: iron and steel production for Arsenic (As), Copper (Cu), Nitrogen Oxides (NOx), Lead (Pb), Sulfur Oxides (SOx) and dioxins; energy production for Nickel (Ni), Mercury (Hg) and Particulate Matter (PM 2.5); pulp and paper industry for Cadmium (Cd) and Zinc (Zn) and manure management for Ammonia (NH3)[104].

**Figure 19: Emissions to air from IED sectors and rest of national total air emissions in Slovakia, 2018[105]**



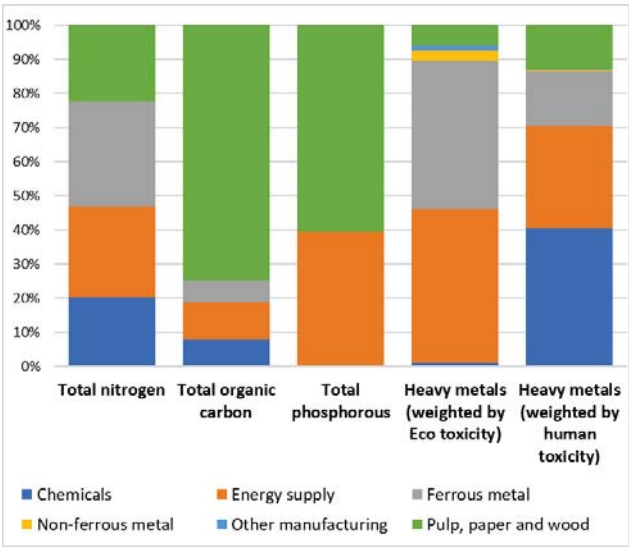

The European Environment Agency has identified

[99] Directive 2010/75/EU covers industrial activities carried out above certain thresholds. It covers energy industry, metal production, mineral and chemical industry and waste management, as well as a wide range of industrial and agricultural sectors (e.g. intensive rearing of pig and poultry, pulp and paper production, painting and cleaning).
[100] 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).
[101] European Commission, Industrial emissions policy country profile – Slovakia.
[102] European Environment Agency, European Industrial Emissions Portal.
[103] European Environment Agency, EU Registry, European Industrial Emissions Portal (data retrieved on 3 November 2021).
[104] 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).
[105] European Environment Agency, LRTAP, Air pollutant emissions data viewer (Gothenburg Protocol, LRTAP Convention) 1990-2019 (data retrieved on 3 November 2021).

Slovakia as one of the main countries responsible for damage from heavy metals in 2017[106]. It has also identified U.S.Steel in Košice, the installation for the production of iron and steel , as one of the 30 industrial facilities in Europe having the highest absolute damage costs from emissions of the main air pollutants and greenhouse gases over the five-year period 2013–2017.

Environmental burdens from industrial emissions to water mainly result from ferrous metal production for nitrogen, from pulp, paper and wood production for total organic carbon and phosphorous and from energy generation in the case of heavy metals. The breakdown, based on E-PRTR data, is presented in Figure 20.

**Figure 20: Relative releases to water from industry in Slovakia, 2018**[107]




The EU approach on enforcement under the IED creates strong rights for citizens to have access to relevant information and to participate in the permitting process. This empowers citizens, and NGOs, to ensure that permits are appropriately granted and their conditions respected. As part of environmental inspection, competent authorities undertake site visits to IED installations to take samples and to gather necessary information. Under Article 23(4) of the IED, site visits are carried out between once every year and once every 3 years, depending on the environmental risks posed by the installations. No information was available in the EU Registry at the time of reporting about the number of site visits carried out by Slovakia, unlike for other Member States[108].

The development of Best Available Techniques (BAT) Reference Documents (BREFs) and BAT Conclusions ensures a good collaboration with stakeholders and enables better implementation of the IED[109]. Since the last EIR report, BAT Conclusions were adopted for waste incineration, for the food, drink and milk industries and for surface treatment using organic solvents including wood and wood products preservation with chemicals.

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

In 2019, Slovakia received priority actions to review permits to comply with new adopted BAT conclusions and to strengthen control and enforcement to ensure compliance with BAT conclusions. It has not been possible for the Commission to follow up these actions through the reporting to the EU Registry because Slovakia did not report. The priority actions therefore remain valid. The reporting delays also concern the reporting to the E-PRTR.

In 2019, Slovakia also received the priority action to address air pollution from lignite-fired power plants, from the steel sector and from oil refining. As mentioned above, emissions of heavy metals to air, in particular from the iron and steel sector, remain relevant.

Slovakia has several gaps in the transposition of the Directive 2010/75/EU on industrial emissions. Among these, certain permit conditions are not correctly implemented, the scope of the definition of substantial change is narrower and the requirement that a competent natural person manages the plant is not transposed into national legislation. For the reasons mentioned above, the Commission decided to send a letter of formal notice to Slovakia in October 2020[110].

## 2022 priority actions

[106] EEA (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).

[107] 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).

[108] Slovak Enviromental Inspectorate publishes its reports on the national portal.

[109] European Commission BAT reference documents

[110] Commission calls on Slovakia to improve domestic rules on pollution arising from industrial activities
October infringements package: key decisions (europa.eu)

- Review of permits to comply with new adopted BAT Conclusions.
- Strengthen control and enforcement to ensure compliance with BAT Conclusions.
- Address emissions of heavy metals to air.
- Address pollution from metal production and processing.
- Improve reporting related to the E-PRTR.

## Major industrial accidents prevention – SEVESO

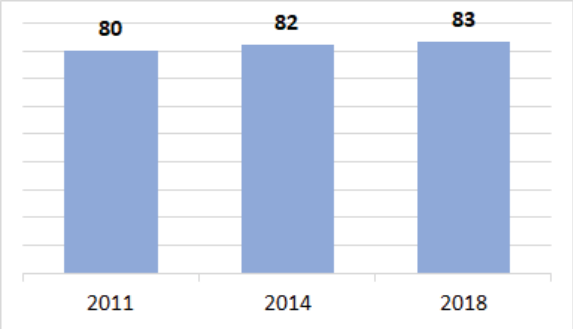
The main objectives of EU policy on the prevention of major industrial accidents are to:
(i) control major accident hazards involving dangerous substances, especially chemicals;
(ii) limit the consequences of such accidents for human health and the environment;
(iii) continuously improve prevention, preparedness and response to major accidents.

The cornerstone of the policy is the Directive 2012/18/EU (the Seveso-III Directive)[111].

The below overview of industrial plants regulated by Seveso III Directive ('Seveso establishments') is based on data reported to the eSPIRS database (2018)[112] and the Slovakia's report on the implementation of the Seveso III Directive for period 2015-2018[113].

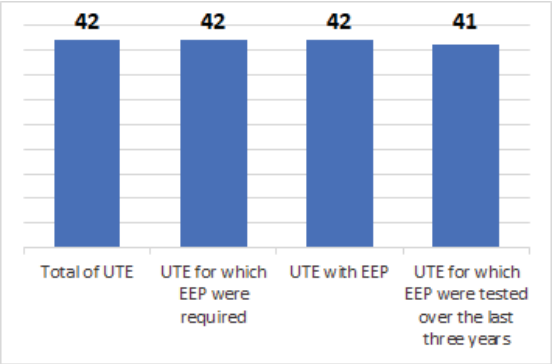
In Slovakia, among the 83 Seveso establishments, 41 are categorised as lower-tier establishments (LTE) and 42 as upper-tier establishments (UTE) – based on the quantity of hazardous substances likely to be present. The UTE are subject to more stringent requirements. The evolution of the number of Seveso establishments is presented in Figure 21.

**Figure 21: Number of Seveso establishments in Slovakia, 2011, 2014 and 2018[114]**




According to Slovakia, the External Emergency Plan (EEP) is required for 42 UTE. In 2018, 42 UTE had an EEP and 41 of these plans had been tested over the last 3 years. The summary is shown in Figure 22. 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 nevertheless happen.

**Figure 22: Situation regarding EEP in Slovakia, 2018[115]**




The information to the public referred to in Annex V of the Seveso III Directive – especially how the public concerned will be warned if there is a major accident; the appropriate behaviour in the event of a major accident; and the date of the last site visit – are permanently available for 100% of the Seveso establishments in Slovakia.

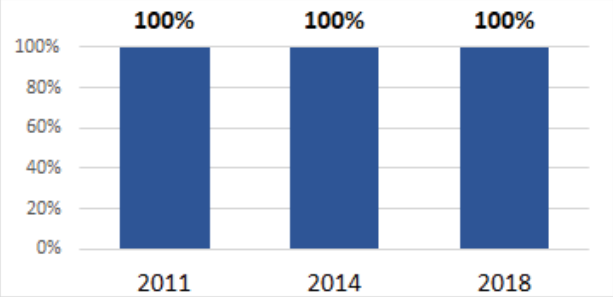
The statistics on UTE, for which information on safety measures and requisite behaviours were actively made

[111] Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances
[112] European Commission, Seveso Plants Information Retrieval System.
[113] As provided for by Article 21(2) of the Seveso-III Directive
[114] 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.
[115] idem

available to the public over the last years, are presented in Figure 23.

Slovakia has an ongoing infringement, initiated by the Commission in 2021, regarding transposition of the Seveso III Directive[116].

**Figure 23: Share of UTE for which information on safety measures and requisite behaviour were actively made available to the public in Slovakia for 2011, 2014 and 2018[117]**




## 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 in the EU. It leads to ischaemic heart disease, stroke, interrupted sleep, cognitive impairment and stress[118].

In Slovakia, based on a limited set of data[119], environmental noise is estimated to cause at least 100 premature deaths and 300 cases of ischaeimic heart disease annually[120]. Moreover, some 40 000 people suffer from disturbed sleep. In Slovakia, people exposed to noise fell by 7% between 2012 and 2017. On the basis of the latest full set of information that has been analysed, noise mapping of agglomerations, roads and railways is complete. However, The Court of Justice of the European Union stated in its judgment of 13 January 2022[121] that Slovakia had failed to draw up on time action plans for certain major roads and major railways and to communicate to the European Commission summaries of those action plans. These instruments, adopted after a public consultation had been carried out, should include the measures to keep noise low or reduce it.

In the 2019 EIR, Slovakia received two priority actions to complete noise maps and action plans: as detailed above, there has been limited progress for completing noise plans.

### 2022 Priority Action

- Complete action plans for noise management of major roads and major railways.

## 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.

[116] Prevention of major accidents involving dangerous substances: Commission calls on Slovakia to improve its national rules: September infringements package: key decisions (europa.eu)

[117] 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.

[118] WHO 2018, Environmental Noise Guidelines for the European Region

[119] For further information: European Environment Agency, Noise Fact Sheets 2021.

[120] These figures are an estimation by the European Environmental Agency based on: (i) the data reported by 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; (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.

[121] Case No C-683/20, ECLI:EU:C:2022:22, CURIA - Documents (europa.eu)

### Water Framework Directive

The Water Framework Directive (WFD)[122] is the cornerstone of the EU's water policy in the 21st century[123]. The WFD, along with other water-related legislation[124], 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, Member States had to report the third generation of River Basin Management Plans (RBMPs) under the WFD. Slokavia has reported on time. The Commission will now assess the reported status and progress, checking how the findings identified in the assessment of the second RBMPs[125] have been addressed.

In December 2021, the Commission published the sixth Implementation Report[126]. It includes an interim assessment on progress in implementing the Programmes of Measures and on monitoring of the new priority substance. The assessment report for Slovakia[127] showed that since the beginning of the second RBMPs, both river basin districts (RBDs), Vistula and Danube, have started with either implementation of proposed measures or with preparatory activities. As most of the measures are planned for the Danube RBD, progress is more visible ifor this RBD. The assessment concluded that despite progress achieved in reaching WFD objectives in Slovakia, it was not clear from the provided information, whether this progress is sufficient enough to fulfil the WFD obligation for the year 2021.

Based on reporting and data in the second RBMPs, published in 2020[128], in Slovakia, 52.6% of all surface water bodies reach good ecological status/potential and 3.6% reach very good ecological status/potential, and 97.5% have good chemical status (although it is unclear whether all relevant pressures had been identified for the water bodies that are not monitored but assessed as being in good chemical status). For groundwaters, 10.8% failed to achieve good chemical status and 2.9% are in poor quantitative status (but 26.5% of the groundwater geothermal bodies were unmonitored).

As reported in the 2019 EIR, the required justification on exemption regarding new projects, which potentially can affect the status of water bodies, weas not in place in the second RBMPs for Danube and Vistula RBDs. Slovakia was therefore asked to ensure that such projects are thoroughly assessed and justified in line with the requirements in the Water Framework Directive. Hydro power stations[129] were named as an example that can lead to new changes in the physical (hydromorphological) characteristics of surface water bodies. Due to transposition and application gaps relating to provisions in several pieces of EU legislation, including the WFD, small hydro powerplants are subject to an infringement proceedings launched by the Commission. In this regards, an additional letter of formal notice was sent to Slovakia in February 2022[130].

Figure 24 illustrates the proportion of surface water bodies in Slovakia and other European countries that failed to achieve good ecological status.

[122] The Water Framework Directive (2000/60/EC).
[123] The EU Water Policy.
[124] 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).
[125] Detailed information can ben 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.
[126] See the 6th Implementation Report of the WFD and FD.
[127] 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: Slovakia, 2022.
[128] WISE Freshwater (europa.eu)
[129] Court Decision in Small Hydropower Case: The Public Interest Takes Precedent over Private Business | WWF (panda.org)
[130] Environmental assessments: Commission calls on SLOVAKIA to assess the national plan on the usage of hydro energetic potential: February infringements package: key decisions (europa.eu) Namely, only 4 out of 37 small hydro power plants listed in the Slovak national plan were made subject to the strategic environmental assessment in accordance with the Strategic Environmental Assessment Directive. Leaving out the vast majority means that the authorities could not identify the options that would cause the least amount of harm to the environment.

**Figure 24: Proportion of surface water bodies (rivers, lakes, transitional and coastal waters) in less than good ecological status per River Basin District**[131]

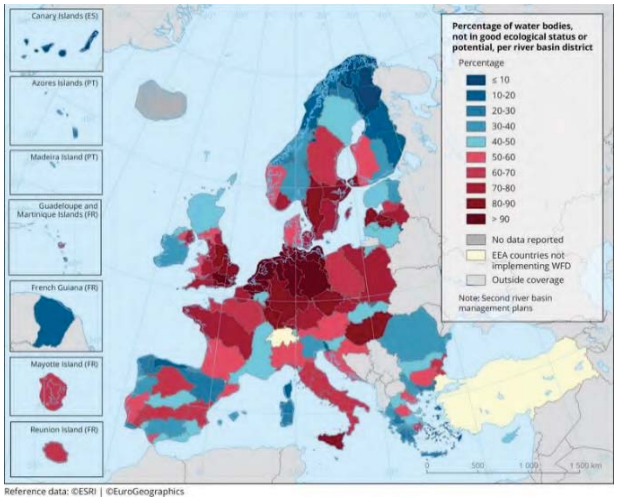
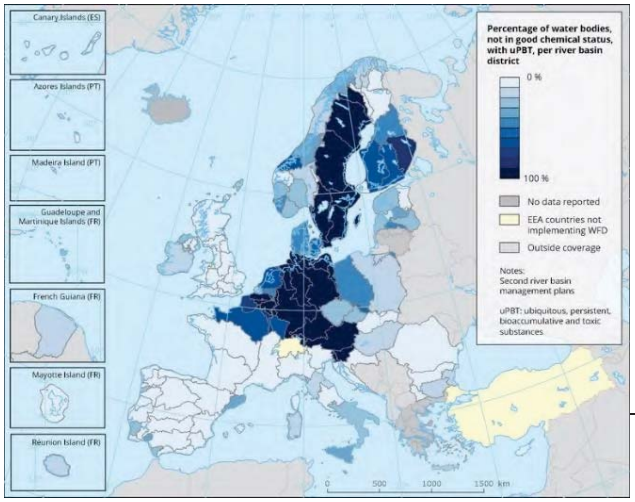



Figure 25 presents the percentage of surface water bodies in Slovakia and other European countries failing to achieve good chemical status. For Slovakia, the percentage is 2.5%, if one includes water bodies failing due to substances behaving as ubiquitous (persistent, bio-accumulative and toxic - uPBTs). Without these substances, the percentage of surface water bodies failing to achieve good chemical status remains the same.

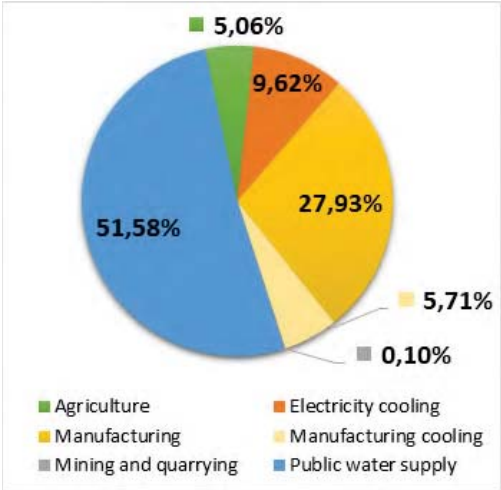
**Figure 25: Percentage of surface water bodies not achieving good chemical status**[132]




Unter the IED framework, it should be stressed that over the last decade Slovakia showed a significant decrease (37.5%) in releases of heavy metals like Cd, Hg, Ni, Pb and in total organic carbon -TOC (36.3%) to water[133].

Total water abstracted annually (corresponding to 2019 baseline) in Slovakia from surface and groundwater sources is 566.79 $hm^3$ (EEA, 2022). The percentage for water abstraction per sector is 5.06% for agriculture, 51.58% for public water supply, 9.62% for electricity cooling, 27.93% for manufacturing, 5.71% for manufacturing cooling, and 0.10% for mining and quarrying, as illustrated in Figure 26. Slovakia uses a register to control water abstractions, but small abstractions do not require permits in Slovakia and not all are registered.

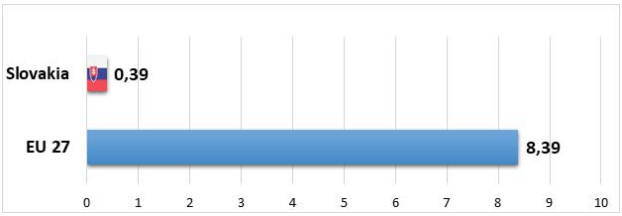
**Figure 26: Water abstraction per sector in Slovakia**[134]




In Slovakia, the water exploitation index plus (WEI+)[135] is 0.39% (corresponding to year 2017[136]), which is less than the 20% that is generally considered as an indication of water scarcity. Slovakia is ranked 23rd (from high to low score) in terms of WEI+ within the EU.

[131] European Environment Agency, 2021
[132] European Environment Agency, December 2019.
[133] Water pollutant releases changes from 2010 to 2019 for the EU Member States — European Environment Agency (europa.eu)
[134] European Environment Agency, Water abstraction by source and economic sector in Europe, 2022.
[135] The Water Exploitation Index plus (WEI+) is a measure of total fresh water use as a percentage of the renewable fresh water resources (groundwater and surface water) at a given time and place. It quantifies how much water is abstracted and how much water is returned after use to the environment.
[136] By May 2022, EEA will develop seasonal WEI+ at river basin and NUTS2 level, which provide a more complete picture of water stress and water scarcity for each Member State.

**Figure 27 :. Water exploitation index plus (WEI+) inside EU**[137]




As regards good practices, it is worth mentioning that Slovakia launched public consultations for the third RBMPs one year before the adoption deadline and conducted the public consultations in a transparent manner, including online workshops[138] on various topics of river basin management planning. Stakeholders could provide feedback online or in written format.

Slovakia's RRP [139] supports investments and reforms in the area of water management and landscape planning to preserve biodiversity. The investment is planned to result in 90km renatured watercourses. The RRP also boosts water efficiency (water retention systems) in building sector.

### Floods Directives

As previously mentioned, in December 2021 the Commission published the sixth Implementation Report. It includes the review and update of the Preliminary Flood Risk Assessments during the second cycle (2016-2021).

The assessment report[140] showed that Slovakia recommended the provision of a methodology to define what constituted a 'significant flood' at the time of the flooding and the necessity for more details and clarity on criteria relating to how human health, the environment, cultural heritage and economic activity have been considered for arriving at areas of potential significant flood risk (APSFRs). On the positive is the consolidation of fragmented geographical areas of potentially significant risk which were identified during the first cycle, into fewer areas for the second cycle, in order to consider wider effects.

Slovakia has not yet adopted and reported the second generation of Flood Risk Management Plans (FRMPs) under the Floods Directive[141]. The Commission will assess progress since the adoption of the first FRMPs and publish a new report, as done in 2019.

### Drinking Water Directive

On the Drinking Water Directive[142], the last report on the quality of drinking water for 2017-2019 was reported by Slovakia in March 2020[143]. The quality of drinking water in Slovakia has not been indicated as an area of a concern but pressures on drinking water sources, especially from old environmental burdens, are numerous.

The recast Directive[144] entered into force on 12 January 2021 and Member States have until 12 January 2023 to transpose it into their national legal system. Slovakia will have to comply with these reviewed quality standards.

### Bathing Water Directive

Regarding the Bathing Water Directive, Figure 28 shows that, in 2020, out of 32 Slovak bathing waters, 56.3% were of excellent quality[145]. Detailed information on Slovak bathing waters is available from a national portal[146] and via an interactive map viewer of the European Environment Agency.

**Figure 28: Bathing water quality in Europe in the 2020 season**[147]

[137] European Environment Agency, Water exploitation Index Plus, 2022. Statistics | Eurostat (europa.eu)

[138] https://www.minzp.sk/voda/vodny-plan-slovenska/

[139] Slovakia's recovery and resilience plan | European Commission (europa.eu)

[140] 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: Slovakia, 2022

[141] According to information of Slovak authorities, it is planned by June 2024.

[142] OJ L 330, 5.12.1998, p. 32–54.

[143] https://cdr.eionet.europa.eu/sk/eu/dwd/envydixpw

[144] OJ L 435, 23.12.2020, p. 1–62.

145 European Environment Agency, 2021. State of bathing water — European Environment Agency (europa.eu), p. 17.

[146] Zoznamy vôd určených na kúpanie (uvzsr.sk)

[147] European Environment Agency, Bathing Water Quality in 2020, 2022.

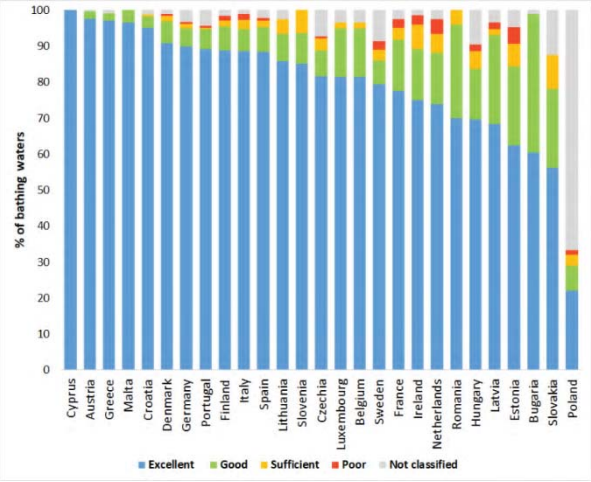
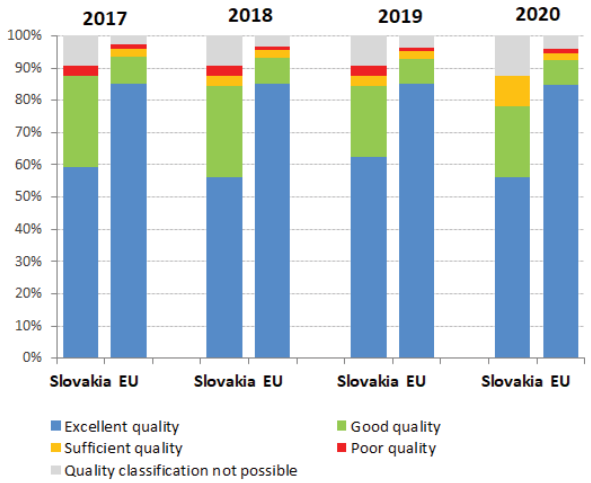



**Figure 29: Slovakia, bathing water quality 2017-2020**[148]




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

## Nitrates Directive

The latest Commission Report on the implementation of the Nitrates Directive[149], covering the period 2016-2019, warns that nitrates are still causing harmful pollution to water in the EU[150]. Excessive nitrates in water are harmful to both human health and ecosystems, causing oxygen depletion and eutrophication. Where national authorities and farmers have cleaned up waters, it has had a positive impact on drinking water supply and biodiversity, and on the sectors, such as fisheries and tourism that depend on them. Nevertheless, excessive fertilisation remains a problem in many parts of the EU.

Infringement cases against Slovakia on water quality monitoring and the nitrate action programme were closed in 2019. Nevertheless, according to the above mentioned report, Slovakia is among those Member States, in which nitrates vulnerable zones (NVZs)[151] are sometimes very limited areas that do not take into account the whole water catchment area. This results in a very fragmented designation and a reduced efficiency of action programmes.

## Urban Waste Water Treatment Directive

Slovakia has, over the years, encountered difficulties in meeting its obligations under the Urban Waste Water Treatment Directive (UWWTD). There are 356 agglomerations reported under UWWTD with a population equivalent of 2 000 or more in Slovakia. As of 31 December 2015 (as set in its 2003 Treaty on Accession), compliance with the requirements of the Directive had to be ensured for all these agglomerations.

As regards the intermediate deadlines of 2004, 2008, 2010 and 2012, according to the Commission analyses, 233 agglomerations failed to provide a collecting system or to ensure that individual systems achieve the same level of environmental protection as required by the Directive. Another 32 agglomerations failed to ensure that urban waste water entering collecting systems is subject to secondary or more stringent treatment before discharge. As regards the final, 2015 deadline , 17 agglomerations failed to provide a collecting system and/or to ensure that the urban waste water entering collecting systems is treated appropriately.

Overall, in Slovakia, the compliance rate for agglomerations reported under UWWTD is 93%, which is higher than the EU average in 2018. 7% of urban wastewater in Slovakia is not collected and/or does not meet the requirements for biological treatment[152]. Nevertheless, according to the OECD, only 65% of the

[148] European Environment Agency, European Bathing Water Quality in 2017, 2018, 2019, 2020.

[149] Commission Report on the implementation of Council Directive 91/676/EEC concerning the protection of waters against pollution caused by nitrates from agricultural sources based on Member State reports for the period 2016–2019 - Publications Office of the EU (europa.eu)

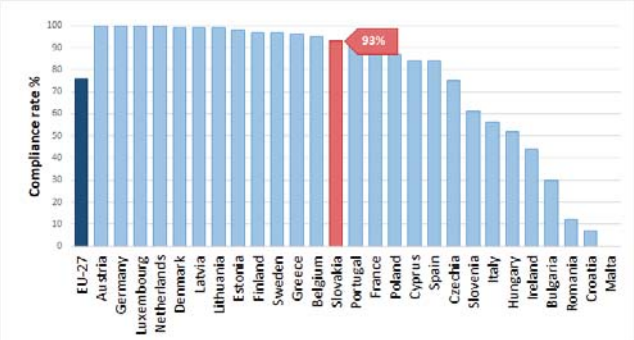
[150] Staff Working Document accompanying the report on the implementation of the Nitrates Directive for the period 2016-2019

[151] areas draining into these waters affected and at risk of being affected by nitrates pollution where agriculture contributes significantly to this pollution

[152] Country profiles on urban waste water treatment: Slovakia (europa.eu)

Slovak population benefit from a connection to a wastewater treatment plant[153].

**Figure 30: The proportion of urban waste water 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')**




Despite the improvement in compliance throughout the years, for which the use of EU funding has been fundamental, the incomplete implementation of the UWWTD led to an infringement case being opened against Slovakia in 2021, in addition to the one initiated in 2016[154].

### 2022 priority actions

- New physical modifications of water bodies should be assessed in line with Article 4(7) of the Water Framework Directive. In these assessments alternative options and adequate mitigation measures have to be considered.
- Continue current efforts to further reduce nitrates pollution from agriculture in groundwater.
- Efforts should be made to improve the coordinated implementation across water and nature policies.
- Complete implementation of the Urban Waste Water Treatment Directive for all agglomerations, 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'[155] 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[156] provides baseline protection for human health and the environment. It also ensures stability and predictability for businesses operating within the EU single market.

Since 2007, the Commission has gathered information on the enforcement of two regulations: the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) and the Classification, Labelling and Packaging (CLP). In December 2020, the Commission assessed the reports from Member States on the implementation and enforcement of these Regulations[157], in line with REACH Article 117(1) and CLP Article 46(2). According to the latest available data, national enforcement structures have not changed much. However, it is apparent from this report that there are still many disparities in the REACH-CLP implementation, notably in the area of law enforcement. Recorded compliance levels seem to be quite stable over time, but with a slight worsening trend likely due to enforcement authorities being more effective in detecting non-compliant products/companies and more non-compliant products being put on the EU market. In August 2021, using a set of indicators on different aspects of enforcement, the Commission published a measurable assessment of the enforcement[158] of the two main EU Regulations on chemicals.

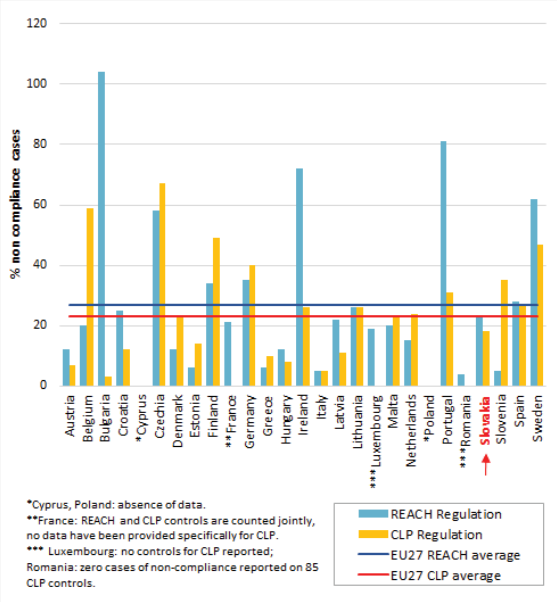
Responsibility for checking compliance with REACH in Slovakia lies with the Slovak Trade Inspection[159]. Slovakia has devised and fully implemented enforcement strategies for both the REACH and the CLP Regulations[160].

In Slovakia only 17 staff are allocated to REACH and CLP enforcement[161]. Accordingly, REACH controls for SMEs in the reporting period remain at 251 well below average. Most of the REACH controls are proactive (inspections), compared with reactive/non-routine controls (i.e. investigations in response to complaints, accidents and referrals). Although the actual level of expertise has increased since the last reporting, it

[153] Policy-Paper-Making-the-Slovak-Republic-a-more-resource-efficient-economy.pdf (oecd.org)
[154] December infringements package: key decisions (europa.eu)
[155] COM(2020) 667 final.
[156] REACH: OJ L 396, 30.12.2006, p.1. - CLP: OJ L 252, 31.12.2006, p.1
[157] European Commission, Final Report, on the operation of REACH and CLP, Final report REACH-CLP MS reporting 2020.pdf (europa.eu)
[158] European Commission, REACH and CLP enforcement: EU level enforcement indicators
[159] Final report REACH-CLP MS reporting 2020.pdf (europa.eu), p. 71
[160] Final report REACH-CLP MS reporting 2020.pdf (europa.eu), p. 76.
[161] European Commission, Final Report, on the operation of REACH and CLP, Final report REACH-CLP MS reporting 2020.pdf (europa.eu), p. 75.

is still not sufficient for some specific tasks under REACH, namely in relation to risk management and some specific areas of concern such as nanomaterials and endocrine disruptors. The percentage of non-compliance cases out of the total number of REACH and CLP controls is almost equal to the EU average[162].

**Figure 31: Percentage of non-compliance cases out of the total number of REACH and CLP controls during 2019, per Member State and compared with the EU average[163]**




## 2022 priority action

- Upgrade implementation and enforcement administrative capacities towards a zero tolerance for non-compliances.

[162] Final report_REACH-CLP MS reporting_2020.pdf (europa.eu), p. 87-88.
[163] European Commission, WISE Freshwater, 2021.

# 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 its greenhouse gas emissions (GHG) 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 that there is sufficient mitigation effort.

The EU and its Member States submitted updated Nationally Determined Contribution (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 climate-neutral and sustainable economy, as well as addressing unavoidable consequences of climate change.

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

For road transport, EU legislation requires GHG intensity of vehicle fuels to be cut by 6% by 2020 compared to 2010[164] and sets binding GHG emission standards for different vehicle categories[165].

Under 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 greenhouse gases from land use, land-use change and forestry (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[166], 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 the overall EU governance on climate action. The updated EU adaptation strategy, ppublished 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

Slovakia has an integrated National Energy and Climate Plan (NECP) 2021-2030. The Slovak NECP will require an update, in view of the EU's increased climate ambitions for 2030 and the developments related to the invasion of Ukraine. Slovakia is bound to reaching climate neutrality in line with the EU general target by 2050. Slovakia also has a long-term strategy: Low-Carbon Development Strategy of the Slovak Republic until 2030 with a view to 2050[167].

In its RRP, Slovakia allocates 45% of the plan to climate objectives. It outlines crucial reforms and investments to further the transition to a more sustainable, low-carbon and climate-resilient economy. Investments are made in transport and climate adaptation, large-scale buildings' renovations and renewable energy and industry decarbonisation schemes.

Slovakia has a national adaptation strategy[168]. The Climate Change Adaptation National Action Plan was approved in 2021[169]. In Slovakia, there are no legal arrangements on climate change adaptation. The elaboration of climate law is one of the emerging tasks.

Between 1990 and 2020, economy wide greenhouse gas emissions decreased by 49%. At the same time, the greenhouse gas intensity of the economy remains significantly higher than the EU average.

[164] 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.

[165] Directive 98/70/EC

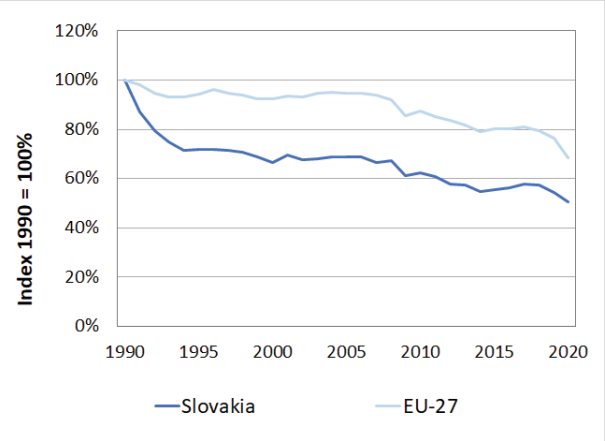
[166] Article 29 of Regulation (EU) 2018/1999.

[167] Long-term Strategy was approved on 5 March 2020 by Government Resolution No 104/ 2020. This Strategy aims to identify measures, including additional measures, to achieve climate neutrality in Slovakia by 2050.

[168] National adaptation strategy was updated and approved on 17 October 2018 by Government Resolution No 478/2018, and the next National Adaptation Strategy shall be submitted to the government by end 2025.

[169] The Action Plan contributes to a better reflection of adaptation measures in the 7 sectors: water protection, water management and water use, sustainable agriculture, adapted forestry, the natural environment and biodiversity, health and healthy population, adapted residential environment and technical, economic and social measures: https://rokovania.gov.sk/RVL/Resolution/19453/1

**Figure 32: Total greenhouse gas emissions (incl. international aviation), 1990-2020**




## Effort sharing target

For emissions not covered by the EU Emissions Trading System (ETS), Member States have binding national targets under the Effort Sharing legislation[170]. Under EU legislation, Slovakia has a target of limiting any increase of GHG emissions in non-ETS sectors (buildings, road and domestic maritime transport, agriculture, waste and small industries) to a maximum of 13% by 2020 and to reduce emissions by 12% by 2030 compared with 2005 levels. Slovakia is estimated to largely overachieve its current national targets for 2020, but it is facing a challenge with the national target of a 12% reduction by 2030; this is because non-ETS GHG emissions are projected to increase.

**Figure 33: Emissions and targets under the Effort Sharing Decision/ Effort Sharing Regulation in Slovakia, 2020 and 2030 as percentage change from 2005**

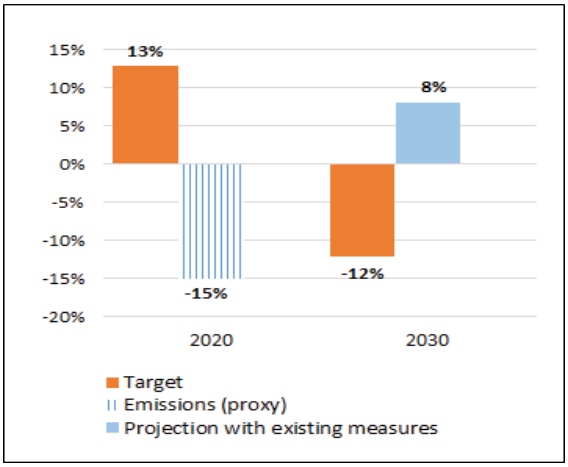
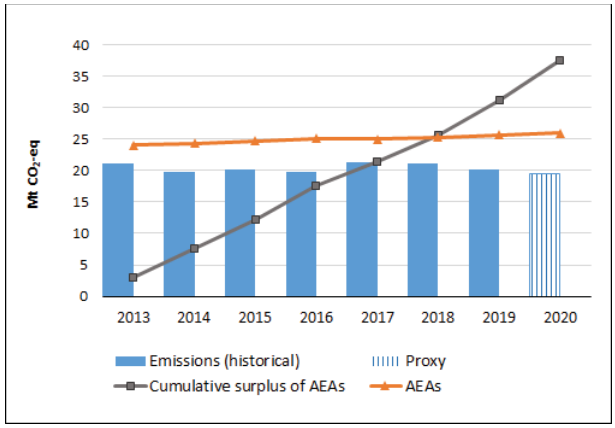



**Figure 34: Emissions, annual emission allocations (AEAs) and accumulated surplus/ deficit of AEAs under the Effort Sharing Decision in Slovakia, 2013-2020**



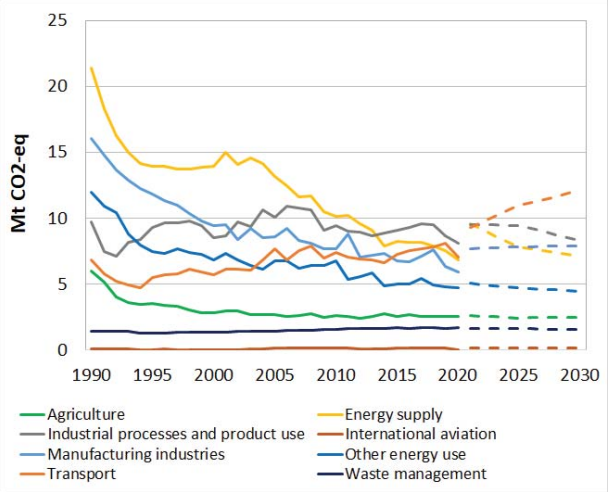

## Key sectoral developments

On road transport, the GHG intensity of vehicle fuels in Slovakia decreased by 4% from 2010 to 2019. The country needs to act swiftly to meet the current EU-wide reduction target of 6%. There are several types of action that Member States can take in this regard. These include: further expanding the use of electricity in road transport; supporting the use of biofuels, in particular advanced biofuels, incentivising the development and deployment of renewable fuels of non-biological origin; and reducing upstream emissions before refining processes.

In 2020, road transport in Slovakia represented 18% of total GHG emissions. Emissions have increased by 9.5% compared with 2005. As a transit country, Slovakia has experienced an increase in emissions in transport, which is rapidly becoming the largest emitting sector. Transport emissions are projected to remain at these levels or even to increase under current policies.

[170] Regulation (EU) 2018/842

**Figure 35: Greenhouse gas emissions by sector[171] – historical emissions 1990-2019, projections 2021-2030[172]**

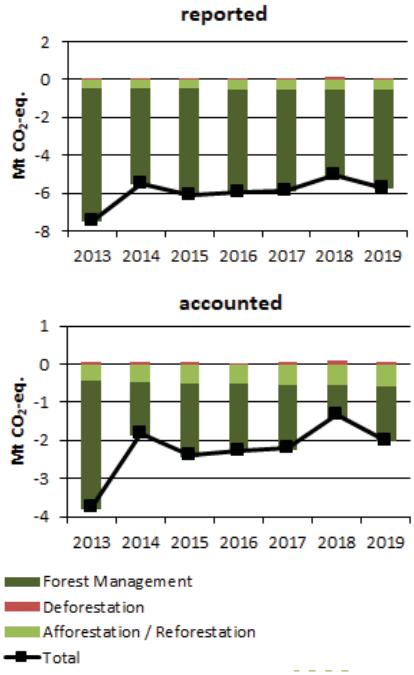



On buildings, emissions have decreased substantially since 2005.

Emissions from agriculture have stabilised since 2000.

In the Land Use, Land Use Change and Forestry (LULUCF) sector, Slovakia projects a further decrease of net removals by 2030. Reported quantities under the Kyoto Protocol for the LULUCF sector in Slovakia show net removals of, on average, -5.9Mt$CO_2$-eq for the period 2013 to 2019. In this regard, Slovakia makes a contribution of 1.7% to the EU-27 annual average sink of -344.9 Mt$CO_2$-eq of. Accounting for the same period depicts net credits of, on average, -2.2 Mt$CO_2$-eq, which corresponds to 2.0% of the EU-27 accounted sink of -115.0 Mt$CO_2$-eq. There is a notable dynamic and a generally decreasing trend of reported net removals and accounted net credits with marked decreases for 2014 and 2018.

**Figure 36: Reported and accounted emissions and removals from LULUCF[173]**




## Use of revenues from the auctioning of EU ETS allowances

Total revenues from the auctioning of emission allowances under the EU ETS over the years 2012-2021 were EUR 1.36 billion. In Slovakia, all auctioning revenues are earmarked and go to the Environmental Fund, which also receives money from other sources.

### 2022 priority actions

- Improve sustainable transport and increase electro-mobility and the deployment of charging infrastructure.
- Seize the energy efficiency potential by further investing in the renovation of buildings and replacing domestic heating systems, and as reforming the social housing investment framework. Higher energy efficiency in these areas will considerably improve air quality, reduce energy bills and stimulate local employment.
- Increase building owners' awareness about energy renovation and provide advisory services

[171] The sectors in the figure correspond to the following 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.

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

[173] 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*'.

- Improve the low quality of the current Energy Performance Certificates (EPC) for buildings.
- Accelerate the deployment of renewables, the share of which has been stagnating for years.
- Ensure the sustainability of biomass.
- Better safeguard landscape structures and ecological stability in protected areas (in first and second protection zones) when considering the authorisation of buildings and activities.
- Revitalise watercourses that would contribute to flood protection, drought minimisation, and act against a qualitative degradation of the available water resources.
- Realign property in key areas of national parks, which will make it possible to declare new non-intervention areas and the restoration of habitats.
- The provision of new and more adapted skills on the labour market could help to better exploit the job-creation potential of a climate-neutral economy and facilitate the labour transition of those workers in the most energy- and carbon-intensive sectors.

# 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 Recovery and Resilience Facility, RRF) and the 'do no significant harm' (DNSH) principle which runs across the EU budget. The renewed commitments made at COP26 (Glasgow, October-November 2021) and the Biodiversity Convention (April-May 2022)[174] will also be reflected in the EU budget.

### Overall environmental investment needs (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 a year (EU27)[175], with a further EUR 130 billion a year to deliver the EU's core environmental objectives[176]. The costs of climate change 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) per year[177]. Those investment needs reflect the implementation objectives to 2020 and to 2030 (except for climate change adaptation, the costs of which are expected to stay for longer time horizon).

A preliminary update of the EU's core environmental investment gap is provided in Table 1[178]. Almost 40% of the environmental investment gap relate to dealing with pollution, which accounts for nearly two-thirds if combined with water management. The investment gap in circular economy and waste is estimated at EUR 13-28 billion a year, depending on 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 gaps, by environmental objective (a year)[179]**

| 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 [180] | 21.5 | 20% |
| R & D & I and other | 6.2 | 6% |
| **Total** | **110.1** | **100%** |

[174] The Convention on Biological Diversity (cbd.int); Post-2020 Global Biodiversity Framework | IUCN.

[175] COM(2020) 562 final Stepping up Europe's 2030 climate ambition Investing in a climate-neutral future for the benefit of our people: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020DC0562&from=EN and SWD(2021)621, accompanying proposal COM(2021)557 to amend the REDII Directive (EU) 2018/2001.

[176] SWD(2020) 98 final/2 Identifying Europe's recovery needs: Identifying Europe's recovery needs (europa.eu)

[177] SWD(2018)292 Impact assessment accompanying the Proposal for the LIFE Regulation (COM(2018)385) https://ec.europa.eu/commission/sites/beta-political/files/budget-may2018-life-swd_en.pdf

[178] With decreases due to Brexit and some reconciliation among the objectives. Source: DG ENV 'Study supporting EU green investment needs analysis' (ongoing, 2021-2023) and DG ENV internal analysis 'Environmental investment needs and financing in the EU's green transition', July 2020.

[179] Source: as idem

[180] 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 to fully cover the strategy (including restoration) EUR 30-35 billion may be needed, indicating a gap of EUR 10-20 billion a year compared with current baseline expenditure.

### Environmental investment needs in Slovakia

The Slovak economy is characterised by a growing manufacturing sector, rather low endowments in sub-soil assets, and a growing consumption of material resources[181, 182]. As a result, the country is highly dependent on external markets for both imports of raw material and exports of manufactured goods. This is coupled with rising amounts of waste generated and increasing pressure on the environment[183]. According to new Slovak Environmental Strategy 2030,significant financing needs will be needed to ensure a smart and sustainable development[184].

#### *Pollution prevention and control*

The EU's first Clean Air Outlook[185] under the clean air programme estimated that the total air pollution control costs for Slovakia to reach by 2030 the NECD emission reduction requirements[186] amount to EUR 699 million a year, including EUR 525 million for capital investment (assuming the achievement of the 2030 climate and energy targets).

The second EU's Clean Air Outlook[187] suggests that, if all relevant legislation adopted up to 2018 (including all legislation on air pollution and the 2030 climate and energy targets set in 2018) delivered its full benefits and if Member States also implemented the measures announced in their NAPCPs, the EU would largely achieve the reductions of air pollutant emissions that correspond to the obligations under the NEC Directive for 2030, except for 15 Member States for ammonia, including Slovakia.

According to the Commission's assessment of the NAPCP[188], the projected emission reductions for 2020 and 2030 are likely to be achieved only partly for $NH_3$ and $PM_{2.5}$ and likely not for NOx and non-methane volatile organic compounds [189].

Member States will have to increase their efforts even further to comply with the more ambitious emission reduction obligations for 2030 under the NEC Directive Compared with their 2018 emission levels, Slovakia is among those countries that will need to reduce their ammonia emissions by up to 30% or more[190].

#### *Water management*

Significant investment needs still exist in Slovakia to accelerate compliance with the Water Framework Directive and the Floods Directive. Flooding is a recurrent problem but natural water retention measures for flood prevention are often disregarded. This is despite their being sometimes more cost-effective than hard infrastructure for flood prevention and being cheaper than the costs of flood recovery. Due to climate change, natural hazards like droughts and floods are expected to become more frequent and extreme.

Slovakia has 356 agglomerations above 2,000 p.e. and 2047 agglomerations below 2000 population equivalent (p.e),covering around 2200 municipalities. A number of agglomerations are not yet compliant with the collection and treatment requirements of the UWWT Directive in accordance with the deadlines set in the Treaty on Accession (expired in 2015). The aim of collecting waste water for agglomerations above 2.000 p.e. is almost achieved but investments are still needed in treatment.

EU funding has provided a significant share of previous public funding over the past decade. An OECD study assessed Member State's investment needs for drinking water and sanitation up to 2030. For Slovakia, it estimates a cumulative expenditure of EUR 3.3 billion by 2030 over baselines, with EUR 1.3 billion included on

[181] OECD identified three areas which appear as instrumental for resource efficiency improvement in Slovakia: i) strengthening waste management, including food waste, that is underperforming ii) transforming pollution and resource intensive industries, such as metal processing, mining and electricity production, including the environmentally harmful subsidies and iii) improving productivity in the wood and processing sectors.

[182] OECD, Making the Slovak Republic a more resource efficient economy, Country Study OECD Environment Policy Paper NO7, 2017. OECD, Slovak Republic.

[183] Ministry of the environment of the Sloval Republic, http://www.minzp.sk/iep/publikacie/ekonomicke-analyzy/making-slovak-republic-more-resource-efficient-economy.html

[184] Ministry of the environment of the Sloval Republic, http://www.minzp.sk/iep/strategicke-materialy/envirostrategia-2030/

[185] Ministry of the environment of the Sloval Repûblik, Progress towards the achievement of the EU's air quality and emissions objectives (europa.eu)

[186] Directive (EU) 2016/2284.

[187] COM(2021) 3 final. International Institute for Applied Systems Analysis (IIASA), Support to the development of the Second Clean Air Outlook, 2020 and Annex.

[188] Final Report for the European Commission. Review of the National Air Pollution Control Programme – Slovakia. Review of the National Air Pollution Control Programme – Slovakia. Projected combined impacts of Policies and Measures (PaM) on emission reductions, air quality and the environment and associated uncertainties.

[189] https://ec.europa.eu/environment/air/reduction/NAPCP.htm - The Ambient Air Quality Directive sets binding limits for a number of pollutants, including sulphur dioxide ($SO_2$), nitrogen dioxide ($NO_2$), particulate matter ($PM_{10}$). The National Emissions Ceilings (NEC) Directive sets ceilings for total national emissions of four types of pollutants: sulphur dioxide ($SO_2$), nitrogen oxides ($NO_x$), volatile organic compounds (VOC) and ammonia ($NH_3$).

[190] International Institute for Applied Systems Analysis (IIASA), Progress towards the achievement of the EU's air quality and emissions objectives, 2018.

capital investment. The country fact sheet for Slovakia suggests an annual investment need of about EUR 130 million in its water industry (with around 80% of that related to wastewater), while the total financing need is up to EUR 330 million (including operating costs as well) a year. There is a notable gap (13%) between urban and rural areas in terms of the percentage of the population with access to safely managed sanitation[191]. Social affordability is also an issue. Some 87% of the population is being connected to the public water supply system with a high leakage rate (28%)[192]. Furthermore, less than 30% of municipalities of up to 2.000 inhabitants are connected to a sewage network. Moreover, the recent 6th Water Framework Directive and Floods Directive Implementation Report[193] and the financial - economic study[194] accompanying it, are also a relevant source of information in this domain.

### *Waste & circular economy*

Slovakia's existing economic model is highly dependent on industry. Decoupling economic growth from pressure on the environment is a challenge[195]. Failing to adopt the circular systems will only make this challenge bigger and widen existing regional disparities.

Slovakia has already identified the most instrumental measures for making the country a more resource efficient economy, including improving waste management, with a focus on diverting waste from landfills and stimulating recycling and reuse[196]. The Value for Money Study in the environment sector concluded that waste reprocessing capacities in Slovakia (built in the period 2010-2016) for meeting the 2020 targets, with the exception of bio-waste and paper, are sufficient[197]. However, further investments are needed. As for the revised EU waste targets, the Commission's study estimates that investment needs in the waste sector, for municipal and packaging waste, reach an additional EUR 126 million in 2021-27 (over baselines) or EUR 267 million in 2021-35, suggesting an annual average investment need of around EUR 18 million (or EUR 18 million with biowaste facility replacement costs). The investment is necessary in collection, biowaste treatment, recycling reprocessors, waste sorting facilities and waste registry digitalisation[198].

### *Biodiversity & ecosystems*

Member States' prioritised action frameworks (PAFs), adopted according to Article 8 of the Habitats Directive, present the conservation priorities for the Natura 2000 network and its supporting green infrastructure, their costs and planned funding sources for the period corresponding to the current multiannual financial framework (MFF 2021-2027). According to Slovakia's PAF[199], EUR 1.75 billion would be needed for nature conservation, including the management of the Natura 2000 network, in the programming period 2021-2027, corresponding to an average of EUR 242 million per year (including EUR 43 million annual one-off costs). This excludes additional costs to implement the Biodiversity Strategy to 2030, including on increased protection and restoration. The broader financing plan for biodiversity at the national level could help to identify additional financial gaps for other Biodiversity Strategy priorities (beyond Natura 2000 and PAF), but this is missing for now.

Reform of the institutional framework in view of merging forest protection and management is on-going. Further steps are needed in the forestry sector, including to review government support to wood production and use, and to disincentivise harmful practices[200].

[191] OECD, Financing a Water Secure Future, 2022. financing-water-supply-sanitation-and-flood-protection-country-fact-sheet-slovak-republic.pdf (oecd.org)
Preliminary projection of needs for water supply and sanitation assuming 1) increased population growth, 2) full compliance with the Urban Waste Water Treatment Directive, 3) improvements of the water supply network, 4) full compliance with the new Drinking Water Directive.

[192] Commission Staff Working Document Impact Assessment Accompanying the document Proposal for a Directive of the European Parliament and of the Council on the quality of water intended for human consumption (recast) SWD/2017/0449 final - 2017/0332 (COD)

[193] WFD and FD Implementation Reports – DG Environment – European Commission.

[194] 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.

[195] Ministry of the environment of the Sloval Repûblik, http://www.minzp.sk/iep/publikacie/ekonomicke-analyzy/making-slovak-republic-more-resource-efficient-economy.html

[196] Ministry of the environment of the Sloval Repûblik, http://www.oecd.org/environment/waste/Policy-Paper-Making-the-Slovak-Republic-a-more-resource-efficient-economy.pdf

[197] Institute for Environmental Policy, Slovakia, 2017: http://www.minzp.sk/iep/publikacie/revizia-vydavkov/

[198] European Commision, Study on investment needs in the waste sector and on the financing of municipal waste management in Member States, 2019.

[199] https://www.minzp.sk/files/sekcia-ochranyprirodyakrajiny/paf2020/paf_sk_2021-2027_aktualizacia_schvalena-maj_2021_na-web_21-6-2021.pdf

[200] OECD, Making the Slovak Republic a more resource efficient economy, Country Study OECD Environment Policy Paper NO7, 2017. OECD, Slovak Republic.

## EU environmental funding 2014-2020

The MFF for 2014-2020 allocated almost EUR 960 billion (in commitments, 2011 prices)[201] for the EU. The commitment to green transition included a 20% climate spending target and funding opportunities for the environment, in particular, under the European Structural and Investment (ESI) Funds[202]. The 2014-2020 budget was subsequently topped up with over EUR 50 billion (current prices) from REACT-EU for policy action against the coronavirus (COVID-19)[203].

Slovakia received EUR 16.5 billion from the ESI Funds for 2014-2020 to invest in job creation and a sustainable and healthy European economy and environment. The planned direct environmental investment amounted to EUR 2.2 billion with a further EUR 1.1 billion identified as indirect environmental investment value, totalling to over EUR 3.2 billion. Figure 37 shows an overview of (planned) individual ESI Funds earmarked for Slovakia (EU amounts, without national amounts).

**Figure 37: ESI Funds allocated to Slovakia, including environmental investments, 2014-2020**[204]

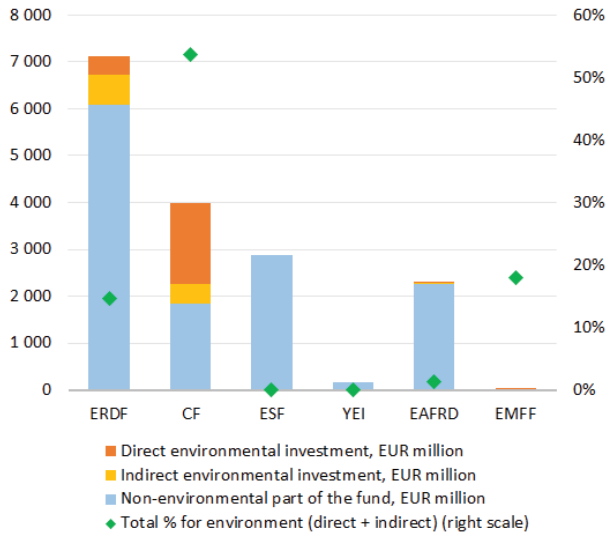



**Table 2: Direct and indirect environmental investments under the ESI Funds in Slovakia, 2014-2020**[205]

| Instrument | Allocations for the environment (EUR million) |
|---|---|
| **Under Cohesion policy (ERDF + CF)** | **3 188.6** |
| Direct environmental investments | 2 135.6 |
| water | 698.0 |
| waste | 419.8 |
| air quality | 157.9 |
| biodiversity and nature | 165.8 |
| land rehabilitation | 224.9 |
| climate and risk management | 469.3 |
| Indirect environmental investments | 1 053.0 |
| renewable energy | 46.5 |
| energy efficiency | 305.1 |
| other energy[206] | 54.3 |
| sustainable transport | 612.4 |
| business development, R&I | 34.6 |
| **Under EAFRD/rural development** | **28.7** |
| Direct environmental investments | 23.6 |
| climate and risk management | 23.6 |
| Indirect environmental investments | 5.2 |
| renewable energy | 5.2 |
| **Under EMFF** | **1.7** |
| Direct environmental investments | 1.7 |
| environment protection & resource efficiency | 1.7 |
| **Under ESI Funds total** | **3 219.1** |
| Direct environmental investments | 2 161.0 |
| Indirect environmental investments | 1 058.1 |

It is not yet possible to fully report on the programming period 2014-2020. Nevertheless, current data suggests that ESI funds implementation is not on track in

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

[202] 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).

[203] Regulation (EU) 2020/2221.

[204] 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 the 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).

[205] 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 here covered the full range of ESI Funds. See also previous footnote.

[206] 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.

Slovakia[207]. This applies also to environment protection and resource spending and climate change adaptation and risk prevention spending.

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 or Horizon 2020., This leads add to a total of EUR 3.3 billion in EU environmental financing for Slovakia in 2014-2020.

The LIFE programme[208] is entirely dedicated to environmental and climate objectives. It finances demonstration and best practice actions for green solutions to be deployed. In the 2014-2020 period, Slovakia received EU support for 12 LIFE projects (for nature and environment) with EUR 47 million from the LIFE programme (out of 1 028 EU-27 LIFE projects with a total EU contribution of EUR 1.74 billion)[209].

In 2014-2020, Horizon 2020 allocated about EUR 4.7 million for Slovakia (in particular, for climate action, circular economy and biodiversity) which is about 3.4 % of Slovakia's total allocation[210]. Under the European Fund for Strategic Investments (EFSI), Slovakia did not receive any environmental funding out of its total allocation (EUR 485.2 million)[211]. From the European Investment Bank (EIB), again Slovakia did not receive any environmental support out of the total EIB loans for Slovakia (EUR 4.1 billion)[212]. The country ranks number 18 in size of total EIB lending.

In 2020, the EIB provided EUR 24.2 billion to fight climate change at EU level, 37% of its total financing and EUR 1.8 billion (3% of its financing) for the environment[213, 214].

## EU environmental funding 2021-2027

The 2020 European Green Deal investment plan calls on EUR 1 trillion green investments (public and private) by 2030. MFF 2021-2027 and the NextGenerationEU will mobilise EUR 2.018 trillion (in current prices) to support the COVID-19 recovery and the EU's long-term priorities, including environmental protection[215]. Following the European Green Deal's[216] 'do no harm' pledge and the Interinstitutional Agreement on the 2021-2027 MFF[217], 30% of the EU budget will support climate efforts and 7.5% (as of 2024) and 10% (as of 2026) will support biodiversity. This requires increased programming of financial resources for biodiversity, specifically under the 2021-2027 cohesion policy and the 2023-2027 Common Agricultural Policy (CAP) to reach those targets.

Sustainable finance significantly increases transparency on environmental sustainability (a goal promoted by the EU Taxonomy)[218] and strengthens non-financial reporting requirements, facilitates green bond issuance (by the EU green bond standard[219]). Reinforced by the Renewed Sustainable Finance Strategy (2020)[220] it will increase investment flows to climate and environment. In support of financing climate adaptation, the new strategy on adaptation to climate change[221] can facilitate closing the insurance protection gap from non-insured climate-related events[222]. The EIB will align 50% of its lending with climate and environment by 2025[223] with an EUR 250 billion contribution to the EGD Investment Plan by 2027.

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

[207] Open Data Portal for the European Structural Investment Funds - European Commission | Data | European Structural and Investment Funds (europa.eu) March 2022: 101% allocated and 53% spent overally

[208] European Commission, LIFE Programme.

[209] Source: CINEA.

[210] Source: EASME, https://sc5.easme-web.eu/, accessed: 15-12-2021.

[211] Approved and signed EFSI financing - EIB, 2015-2020: Source: https://www.eib.org/en/products/mandates-partnerships/efsi/index.htm.

[212] EIB loans in EU countries in 2014-2020. Source: EIB Open Data Portal: https://www.eib.org/en/infocentre/eib-open-data.htm

[213] 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.

[214] EIB 2021 Activity Report.

[215] European Commission, 2021-2027 long-term EU budget & NextGenerationEU.

[216] COM/2019/640 final.

[217] Interinstitutional Agreement, OJ L 433I.

[218] https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance/eu-taxonomy-sustainable-activities_en

[219] EU Green Bond Standard - 2021/0191 (COD).

[220] COM (2021) 390 Final - European Commission, Strategy for Financing the Transition to a Sustainable Economy.

[221] COM/2021/82 final.

[222] The strategy would support improved insurance gap coverage including through the natural catastrophe markets as reflected with the EIOPA (the Association for European Insurance and Occupational Pension Authorities) dashboard on insurance protection gap for natural catastrophes. See: The pilot dashboard on insurance protection gap for natural catastrophes | Eiopa (europa.eu).

[223] EIB Climate Bank Roadmap 2021-2025, November 2020

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

| Instrument | Country funding allocation (million EUR) |
|---|---|
| **Cohesion policy** | **Total: 12 358.1**[224] |
| ERDF | 8 117.4 |
| CF | 1 613.0 [225] |
| ESF+ | 2 404.4 |
| ETC (ERDF) | 223.3[226] |
| **Just Transition Fund** | **458.9**[227] |
| **EAFRD/rural development** under CAP Strategic Plans 2023-2027[228] | **1 295.4**[229] |
| **European Maritime, Fisheries and Aquaculture Fund (EMFAF)** | **15.2**[230] |
| **Recovery and Resilience Facility (RRF)** 2021 – 2026[231] | **6 328.6**[232] **(grants)** |

In Slovakia, the programming for the majority of EU funds (cohesion policy funds, EAFRD and EMFAF) is ongoing. However, the negotiations have been concluded under the RRF.

Slovakia's national recovery and resilience plan (RRP) responds to the urgent need of fostering a strong recovery and making it future ready. The reforms and investments in the plan will help Slovakia become more sustainable, resilient and better prepared for the challenges and opportunities of the green and digital transitions. To this end, the plan consists of five key policy areas (the green economy, education, research and innovation, health, and public administration & digitalization) with 18 components. They will be supported by EUR 6.3 billion in grants. Some 45% of the plan will support climate objectives (see Figure 38). This exceeds the RRF's 37% climate target. In terms of green transition, the plan reflects its climate pledge. In absolute terms, the highest contributions towards this target come from measures targeting building renovations, railway modernisation and industry decarbonisation. Investments in renewable energy capacity combined with a set of reforms aimed notably at facilitating the access to the grid of clean energy sources are set to help Slovakia to achieve its 2030 renewables target. A wide programme of building renovations, including for coal, oil boilers or out-of-date gas boilers exchange and management of construction waste, will reduce their impact on GHG emissions and improve air quality. A distinct set of measures is designed to support industry decarbonisation. In transport, a comprehensive package of reforms and investments will target electro-mobility, inter-modality and public modes of transportation. The plan also includes reforms and investments aimed at sustainable landscape, forest and water management[233]. The plan is to be implemented under several conditions to ensure that the 'do no significant harm' (DNSH) principle is applied. For example, no investments to biomass boilers and construction of new small hydro-power stations are eligible while the modernisation of existing hydro-power stations is linked with detailed checking of compliance with the environmental legislation[234].

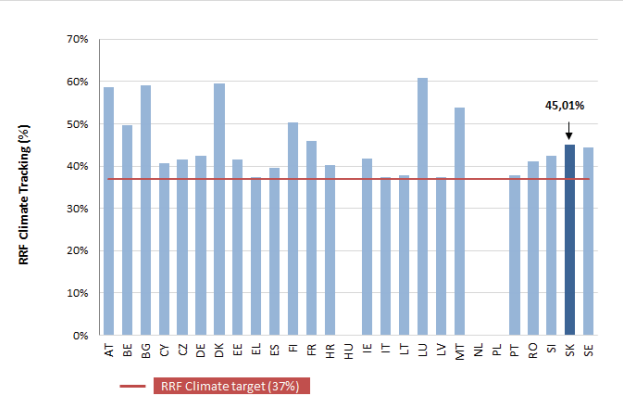
In terms of allocation per policy objectives (PO) for programming period 2021-2027, Slovakia indicates in its draft Partnership Agreement[235] that PO2 'a greener, low-carbon transitioning towards a net zero carbon economy' has the highest allocation (EUR 3.9 billion), followed by PO 4 'a more social and inclusive Europe' (EUR 2.8 billion) and PO 3 'a more connected Europe by enhancing mobility' (EUR 2.2 billion). The draft covers all relevant environmental sectors mainly under PO 2, which includes 3 policy priorities: 2P1 Energy efficiency and decarbonisation; 2P2 Environment and 2P3 Sustainable urban mobility. The indicators on climate tagging and biodiversity tracking are not yet available. The draft might be subject to further revision and a question on a balanced support of EGD objectives remains open.

Slovakia must also satisfy the enabling conditions on satisfactory waste management plans in order to fund investments in the waste management and the circular

[224] European Commission, 2021-2027 Cohesion policy EU budget allocations.
[225] The transfer to the Connecting Europe Facility (Transport) is not included.
[226] Interreg initial allocations per MS including ETC transnational and ETC cross-border co-operation.
[227] European Commission, 2021-2027 Cohesion policy EU budget allocations.
[228] European Commission, CAP strategic plans.
[229] Regulation (EU) 2021/2115, Annex XI.
[230] Regulation (EU) 2021/1139, Annex V.
[231] The actual reforms and investments under the RRF have to be implemented until 31 December 2026.
[232] Council Implementing Decision, FIN 517.
[233] Slovakia's recovery and resilience plan | European Commission (europa.eu)
[234] Commission Staff Working Document: Analysis of the recovery and resilience plan of Slovakia | European Commission (europa.eu)
[235] Domov | Partnerská dohoda (gov.sk)

economy, on updated planning for investments needed in water and wastewater sectors, and on prioritised action frameworks for investments in nature and biodiversity.

**Figure 38: Climate expenditure in RRPs, 2021-2026**[236]




Under NextGenerationEU, the Commission will issue up to EUR 250 billion of EU green bonds (one third of the NGEU total) until 2026 that will comply with the general spirit of the DNSH principle, but will not be subject to the currently developed Delegated Acts related to the EU Taxonomy and will not fully align with the proposed EU Green Bond Standard.

In addition to EU funds earmarked specifically for Slovakia in the 2021-2027 period, there are also funding programmes open to all Member States. These include, the LIFE programme[237] (EUR 5.4 billion), Horizon Europe (EUR 95.5 billion)[238], the Connecting Europe Facility (CEF) [239] (EUR 33.7 billion)[240] or the funds to be mobilised under the InvestEU[241]. They will also support the green transition, including research and innovation activities for environmental protection (Horizon Europe)[242], clean transport and energy (the CEF)[243] or sustainable infrastructure (InvestEU)[244].

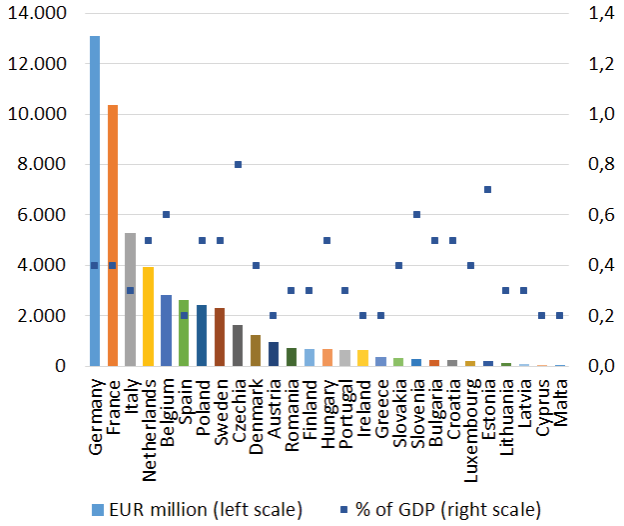
## National environmental protection expenditure

Total national environmental protection expenditure (including all relevant current and capital expenditure)[245] in the EU-27 was EUR 272.6 billion in 2020, representing 2% of the common GDP being quite stable over time. While absolute expenditure is concentrated in a few countries, as a share of GDP, most countries spend between 1-2%, including Slovakia with 1.7%.

Of the above total, the EU-27's capital expenditure on environmental protection (i.e. investment) amounted to EUR 56.3 billion in 2018, lowering to EUR 54.5 billion in 2020, representing around 0.4% of GDP. Most Member States invested 0.2-0.5% of their GDP in environmental protection, Slovakia dedicated 0.4% of its GDP. During 2014-2020, this totalled to around EUR 376 billion of environmental investment in the EU-27, and to EUR 2.7 billion for Slovakia.

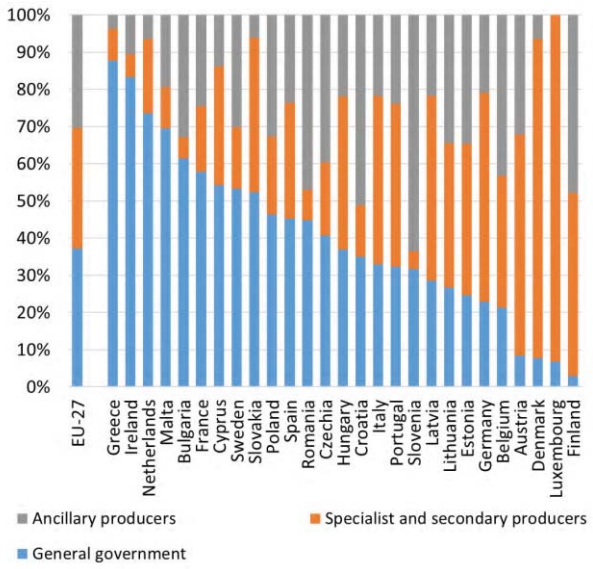
[236] European Commission. The contributions to climate objectives have been calculated using Annex VI of the RRF Regulation (EU) 2021/241.
[237] European Commission, LIFE Programme.
[238] European Commission, Multiannual financial framework 2021-2027 (in commitments) - Current prices.
[239] The CEF (Transport) includes also EUR 11.3 billion transferred from the Cohesion Fund. 30 % of the transferred amount will be made available, on a competitive basis, to all Member States eligible for the Cohesion Fund. The remaining 70% will respect the national envelopes until 31 December 2023. Any unspent amount, by that date, under national envelopes will support all Cohesion Fund's Member States.
[240] Regulation (EU) 2021/1153.
[241] 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 the investment of financial partners such as the European Investment Bank (EIB) Group and others.
[242] European Commission, Horizon Europe.
[243] European Commission, Connecting Europe Facility.
[244] European Union, InvestEU.
[245] 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, while may include some international expenditure beyond domestic. Data source: Environmental Protection Expenditure Accounts (EPEA), Eurostat. EPEA accounts are based on the on the CEPA 2000 classification, excluding climate, energy and circular economy.

**Figure 39: Direct and indirect environmental protection investments in the EU-27 (EUR million and % of GDP), 2018**[246]




By institutional sector, around 52% of Slovakia's environmental protection investments (capital expenditure) came from general government, a further 41% from specialist producers (of environmental protection services, e.g. waste and water companies) and 6% from the classical industry (or business) sector that normally pursues environmental activities as ancillary to their main activities. At EU level, 37% comes from governments, 33% from specialist producers and 30% from industry (business).

**Figure 40: EU-27 Member States' environmental protection investments (Capex) by institutional sectors (Total economy = 100%), 2018**[247]




Breakdown of investment by environmental topic is partially available, at the level of institutional sectors only (rather than at economy level), due to different reporting patterns. At Slovakia's general government level in 2018, 35% of environmental protection investments went to waste management, 32% to wastewater and 11% to tackle various pollution. For the country's specialist producers, around half of the relevant investments were received by wastewater (54%), over a third by waste management (35%) and 11% by water and soil protection. As regards industry and businesses, 35% of environmental investments went to protection of air and 21% to wastewater to name the most significant items.

The total annual European green bond issuance[248] in 2020 was USD 156 billion (EUR 137 billion)[249], growing from USD 117 billion (EUR 105 billion) in 2019, also including some non-EU European countries. For EU27 Member States only, the 2020 annual green bond issuance was EUR 124 billion. As part of this, Slovakia did not issue green bonds. 83% of the green bonds issued by European countries served energy, buildings or transport objectives between 2014-2020, 8% supported water and

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

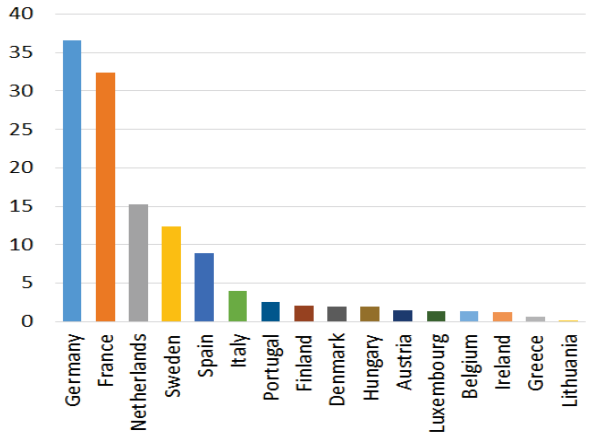
[247] Eurostat, Environmental Protection Expenditure Accounts (env_epe).

[248] Green bonds were created to fund projects that have positive environmental and/or climate benefits. The majority of green bonds issued are green "use of proceeds" or asset-linked bonds. The very first green bond was issued in 2007 with the AAA-rated issuance from multilateral institutions, the European Investment Bank (EIB) and the World Bank.

[249] At Eurostat's annual average EUR/USD exchange rates.

waste, with further 6% supporting land use – with links to ecosystem conservation & restoration, based on the Climate Bonds Taxonomy being broadly similar to the EU Taxonomy[250].

**Figure 41: Annual EU green bond issuance in 2020 (EUR billion)[251]**



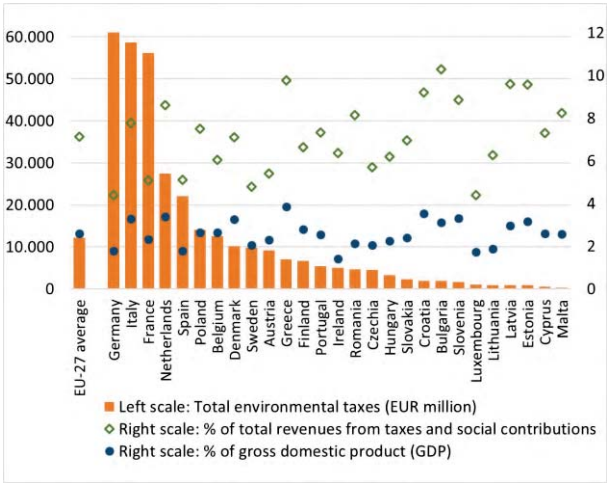

## Green budget tools

### Green taxation and tax reform

Slovakia's revenue from environmentally relevant taxes is at the average level in the EU. Environmental taxes stood at 2.38% of GDP in 2020 (EU-27 average: 2.24%). The largest portion of the environmental taxes was for energy taxes, at 2.13% of GDP, against an EU average of 1.74%.

Transport taxes represented 0.22% of GDP (EU average 0.42%). Taxes on pollution and resources stand at 0.03% (EU average 0.08%). In the same year, environmental tax came to 6.81% of total revenues from taxes and social security contributions (above the EU average of 5.57%)[252].

**Figure 42: Environmental taxes in the EU27, 2020[253]**




The 2019 European Green Deal underlines that well-designed tax reforms can boost economic growth and resilience, and foster a fairer society and a just transition, by sending the right price signals and incentives to economic actors. EGD creates the context for broad-based tax reforms, removal of fossil fuel subsidies, shifting the tax burden from labour to pollution, and accounting for social considerations. The application of the 'polluter pays principle' (PPP)[254], stipulating that polluters should bear the cost of measures to prevent, control and remedy pollution, is facilitated by the EU Commission's flagship technical support instrument (TSI) on greening taxes[255].

Recent assessment of economic instruments in Slovakia shows that there is scope for their enhanced use to make polluters pay in several sectors, for example a tax on solid fuel, or a pay-as-you-throw scheme combined with an increase in the landfill tax[256].

[250] Interactive Data Platform at www.climatebonds.net. Further information on Climate Bonds Taxonomy: https://www.climatebonds.net/standard/taxonomy

[251] Climate Bonds Initiative, 2022.

[252] Ensuring that polluters pay (europa.eu): https://ec.europa.eu/environment/system/files/2021-10/Slovakia.pdf

[253] Eurostat, Environmental taxes accounts (env_eta).

[254] Article 191(2) of the Treaty on the Functioning of the European Union: "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".

[255] European Commission, Greening taxes- applying polluter pays principle in practice, green budgeting TSI participation.

[256] Factsheet_Polluters_pay_Slovakia_V1.pdf (europa.eu)

### Environmentally-harmful subsidies

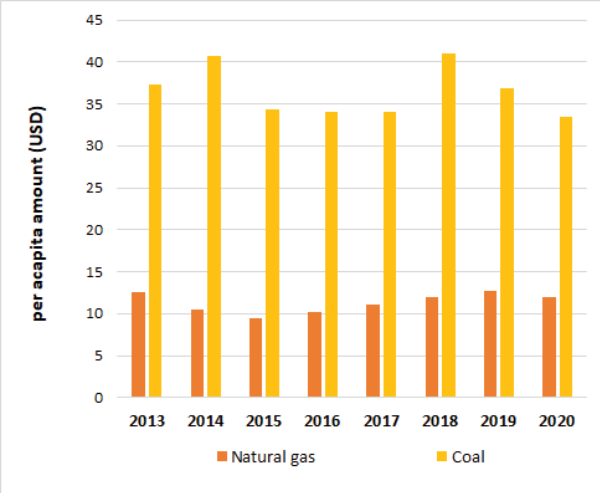
Addressing and removing environmentally-harmful subsidies (EHS) is a further step towards wider fiscal reforms[257].

Fossil fuel subsidies are costly for public budgets and adversely impact the achievement of EGD objectives. In many cases, they also go against incentives for investments in green technologies, and do not contribute to levelling the playing field. Fossil fuel subsidies have varied around EUR 55 billion in the EU since 2015. They rose by 4% between 2015 and 2019; however some countries, such as Latvia, Lithuania Sweden, Greece or Ireland, managed to decrease subsidies for fossil fuels. In the EU, subsidies on petroleum products, in sectors such as transport and agriculture, kept on growing over this period, whereas subsidies on coal and lignite decreased, largely owing to a diminishing role of solid fuels in electricity generation.

As a share of GDP, fossil fuel subsidies ranged from 1.2% in Hungary to less than 0.1% in Malta in 2019 (the EU being 0.4% on average). In 2019, for Slovakia, total fossil fuel subsidies amounted to EUR 0.4 billion, representing 0.44% of GDP. In 2020, the EU-27's total amount of fossil fuel subsidies decreased to EUR 52 billion (due to falling consumption trends amid the COVID-19-related restrictions) which, without Member State actions, are likely to rebound as economic activity picks up from 2020[258].

As reported in the 2019 EIR, Slovakia took first steps to phase out environmentally harmful subsidies of high-emissions electricity generation from lignite, advancing its commitment from 2030 to 2023 (although the exploitation of lignite can continue beyond). This reform is also included in the RRP and further TSI projects are on-going to assist the region of Upper Nitra in the transition out of coal including for example on the solution for the previously coal-sourced district heating. This should be done with an involvement of stakeholders to ensure a balanced approach amid concerns on potentially excessive support to biomass[259].

**Figure 43: Trends in natural gas and coal subsidies in Slovakia[260]**




| % GDP | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|---|
| Natural gas | 0,001 | 0,001 | 0,001 | 0,001 | 0,001 | 0,001 | 0,001 | 0,001 |
| Coal | 0,002 | 0,002 | 0,002 | 0,002 | 0,002 | 0,002 | 0,002 | 0,002 |

Slovakia is among the Member States which allocated more than the EU average on fossil-fuel subsidies as % of GDP and all higher than renewable-energy subsidies[261].

### Current green budgeting practices

Green budgeting encompasses various climate and environmental tagging and tracking practices in budgets and some EU Member states already use green budgeting elements[262]. Green budgeting helps identify and track green expenditure and green revenues to increase transparency on the environmental implications of budgetary policies, thereby improving policy coherence and supporting green policies (including climate end environmental objectives)[263].

Guidance on EU climate proofing and sustainability proofing has also been developed, to assess project eligibility and compliance with environmental legislation

[257] European Commission, STUDY ON ASSESSING THE ENVIRONMENTAL FISCAL REFORM POTENTIAL FOR THE EU28, January 2016 https://ec.europa.eu/environment/integration/green_semester/pdf/Eunomia%20EFR%20Final%20Report%20MAIN%20REPORT.pdf

[258] COM(2021) 950 and Annex

[259] Udržateľné tepelné riešenie (zivotpouhli.sk)

[260] OECD, Fossil Fuel Subsidies Tracker.

[261] European Court of Auditors, Energy taxation, carbon pricing and energy subsidies, 2022.

262 European Commission, Green Budgeting Practices in the EU: A First Review, 2021, Green Budgeting in the EU Key insights from the 2021 Commission survey and and OECD, Public Governance Directorate, Climate Change and Long-term Fiscal Sustainability, Working Paper, February 2021. Climate Change and Long-term Fiscal Sustainability (oecd.org)

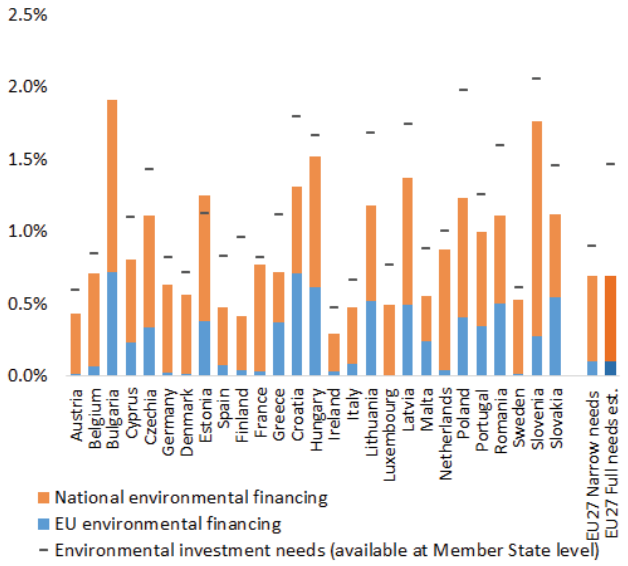
263 OECD Paris Collaborative on Green Budgeting initiative, 2017.

and criteria[264]. The Commission established a green budgeting reference framework[265] and in 2021 launched a technical support project (TSI) on green budgeting to assist Member States in developing or further developing national green budgeting frameworks to reap the benefits for policy coherence and for the green transition. Slovakia participates in this project.

## Overall financing compared to the needs

The EU's overall environmental financing for investments is estimated to have been 0.6-0.7% of GDP in the 2014-2020 period, taking into account major EU funds and national financing. This ranged from 0.3% (Ireland) to 1.91% (Bulgaria), linked to the level of environmental challenges in Member States. The overall EU environmental investment needs in the 2021-2027 period are estimated in the range 0.9-1.5% of the projected common GDP (2021-2027), suggesting an additional financing need (gap) of 0.6-0.8% of GDP, over the baseline environmental financing of the previous period[266].

**Figure 44: Total environmental financing baseline (2014-2020) and estimated needs (2020-2030) in the EU27 (% of GDP)[267]**




Slovakia's environmental financing for investments came to an estimated 1.12% of GDP (EU average of 0.7%) in 2014-2020, being balanced between EU funding and national sources. The environmental investment needs in the 2021-2027 period are estimated to reach over 1.46% of GDP (covering needs with country breakdown available), indicating a financing gap of at least 0.33% of GDP for environmental implementation. This is likely to be higher when also accounting for needs estimated currently at EU level only (e.g. water protection, circularity and biodiversity strategy).

In the 2019 EIR, Slovakia had one priority action for environmental financing to improve the capacity to use EU funds for the environment effectively, including to prepare for the next financing period 2021-2027. Given that Slovakia is facing implementation difficulties in the programming period 2014-2020, this recommendationremains valid. Moreover, there is room for improvement in the coming years and additional priority actions are proposed.

### 2022 priority actions

- To devise an environmental financing strategy to maximise opportunities for closing environmental implementation gaps, bringing together all relevant administrative levels.
- To ensure an increased level of financing for the environment, including from private sources (currently than a third), to cover investment needs across the environmental objectives and to close investment gaps.
- To continue phasing-out of environmentally harmful subsidies (EHSs).
- Enhance use of economic instruments to make polluters pay.

[264] European Commission, Technical guidance on sustainability proofing for the InvestEU Fund.
[265] European Commission, Green Budgeting Reference Framework, based on the review of the OECD Paris Collaborative on Green Budgeting initiative, 2017.
[266] Source: 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) - source: Eurostat EPEA dataset. Cut-off date for data: end 2021. N.B. The total financing may be higher, in particular through further indirect investments, requiring further analysis in the future.
[267] Eurostat, ESI Funds Open Data, 2021.

# 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 business that environmental information is shared efficiently and effectively [268].
Public participation enables 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[269]. It includes the right to bring legal challenges ("legal standing")[270].

### Environmental information

The INSPIRE Directive aims at establishing a European spatial data infrastructure for sharing environmental spatial information between public authorities across Europe, assisting in policymaking across boundaries and facilitating public access to this information. Geographic information is needed for good governance at all levels and should be readily and transparently available.

Slovakia's implementation of the INSPIRE Directive could be better. Its performance has been reviewed based on the country's 2021 country fiche[271]. Data identification and documentation have made slow progress and implementation levels need improvement, specifically the accessibility of spatial data sets. More efforts are needed:
(i) to make the data more widely accessible; and
(ii) to prioritise environmental datasets in implementation, especially those identified as high-value spatial datasets for implementing environmental legislation[272].

**Table 4: Country dashboard on the implementation of the INSPIRE Directive (2016-2020)[273]**

| | 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%<br>■ Implementation of this provision has started and made some or substantial progress but is still not close to be complete. Percentage: 31–89%<br>■ Implementation of this provision is falling significantly behind. Serious efforts are necessary to close implementation gap. Percentage: <31% |
| **Ensure effective coordination** | ■ | ■ | |
| **Data sharing without obstacle** | ■ | ■ | |
| **INSPIRE performance indicators** | | | |
| **i. Conformity of metadata** | ■ | ■ | |
| **ii. Conformity of spatial data sets[274]** | ■ | ■ | |
| **iii. Accessibility of spatial data sets through view and download services** | ■ | ■ | |
| **iv. Conformity of network services** | ■ | ■ | |

### Public participation

The Ministry of Environment provides a dedicated webpage on the EIA (Environmental Impact Assessment) and SEA (Strategic Environmental Assessments)

[268] 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.

[269] 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.

[270] This EIR report 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.

[271] https://inspire.ec.europa.eu/INSPIRE-in-your-Country/SK

[272] European Commission, List of high value spatial data sets

[273] INSPIRE knowledge base

[274] The deadlines for implementation of the spatial data interoperability were in 2016 still 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 a majority of the countries provide as-is data sets in addition to the INSPIRE harmonised data sets.

processes[275]. There is comprehensive information on the applicable legislation, step-by-step details of both procedures, guidance documents and contact points, and an information system providing full documentation on current and past EIA and SEA procedures[276]. Information on how to submit comments by the public, to whom and within which timeline, is available in the document with which the EIA/SEA project is notified. However, individuals would generally need to already have detailed information on the permitting process of concern to them in order to locate documentation.

There is no summary information available on participation in EIA and SEA processes, although such information is available for individual cases.

### Access to justice

The basic principle is that in administrative proceedings and in judicial procedures, the legal standing is provided for anyone (natural or legal persons) directly affected by the case (e.g. by the proposed project). However, as a result of the adoption of the Aarhus Convention and the effect of EU law, the interpretation has finally prevailed that in cases subject to the Aarhus Convention, NGOs can also challenge violations of substantive law (substantive legal provisions) and violations of the right to a favourable environment.

There is no provision in Slovak legislation that explicitly gives individuals or NGOs access to justice with regard to 'concepts, plans or programmes' related to the environment. However, the Code of Administrative Judicial Procedure allows the 'interested public' to bring an action against a 'measure taken by a public administration body' and against a 'general binding regulation'. In order to be challenged in court, 'concepts, plans or programmes' must either be a measure of a public administration body or be adopted in the form of a 'general binding regulation of a municipality'. There are some difficulties in challenging plans or programmes.

There is a system of regular supervision of regulatory legally binding acts but it is hardly accessible for members of the public and NGOs. They can only call attention of those bodies or officials who are entitled to initiate an extraordinary supervision procedure.

There is some information on access to justice, usually only in the official language of the country, maintained by the government, and it needs to be searched for.

The Commission has identified several non-conformity issues in the Slovak transposition of the amended EIA Directive[277]. The shortcomings relate mainly to access to information, timeliness of the decisions, to possible conflicts of interest and the lack of effective, proportionate and dissuasive penalties. Slovakia committed to address these gaps in the planned amendment to the Slovak EIA Act.

However, at the same time, new grievancies cannot be excluded as a result of the new Building Act adopted in April 2022, which aims to streamline permitting procedures, amid stakeholders' concerns[278].

Furthermore, public participation has been limited also for sectoral assessment, like assessment of exceptions at project level under the Water Framework Directive, as a result of the amedment to the Water Act in 2021.

Any streamlining of the permitting system in Slovakia should not lower the level of environmental protection but rather use the flexibilities offered by EU environmental legislation. The Commission will carefully assess the conformity of adopted legislation with EU law and take further action if EU standards are breached.

In 2019, there was a priority action addressed to Slovakia on access to justice, namely to better inform the public about their rights on access to justice. It is concluded that only limited progress has been made.

## 2022 priority actions

- Make spatial data more widely accessible and prioritise environmental datasets in the implementation of the INSPIRE Directive, especially those identified as high-value spatial datasets for implementing environmental legislation.
- Collate and publish information on public participation in EIA and SEA processes in order to monitor whether public engagement is increasing or decreasing.
- Better inform the public about their access to justice rights, in particular by referring to judicial and administrative portals and to the Commission eJustice fact sheets on access to justice in environmental matters[279].
- Improve access to courts by the public concerned when it comes to challenging administrative or

[275] Posudzovanie vplyvov na životné prostredie - Enviroportál - životné prostredie online (enviroportal.sk)
[276] https://www.enviroportal.sk/sk/eia

[277] October infringements package: key decisions (europa.eu)
[278] The new construction legislation was adopted in Slovak Parliament despite citizens concerns: Pomôžte nám zastaviť nekvalitné stavebné zákony - VIA IURIS
[279] European e-Justice Portal - Access to justice in environmental matters (europa.eu)

regulatory decisions, in particular under the areas of planning related to water, nature and air quality.

- Complete transposition of the revised Environmental Impact Assessment (EIA) Directive

## Compliance assurance

Environmental compliance assurance covers all the work undertaken by public authorities to ensure that industries, farmers and others fulfil their obligations to protecti water, air and nature, and managing waste[280].
It includes support measures provided by the authorities, such as:
(i) compliance promotion[281];
(ii) inspections and other checks that they carry out, i.e.ompliance monitoring[282];
(iii) the steps that they take to stop breaches, impose sanctions and require damage to be remediated, i.e. enforcement[283].
Citizen science and complaints enable authorities to better focus their efforts. Environmental liability[284] ensures that the polluter pays to remedy any damage.

### Compliance promotion and monitoring

In Slovakia, information available on the Nature Directive and the Nitrates Directive is focused on the legal requirements, and on outlining the cross-compliance requirements under CAP. For example, the National Food and Agricultural Centre's[285] 'Soil Portal'[286] provides general information, and provides some information to farmers via a map of service[287]. A Code of Good Agricultural Practice provides guidance in the area of management measures and is currently being updated and revised. There does not appear to be material aimed at providing farmers and other land managers with practical guidance on how to manage their businesses so as to help with implementation of the Directives. This was already reported in the 2019 EIR.

Information on the planning of inspections under the Industrial Emissions Directive is not publicly available, nor for the follow-up of sanctions further to inspections. Again, this is similar to the situation reported in the 2019 EIR. However, information on inspections carried out, and their results, is made available to the public. The information portal of the Ministry of Environment provides a link to 'The integrated Pollution Prevention and Control's online information system'[288], with information on legal obligations, and a link to the inspection results registry[289],with documents going back for a number of years. Comprehensive annual activity reports are published by the Slovak Environmental Inspectorate.

### Complaint handling and citizen science

Since 2020, the Ministry of Environment has opened its Green Line (Zelená Linka) to citizens also as a first contact point for reporting on environmental crimes; this is a toll-free number provided on the main page of the Ministry[290]. In the first year of its operation it registered 2,500 submissions from people in the field of environmental issues. Of these, 460 were complaints, with the largest category (148) concerning waste management - mainly illegal landfills. Complaints are forwarded to the relevant body - municipalities, district authorities, the state nature protection or the Slovak Environmental Inspectorate. Twenty-five complaints were passed to the police for possible environmental crime investigations. This phone line system supplements the existing possibility of submitting complaints to the Environment Ministry by email. In addition, the Information System for the Prevention and Remediation of Environmental Damage (IS PaNEŠ)[291] provides the possibility for individual citizens to submit information on environmental damage.

While the Environment Ministry has published data about the use of the new Green Line, that data does not provide information on the follow-up to complaints and whether infringements were identified and penalties imposed; nor it is combined with data concerning other complaints .

### Enforcement

In Slovakia, environmental crime is covered by a separate title of the Criminal Code entitled 'Offenses of general

[280] 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.
[281] This EIR focuses on the help given to farmers to comply with nature and nitrates legislation.
[282] This EIR focuses on inspections of major industrial installations.
[283] This EIR focuses on the availability of enforcement data and co-ordination between authorities to tackle environmental crime.
[284] The Environmental Liability Directive, 2004/35, creates the framework.
[285] https://www.vupop.sk/
[286] http://www.podnemapy.sk/default.aspx
287 https://portal.vupop.sk/portal/apps/webappviewer/index.html?id=75d6cf2d953f42bc9e36050b9e3f7035
[288] https://www.enviroportal.sk/environmentalne-temy/starostlivost-o-zp/ipkz-integrovana-prevencia-a-kontrola-znecistovania/informacny-system-ipkz-1
[289] https://www.enviroportal.sk/ipkz/prevadzka?id=249
[290] https://www.minzp.sk/kontakty/
[291] https://enviskody.enviroportal.sk/uvod

danger and against the environment'. The website of the police forces has a page explaining environmental crime. However, national statistics on crime in Slovakia[292] do not mention environmental crime or provide separate data on it. The latest annual report on the state of the environment, from 2020[293], provides some summary data on the most common environmental crimes, but not on their prosecution.

The Ministry of Interior established an inter-ministerial expert coordination body for fighting crimes by, which has a specific national environmental crime expert working party[294]. In April 2022, the Ministry of Environment submitted a a strategic proposal on fighting all types of illegal environmental activities.

### Environmental Liability Directive

The Information System for the Prevention and Remediation of Environmental Damage (IS PaNEŠ)[295] has been supplemented since 2019 by the addition of a database of potential cases under the Environmental Liability Directive (ELD) and by the registry of confirmed cases. The website provides information on reports received, and the outcome of each case. Where cases are confirmed (so far only two)[296] or threats of environmental damage are confirmed (so far four)[297], detailed information including on the action taken, financial costs, and legal proceedings, is provided, and the legislation on this aspect offers a range of options to operators.

The 2019 EIR recommended to improve financial security for liabilities and ELD guidance, and publish information on environmental damage. Since 2019, Slovakia made substantial progress on those issues.

### 2022 Priority actions

- Improve the availability of practical information for farmers and other land managers on steps to take to improve implementation of the Nature and the Nitrates Directives.
- Collect and make available up-to-date statistics on environmental crimes, including on action taken and penalties imposed.
- Continue to develop a strategic approach to combat environmental crime.

## 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

Slovakia ranks 26th out of 180 in the 2020 Environmental Performance Index[298]. Environmental policy developments in Slovakia are mainly driven by EU Directives and Regulations, and the relevant EU rules are generally transposed in time. At present, the number of complaints and infringements in the environmental field can be considered to be at the EU average.

### Coordination and integration

As mentioned in the 2017 EIR, the transposition of the revised EIA Directive[299] provides an opportunity to streamline the regulatory framework on environmental assessments. Despite a delay in full transposition in relation to the deadline (May 2017), Slovakia has transposed the revised Directive. The outcome of the conformity check by the Commission services is reported above.

The Commission encourages the streamlining of environmental assessments to reduce duplication and avoid overlaps in environmental assessments applicable to projects. Moreover, streamlining helps to reduce unnecessary administrative burden and accelerates decision-making, provided it is done without compromising the quality of the environmental assessment procedure[300]. Slovakia has introduced the streamlining of environmental assessments under EIA and Habitats Directives already prior the revision of the EIA Directive. Further streamlining is expected in the context of the reform of the national Building Act that

[292] https://www.minv.sk/?statistika-kriminality-v-slovenskej-republike-xml
[293] https://www.enviroportal.sk/spravy/detail/11203
[294] https://www.minv.sk/?MEKO
[295] https://enviskody.enviroportal.sk/uvod
[296] https://enviskody.enviroportal.sk/register/skody
[297] https://enviskody.enviroportal.sk/register/hrozby

[298] Environmental Performance Index | Environmental Performance Index (yale.edu)
[299] 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.
[300] The Commission issued a guidance document in 2016 regarding the setting up of coordinated and/or joint procedures that are simultaneously subject to assessments under the EIA Directive, Habitats Directive, Water Framework Directive, and the Industrial Emissions Directive, OJ C 273, 27.7.2016, p. 1.

Slovakia adopted in April 2022 (please refer to section on access to justice).

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

The Commission supports environmental implementation and the green transition, not only through EU financing programmes, but also by granting technical assistance such as the Technical Support Instrument (TSI)[301].

The TSI supported several environment-related projects in Slovakia during the reporting period. In 2019, TSI supported a project related to drivers and health impacts of air pollution. In 2020, two projects were selected: 'Roadmap for the transition to a Circular Economy' and 'Environmental impacts and land rehabilitation of the Upper Nitra Coal Region'. Under the TSI 2022, three new projects are supported related to the reform of water charges to address polluter- and user-pay principles, to the renovation wave, and to climate and macroeconomic modelling tools supporting the strategic policy-making process.

## TAIEX EIR peer to peer projects

The Technical Assistance and Information Exchange (TAIEX) EIR Peer-to-Peer tool[302] has been launched in 2017 by the Commission to facilitate peer-to-peer learning between environmental authorities.

During the reporting period, Slovakia participated in four multicountry workshops: on the inclusion of green criteria in public procurement (2020), on Sustainable Finance (2020); on ammonia reducing technology and measures (2021); and on zero-pollution (2022).

[301] Supporting reforms in Slovakia TSI 2022 (europa.eu)
[302] TAIEX - Environmental Implementation Review - PEER 2 PEER - Environment - European Commission (europa.eu)