STATE OF THE ENVIRONMENT REPORT – SLOVAK REPUBLIC

2018

25th anniversary of annual reports

MINISTRY OF ENVIRONMENT OF THE SLOVAK REPUBLIC

SLOVAK ENVIRONMENT AGENCY

SUMMARY ASSESSMENT OF THE ENVIRONMENTAL SITUATION IN THE SLOVAK REPUBLIC

In 2018 work was undertaken on the preparation of a new **Strategy of the environmental policy of the Slovak Republic until 2030** (hereinafter referred to as 'Envirostrategy 2030'). This document was adopted by the Government of the SR in February 2019 and replaced the previously valid Strategy, Principles and Priorities of the State Environmental Policy of 1993.

Emissions of pollutants have been falling over the long term. The fall in recent years has however been very low, while a slight year-on-year increase has even been recorded for some pollutants. The SR is not exceeding any emissions ceilings (set limit values to 2020) for any of the monitored substances (nitrogen oxides - NO_x, sulphur oxides - SO_x, ammonia - NH_3, non-methane volatile organic compounds - NMVOC). New, stricter emissions ceilings will come into force in 2020 and $PM_{2.5}$ will be added to the monitored substances (tiny particles or droplets with an aerodynamic diameter of less than 2.5 µm). The SR is meeting the obligations arising from the UNECE Convention on Long-Range Transboundary Air Pollution and its protocols.
Despite the fall in the total amount of pollutant emissions into the air, **air quality** remains one of the most serious environmental problems and Envirostrategy 2030 defines it as **one of the three greatest current problems** in Slovakia. The SR has not yet met all the set limit values, with air pollution through nitrogen dioxide - NO_2, small particulate or droplets with an aerodynamic diameter of less than 10 µm - PM_{10}, and benzo(a)pyrene - BaP - remaining the main problem. Ground-level ozone is also still a problem and its target values are permanently exceeded.
The latest data published by the European Environment Agency (EEA) show that air pollution caused 5 416 premature deaths in Slovakia in 2014. In 2015 this number increased to 5 421.

Slovak water resources are unevenly distributed from the perspectives of both **quantity and quality**. The reason for this is on the one hand the natural conditions but on the other the increasingly significant precipitation conditions, significantly influenced by prolonged periods of drought alternating with short but intense precipitation. Despite this, Slovakia has sufficient water resources and the potential to secure its water needs into the future. However, there are some local areas where it is difficult to secure sufficient quality drinking water.
It has **not yet been possible** to achieve **good status and potential** for all **water bodies**. Although the volume of and level of pollution in discharged waste water have been falling over the long term, one of the most important measures that need to be implemented is to increase the drainage and treatment of waste water in cities and municipalities.
The **high quality of the drinking water** delivered through the public water supply system has been maintained over the long term.

The SR has enough quality **agricultural land** to satisfy the needs of its inhabitants in terms of the production of food, in spite of the continuing slight falling trend in its area. The **contamination** of agricultural land is insignificant and the soil is of satisfactory quality. There is however a problem with increasing **soil acidification**. Together with **water erosion and soil compaction** this is negatively affecting soil productivity. The use of fertilisers and plant protection preparations in relation to agricultural production remains a problem. Around one third of Slovak territory is designated as a nitrate-vulnerable area. The way to reduce these negative impacts is to promote **ecological agricultural production**.

The conservation status of **species and habitats of European importance** is showing gradual improvement, especially in relation to knowledge of them. However, the achievement of the target by 2020 – significant and measurable improvement in their status – remains a long way off. In 2018 around one quarter of species and one third of habitats of European importance were in a favourable status. **The protection of species and habitats, primarily in forest, meadow and wetlands ecosystems**, is **the second of the three** defined **greatest current environmental problems** in Slovakia. Almost a quarter of Slovakia is included in the national **system of protected areas** from the perspective of nature protection. However, their consistent protection and targeted care in accordance with international requirements remain a problem. Approximately one third of the territory of Slovakia is in the Natura 2000 network, while there are overlaps between these two types of protected area.

Greenhouse gas emissions have been falling over the long term, however have been relatively stable from a shorter-term perspective. It is anticipated that the reduction targets set to 2020 will be met. The SR supported the idea of **climate neutrality**, and has also set itself ambitious additional reduction targets to 2030, the fulfilment of which will require the adoption of additional specific measures.
Negative symptoms of climate change continued in 2018, with the year being exceptionally, even extremely warm. Long-term temperature records were broken at many stations. Precipitation was subnormal, manifesting in significant soil drought, especially in the spring. There was an estimated revenue loss of approximately one third due to drought in several districts of Slovakia.

Green growth is understood to mean strengthening economic growth while ensuring that natural wealth can continue to provide the resources and the environmental services on which human wellbeing depends. It brings the economic and environmental contexts together.
The connection between the efficiency of the use of natural resources, production and consumption is expressed through an assessment of environmental and resource productivity. The aim is to achieve so-called bifurcation of the curves, when the growth rate of the environmental burden indicator is lower than that of economic growth, and ensuring the highest possible economic output with the lowest negative impact on the environment.

Carbon productivity characterises the interdependence of the carbon and climate cycles linked to environmental and economic efficiency as a result of policies promoting low-carbon and cleaner technologies when using energy resources. The trend in greenhouse gas emissions and in the development of gross domestic product suggests that the so-called absolute decoupling has been successful so far, which is a positive trend.
Energy productivity has increased over the longer-term, yet the energy intensity of the economy remains high and far higher than the average of EU Member States. There has been a year-on-year fall in the share of renewables and this trend means we cannot guarantee that the binding target for the share of renewables will be met. **Material productivity** has improved, however remains under the EU productivity average.

Slovakia ranks among the **most forested** EU Member States. Although assessments indicate the trend in terms of forest acreage is rising, on the other hand satellite images have shown a fall in forested area. The status of health of the forests has long been considered unfavourable and under the Europe-wide average.

The main aims of the transition to a **circular economy** as a tool to ensure green growth are maintaining the value of products and materials as long as possible, minimising waste and using new resources.
The third-most-serious environmental problem in Slovakia is **waste management.** There has long been a **high level of landfilling and a low level of waste recycling**, including recycling of municipal waste. The level of waste recycling is one of the lowest of all the EU Member States, although the generation of municipal waste per inhabitant is low and under the average for EU Member States. There is a danger that Slovakia will not meet the municipal waste recycling targets set for 2020.

Slovakia's income from environmental taxes remains under the EU average.

Assessment of trends in individual indicators

Icon	Assessment explanation
	Positive trend, improvements prevail.
	Variable trend, ambiguous, without significant changes in either positive or negative directions.
	Unfavourable trend, deteriorations prevail.

Assessment of the status of individual indicators

Icon	Assessment explanation
	Satisfactory status. Limit values and targets are being met with only minimal deviations.
	A status that cannot be unambiguously assigned as satisfactory or unsatisfactory. This may mean, for example, that there are no targets or limits for its assessment, respectively its assessment is not unambiguous.
	Unsatisfactory status. Limit values are usually exceeded, set targets are not being met, or there is a threat to the fulfilment of targets set for future periods.

Air quality

	Emissions of pollutants
Change since 2005	A falling trend in most of the substances under review, and the overall trend can be considered positive.
Last year-on-year change	Compared to 2016, in 2017 there was a fall in emissions of NO_x and CO and also for emissions of PM10 and PM2.5, while SO2 emissions rose only slightly. In 2017 emissions of Cd, Hg and Pb slightly rose year-on-year, while emissions of PCDD/PCDF, PCB and PAH registered a rise.
Status (2017)	The SR is meeting all its commitments arising from relevant international conventions applying to emissions of air pollutants.

Air quality		
Change since 2005		A positive trend despite slight fluctuations.
Last year-on-year change		Compared to the preceding year, a reduction in the exceeding of both limit and target values was recorded.
Status (2018)		Permitted values in relation to human health protection for NO2, PM10, BaP and ground-level ozone are being exceeded. The exceeding of permitted ground-level ozone values for the protection of plants and forests was also recorded.
Water		
The use of water from the perspective of conservation of water resources		
Change since 2005		A decrease in surface water and groundwater abstraction.
Last year-on-year change		A slight decrease in abstraction of surface water and groundwater.
Status (2018)		The percentage of total abstraction from outflow from the SR reached 6.5%, while the share of groundwater used out of the total documented exploitable amount of groundwater reached 13.93%. Although the positive balance status of groundwater is favourable from the environmental perspective, a further reduction of groundwater abstraction is not however appropriate from the perspective of the health and living standards of the population of the SR.
Surface water quality		
Change since 2005		A significant fall in the number of monitoring sites where water quality requirements were not met. Assessments of the status of water bodies, performed since 2007, recorded a slight fall in the share of water bodies in a better than average environmental status and a slight rise in the share of water bodies in good chemical status.
Last year-on-year change		There was a year-on-year rise in the number of monitoring sites where water quality requirements were not met.
Status (2018)		Water quality requirements were not met at the majority of monitoring sites. The exceeding of limit values in individual groups of indicators, as well as priority substances and some other substances assessed for the maintenance of environmental quality standards, continued.
Groundwater quality		
Change since 2005		A fall in the share of analyses failing to comply with water quality requirements. Assessments of the chemical status of groundwater bodies performed since 2007 showed 2 less groundwater bodies in a bad status.
Last year-on-year change		There were no year-on-year significant changes in the share of groundwater analyses failing to comply with the requirements for drinking water quality.
Status (2018)		In the majority of monitoring sites in the groundwater monitoring network the limit value for drinking water quality was exceeded for at least one indicator. Limit values were most often exceeded for the following indicators: Mn, Fetotal and Fe^{2+}, indicating a continuing unfavourable status of oxidation-reduction conditions.

Waste water		
Change since 2005		The fall in the volume of discharged waste water continued, while a fall was also recorded in the generation of organic pollution. The share of the population connected to a public sewerage system increased.
Last year-on-year change		There was a slight year-on-year fall in the volume of waste water, while the share of the population connected to a public sewerage system also increased slightly.
Status (2018)		The low connection rate of the population to a public sewerage system (68.40%) remains a problem.
Drinking water quality		
Change since 2005		Drinking water quality recorded a positive trend and status.
Last year-on-year change		The share of drinking water analyses complying with hygiene limits rose.
Status (2018)		Drinking water quality has long been at a high level. 99.75% of drinking water analyses complied with hygiene limits.
Rock		
Geological threats		
Change since 2006		The long-term and extreme precipitation has resulted in an increase in the numbers of emergencies with a negative impact on the lives and health of inhabitants and their property. Repeating landslides are the greatest threat.
Last year-on-year change		Year-on-year there have been slight changes in the stabilisation conditions in the territory.
Status (2018)		Slope deformation has been registered over more than 5% of Slovak territory. 9 new slope deformations were added in 2018.
Soil		
Land use		
Change since 2005		The greatest change in the use of land was the expansion of built-up areas and courtyards, primarily at the expense of agricultural land. The expansion of forest land continued, albeit more moderately.
Last year-on-year change		There was another year-on-year reduction in the area of agricultural land, accompanied by growth in forested land and built-up areas and courtyards.
Status (2018)		Its land structure and nature of use means the SR has sufficient agricultural land to meet the needs of its population in terms of food production.
Soil contamination		
Change since 2005		The trend in soil contamination is very gradual, without significant changes. Soil that was already contaminated in the past continues to be contaminated in the present.
Last year-on-year change	—	In 2018, only selected localities were analysed – those in which contamination with at least one contaminant was determined after the assessment of the 4th sampling cycle (sampling year 2007).
Status (2018)		Almost 99% of the agricultural land fund complies with hygiene requirements. The remainder, contaminated soil, is predominantly linked to industrial activity and to so-called geochemical anomalies - mountain and foothill areas.

Soil reaction		
Change since 2005		Although the share of soil with weakly acidic reaction has fallen, the share of soil with acidic reaction rose.
Last year-on-year change		The share of agricultural land with acidic soil reaction continues to rise.
Status (2018)		Almost 60% of agricultural land shows weakly acidic or acidic soil reaction.
Soil erosion		
Change since 2005		Potential water and wind erosion has fallen since 2005.
Last year-on-year change		Year-on-year there has been a reduction in the area of land threatened by potential water and wind erosion.
Status (2018)		Water erosion is a potential threat to 38.5% and wind erosion to 5.5% of agricultural land.
Biodiversity		
Conservation status of species and habitats of European importance		
Change since 2005		Compared to the 1st (2004-2006) and 2nd (2007-2012) reporting periods, in the 3rd reporting period (2013-2018) there was a more significant improvement in knowledge, however in fact their status remains more-or-less the same (insufficient measures).
Last year-on-year change		The conservation status of species and habitats of European importance improved only minimally according to CIMS records.
Status (2018)		The conservation status of species and habitats of European importance is to a large extent unfavourable and the achievement of the 2020 target of a significant and measurable improvement in their status remains remote.
Status and trend in the national network of protected areas and the European Natura 2000 network		
Change since 2005		The share of so-called small-area protected areas slightly rose and the construction of the European Natura 2000 network commenced.
Last year-on-year change		The area of the national system of protected areas did not change year-on-year. Additional documents (care) for specially protected parts of nature and landscape were prepared, processed and approved. A measure on the supplementation of the national list of sites of Community importance (second update – the so-called C stage), increasing their total number by 169 localities, came into effect.
Status (2018)		Despite the high share of protected areas, many deficiencies could be seen in the national system (representativeness, status of endangerment, definition of the target status of protection, implementation of care programmes for small-area protected areas). The European Natura 2000 network is already mostly completed, however the process for declaring sites of Community importance, as well as the preparation of care programmes, is too slow.
Climate change		
Greenhouse gas emissions		
Change since 2005		The quantity of greenhouse gas emissions fell, while CO_2 productivity increased. As CO_2 emissions are falling while gross domestic product is rising, we can speak of absolute decoupling, which is a positive trend.
Last year-on-year change		Although greenhouse gas emissions increased year-on-year, this was only very moderately and the trend is relatively stable from the short-term perspective.
Status (2017)		The SR is meeting all its commitments arising from relevant international treaties relating to greenhouse gas emissions.

Climate change trends		
Change since 2005	☹	Negative manifestations of climate change have been recorded.
Last year-on-year change	☹	The negative manifestations of climate change continued (significant weather variability, above-average temperatures throughout the year, extreme local precipitation).
Status (2018)	☹	The past year was very significant in terms of the negative manifestations of climate change.
Mining and quarrying		
Trends in mining and quarrying		
Change since 2005	☺	The volume of most mined raw materials did not reach the extraction levels of 2000, which we can assess as positive in terms of the exploitation of natural resources.
Last year-on-year change	☹	In 2018 there was a slight increase in raw material extraction on the surface and a slight decrease in deep mining compared to the preceding year.
Status (2018)	☺	The share of mineral extraction to their reserves does not yet indicate a threat they will become exhausted.
Energy		
Gross inland energy consumption (GIEC)		
Change since 2005	☺	GIEC has been falling since 2005.
Last year-on-year change	☹	GIEC increased year-on-year.
Status (2017)	😐	The meeting of energy efficiency targets expressed in absolute primarily energy consumption is anticipated under the assumption of investments in energy efficiency measures on the side of energy conversion, transmission and distribution, along with significant private sector activity.
Electricity generation		
Change since 2005	☺	In the 2005 to 2018 period there was a decrease in electricity generation.
Last year-on-year change	☺	Electricity generation fell year-on-year.
Status (2018)	☺	The electricity supply in Slovakia was reliable in 2018. The SR has a low-carbon mix of electricity sources, while the share of carbon-free electricity generation was around 80%.
Final energy consumption		
Change since 2005	☺	Final energy consumption has fallen.
Last year-on-year change	☹	A significant year-on-year increase in final energy consumption.
Status (2017)	😐	It is assumed that the fulfilment of the energy savings target to 2020 will only be 84% of the overall national indicative energy savings target for final energy consumption as defined in the Energy Efficiency Action Plan 2014-2020.
Energy intensity		
Change since 2005	☺	A significant decline in the energy intensity of the economy.
Last year-on-year change	☹	A year-on-year increase in the energy intensity of the economy.
Status (2017)	☹	Despite positive developments, the economy still has high energy intensity.

Renewables		
Change since 2005		An increase in the share of renewables in gross final energy consumption.
Last year-on-year change		A year-on-year decline in the share of renewables.
Status (2017)		Achieving a binding target for the share of energy from renewables in 2020 is not guaranteed given the current trend.
Greenhouse gas emissions from the energy sector		
Change since 2005		A decline in greenhouse gas emissions.
Last year-on-year change		A year-on-year increase in greenhouse gas emissions from the energy sector.
Status (2017)		In 2017, greenhouse gas emissions from the energy sector were at one of their lowest levels since 1990.
Emissions of pollutants from the energy sector		
Change since 2005		A positive trend was achieved in emissions of all monitored pollutants - SO_2, NO_x, CO, PM_{10}, $PM_{2.5}$ and NMVOC. On the other hand, emissions of POPs except for emissions of PAH increased (PCDD/PCDF, PCB). Regarding heavy metals, there was an increase in Cd, while Pb and Hg emissions decreased.
Last year-on-year change		A fall in emissions of all monitored pollutants, an increase in emissions of all POPs, as well as heavy metals - Cd, Pb and Hg.
Status (2017)		The energy sector's greatest share in total emissions is for SO_2, NO_x, POPs and heavy metals.
Agriculture		
Area of agricultural land		
Change since 2005		Since 2005 there has been a decrease in the area of all types of agricultural land.
Last year-on-year change		Another fall in the area of agricultural land was recorded compared to 2017.
Status (2018)		Agricultural land makes up 48.5% of all Slovak territory.
Consumption of industrial fertilizers and pesticides		
Change since 2005		There has been an increase in the consumption of industrial fertilisers and pesticides since 2005.
Last year-on-year change		The year-on-year consumption of industrial fertilisers and pesticides increased.
Status (2018)		5 403.5 t of pesticides was applied onto agricultural land. The consumption of industrial fertilisers was 102.4 kg of pure nutrients per hectare of soil.
Water demands of agriculture		
Change since 2005		Between 2005 and 2018 there was an increase in the abstraction of surface water but a decrease in the abstraction of groundwater.
Last year-on-year change		The abstraction of surface and groundwater in agriculture fell year-on-year.
Status (2018)		The share of surface and groundwater used in agriculture compared to total water abstraction is negligible.

Nitrogen balance in agricultural land		
Change since 2005		Between 2000 and 2006 the nitrogen balance in agricultural land was mainly neutral. After 2007 its value began to rise to record a positive balance.
Last year-on-year change		There was a year-on-year increase in the positive nitrogen balance in agricultural land.
Status (2018)		There is a surplus of nitrogen in agricultural land, which is undesirable in terms of optimal plant nutrition and environmental protection.
Greenhouse gas emissions and emissions of ammonia from agriculture		
Change since 2005		Since 2005 greenhouse gas emissions have increased slightly while ammonia emissions from agriculture have decreased.
Last year-on-year change		There was a year-on-year decline in greenhouse gas and ammonia emissions from agriculture.
Status (2017)		Agriculture accounts for 6% of all greenhouse gas emissions in the Slovak Republic and is the largest producer of ammonia emissions.
Transport		
Transport performances		
Change since 2005		An increase in freight transport performance, primarily road transport. A decrease in passenger transport performance.
Last year-on-year change		Transport performance recorded a slight year-on-year increase in all modes of passenger transport. In freight transport, there was an increase in transport performance in road and rail transport.
Status (2018)		A high share of road transport in passenger and freight transport as well as a high share of individual passenger transport persists.
Greenhouse gas emissions		
Change since 2005		A decrease in emissions of CH_4, on the other hand an increase in emissions of N_2O and CO_2.
Last year-on-year change		Greenhouse gas and CH_4 emissions recorded slight year-on-year increases.
Status (2017)		The growth of greenhouse gas emissions from transport has failed to stabilize, and the relative share of transport emissions is steadily increasing.
Emissions of pollutants		
Change since 2005		Emissions of basic pollutants decreased with minimal year-on-year swings.
Last year-on-year change		Emissions of basic pollutants recorded a year-on-year decline, except for NOx, PM2.5 and PM10 emissions, which increased. Emissions of heavy metals dropped.
Status (2017)		Transport accounts for the most significant share of emissions of NOx (approximately 46%), heavy metals (approximately 5%), CO (15%), and particulate PM emissions (approximately 9%). Its share of other pollutants is lower.
Forestry		
Forest condition		
Change since 2005		Forest condition indicated through defoliation has continued to deteriorate with occasional fluctuations, peaking in 2014 for the entire reporting period.
Last year-on-year change		There was a year-on-year deterioration in the health of forests.

Status (2018)		Forest condition in Slovakia can still be considered unfavourable, and still worse than the European average.
Timber and carbon stocks in forest ecosystems		
Change since 2005		Timber and carbon stocks bound in forests have been growing for a long time.
Last year-on-year change		There was another slight increase in the stocks of timber and carbon bound in forests.
Status (2018)		Timber and carbon stocks in forest ecosystems are relatively high.
Forest resources utilisation		
Change since 2005		Since 2005, the share of felling in the total current increment (use of forests) has slightly decreased, farming remains sustainable yet still records high values.
Last year-on-year change		The share of felling in the total current increment (TCI) increased year-on-year.
Status (2018)		Forest resources utilisation can still be assessed as sustainable, yet the share of felling in TCI is high.
Tree species composition and natural regeneration of forests		
Change since 2005		The trend in the tree species composition of forests, respectively in the share of natural regeneration of forests, is favourable.
Last year-on-year change		There has been a further improvement in the tree species composition of forests, as well as a positive increase in the share of natural forest regeneration.
Status (2018)		A generally favourable and varied species structure prevails in Slovak forests. The share of natural regeneration is approaching the level in developed, comparable countries.
Recreation and tourism		
Direction of tourism in relation to the environment		
Change since 2005		Ambiguous trends in the direction and development of tourism in relation to the environment.
Last year-on-year change		Evidence of positive (increase in the total number of overnight stays) as well as negative trends in the direction of tourism (e.g. a high share of one-day tourism by foreign visitors) in relation to the environment.
Status (2018)		Since 2005, the highest total number of overnight stays was recorded in 2018. The average number of overnight stays is stagnating.
Visitor statistics for caves		
Change since 2005		Visits to caves are decreasing, there is an insufficient number of information centres in protected areas.
Last year-on-year change		There was a year-on-year decrease in the number of visitors to caves.
Status (2018)		In 2018 more than 630,000 visitors visited the caves managed by the Slovak Caves Administration.
Erosion, endangerment of small-area protected areas and the number of stations		
Change since 2005		A registered increase in erosion and endangerment of the so-called small-area protected areas and the number of stations due to tourism.
Last year-on-year change		A slight year-on-year recorded increase in erosion on cycle routes and marked hiking trails in some areas. A slight rise in endangerment of the so-called small-area protected areas and a fall in the number of stations due to tourism.

Status (2018)		Occurrence of erosion-affected marked trails and cycling trails in national parks.
Environmental economy		
Costs of enterprises and municipalities for environmental protection		
Change since 2005		Environmental protection costs have increased despite volatility.
Last year-on-year change		There was a significant year-on-year increase in environmental protection costs.
Status (2018)		The costs in 2018 were the second highest since monitoring began in 2000. Compared to the previous year the increase was almost 25%.
Material flows		
Resource productivity		
Change since 2005		Since 2005 there has been an increase in resource productivity.
Last year-on-year change		The resource productivity growth trend continued compared to the previous year.
Status (2017)		Despite the recorded growth, resource productivity remains low compared to other EU Member States.
Waste		
Total waste generation		
Change since 2005		Despite fluctuations in individual years, overall waste generation has remained roughly the same.
Last year-on-year change		There has been a year-on-year increase in waste generation.
Status (2018)		The amount of waste generated per capita in the SR is below the EU Member States average.
Generation and management of municipal waste		
Change since 2005		An increase in the amount of municipal waste generated. High landfill rates and low recycling rates persist.
Last year-on-year change		There was a year-on-year increase in municipal waste generation. The total volume of municipal waste landfilled fell only very slightly.
Status (2018)		Although the share of municipal waste per capita of the Slovak population is under the EU average, the unfavourable status of its management (high landfill rate and low recycling rate) persists.
Packaging waste		
Change since 2010		Although total packaging waste generation increased, the rate of recycling and recovery of packaging waste also increased.
Last year-on-year change		A slight decrease in the recovery rate of packaging waste.
Status (2017)		Material recovery for packaging waste was 65.68%. The targets set for packaging waste are being met on an ongoing basis.