

Chapter 1. Towards sustainable development

This chapter provides a brief overview of key environmental trends in the Slovak Republic and progress towards the Sustainable Development Goals and environmental targets. It assesses the environmental effectiveness and economic efficiency of the environmental policy mix, including regulatory, fiscal and economic instruments and investment in environment-related infrastructure. It examines the interaction between the environment and other policy areas with a view to highlighting the opportunities and barriers to enhance policy coherence for sustainable development.

1.1. Introduction

The Slovak Republic is a land-locked Central European country where population and economic activity are heavily concentrated in the Bratislava and Western Slovakia regions. Regional economic disparities remain high, with Eastern Slovakia lagging the rest of the country. The economy is small, open and strongly integrated into the EU market. Heavily dependent on industrial exports (particularly cars), it is highly exposed to external shocks.

After a deep contraction (-3.3%) during the COVID-19 crisis, the economy rebounded in 2021 (+4.8%) and has grown moderately since (OECD, 2023a). Despite heavy dependence on Russian energy imports, Slovakia's gross domestic product (GDP) grew by 1.8% in 2022 thanks to government measures to reduce the impact of rising energy prices and robust private consumption, alongside a reduction in household savings (NBS, 2023). GDP is projected to grow by 1.1% in 2023 and 1.8% in 2024. In 2023, growth will be mainly driven by investment supported by EU funds. Lower inflation, stronger private consumption and improved export performance should support GDP growth in 2024, with high uncertainty related to the absorption of EU funds and energy prices.

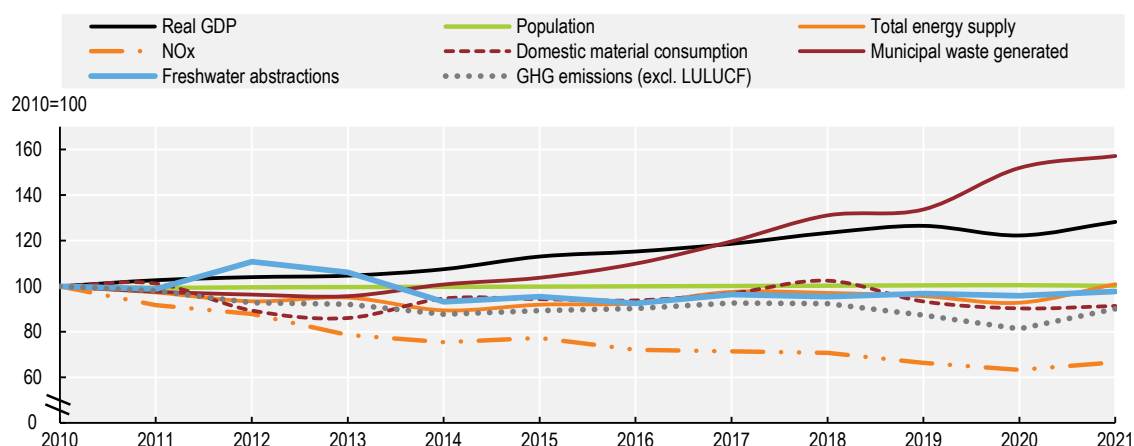
Slovakia's geographical position, with the Carpathian Mountains and Pannonian lowland areas, allows for a rich diversity of flora and fauna and diversified landscape. Renewable natural resources are abundant. Forests and agricultural land each cover about 40% of the territory. The southwestern part of the country is one of the biggest sources of drinking water in Central Europe (OECD, 2023b). Except for magnesite and construction materials, domestic geological reserves are limited. The country depends largely on imports for fossil fuels and metals, as well as for most raw materials.

1.2. Addressing key environmental challenges

1.2.1. Slovakia has made some progress on decoupling

Between 2010 and 2019, Slovakia reduced domestic material consumption, emissions of greenhouse gases (GHGs) and major air pollutants and, to a lesser extent, energy supply and freshwater abstractions (Figure 1.1). By contrast, despite low population growth, municipal waste generation grew faster than GDP, reflecting increased consumption levels. Since 2019, decoupling has been less clear with the economic downturn due to COVID-19 and the recovery in 2021. By 2021, energy supply and gross GHG emissions were above their pre-pandemic levels.

Figure 1.1. Slovakia managed to decouple some environmental pressures from economic growth



Note: LULUCF: land use, land-use change and forestry. NOx: nitrogen oxides.

Source: IEA (2023), IEA World Energy Statistics and Balances (database); OECD (2023), OECD Environment Statistics (database); OECD (2023), OECD Economic Outlook (database).

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1.2.2. The economy is more carbon efficient, but the country is not on track net-zero emissions by 2050

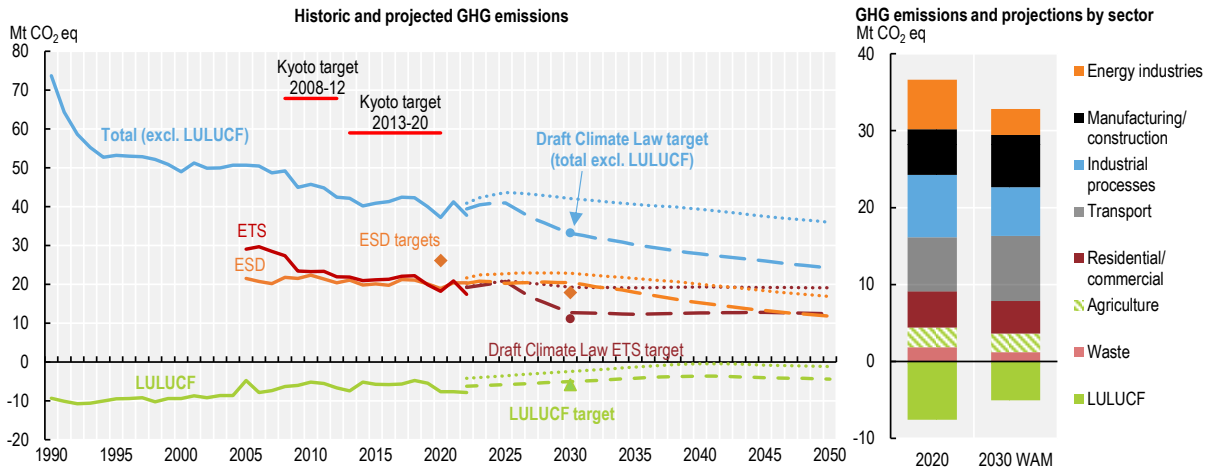
Slovakia is not on track to achieve its climate targets

The Slovak Republic follows the EU legislation on climate change. It has adopted the Integrated National Energy and Climate Plan for 2021 to 2030 (NECP) and the Low-Carbon Development Strategy of the Slovak Republic until 2030 with a View to 2050 (MoEco, 2019) (MoE, 2020a). This aims to help Slovakia contribute to meeting the EU's 2030 energy and climate goals and achieve carbon neutrality by 2050. In 2023, the Ministry of Environment (MoE) introduced a draft law to enshrine carbon neutrality in legislation and strengthen long-term strategic planning across political cycles (Box 1.1). The law also set sectoral targets. These targets would help strengthen the accountability of the administrations responsible for these sectors, but their ambition and coherence need to be reviewed. The target for growth in emissions from transport seems incompatible with the overall national reduction target for sectors not covered by the EU Emissions Trading System (ETS). Indeed, such growth will not be offset by targeted reductions in other sectors like buildings, agriculture and waste.

Slovakia met its obligations under the first and second period of the Kyoto Protocol (Figure 1.2). Its emissions decreased at the same rate (-20%) as in the European Union over 2010-20. However, they rebounded faster in 2021, after the lifting of COVID-19 restrictions (+11% vs. +5%). The country also achieved its 2020 target for emissions not covered by the EU ETS.

However, national projections indicate the country is not on a net-zero pathway (Figure 1.2). Most of the emission reductions by 2030 are expected to come from energy industries (with increased nuclear energy production) and to a lesser extent from industrial processes. GHG emissions in non-ETS sectors, especially transport, are projected to increase over 2020-30, even with additional measures. The expected decline of net carbon removals puts at risk the achievement of the LULUCF Regulation target for Slovakia in 2030 (Chapter 2) and of the net-zero goal. As Slovakia is revising its NECP, it should clarify and strengthen the measures envisaged to achieve its goals.

Figure 1.2. Slovakia is not on a net-zero pathway



Note: LULUCF: land use, land-use change and forestry. Dotted lines refer to national projections with existing measures. Dashed lines refer to projections with additional measures. ESD 2020 target: under the EU Effort Sharing legislation; 2030 target: under the EU amended Effort Sharing Regulation (EU 2023/857). ESD targets are calculated as a percentage change from the 2005 ESR base-year emissions, which differ slightly from the revised 2005 emissions. LULUCF 2030 target: under the LULUCF Regulation (EU 2023/839). ETS: emissions under the EU Emissions Trading System. 2022 data are estimates.

Source: MoE (2023), National Inventory Report 2022; EEA (2023), Member States' greenhouse gas (GHG) emission projections, 24 October.

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Box 1.1. Enshrining carbon neutrality in Slovak law

In early 2023, the MoE introduced a draft Law on Climate Change and Low-carbon Transformation of the Slovak Republic. It sets binding targets to achieve carbon neutrality by 2050 and establishes monitoring and enforcement mechanisms. The law reflects the targets of the EU "Fit for 55 package" and adds sectoral targets (Table 1.1). Government agencies that fail to meet their obligations could face penalties. In addition, the public could take legal action if they felt the government's inability or unwillingness to act could threaten them or future generations.

The law would also establish the Council for Climate Accountability, a monitoring and oversight body made up of government representatives and experienced experts. It would report on progress, advise on additional measures and issue recommendations on climate-related investments. The law would also require local and regional climate action plans.

Table 1.1. Objectives of the draft law on climate change

	GHG emissions target	Base year
Total gross emissions, by 2030	-55%	1990
ETS-covered emissions, by 2030	-62%	2005
Non-ETS emissions, by 2030	-22.7%	2005
Total emissions, by 2050	Net zero	
Total emissions, by 2055	Negative net emissions	
Non-ETS sectoral targets by 2030, of which		
Road transport	Not exceeding +29%	2005
Buildings	-12%	Average for 2018-20
Agriculture	-10%	2005
LULUCF	+25%	Average for 2016-18
Waste	-24%	2005
Industrial processes and product use	Not exceeding +40%	2005

Note: LULUCF: land use, land-use change and forestry.

Source: MoE (2023), draft Law on Climate Change and Low-carbon Transformation of the Slovak Republic (LP/2023/29).

The energy mix is less reliant on fossil fuels

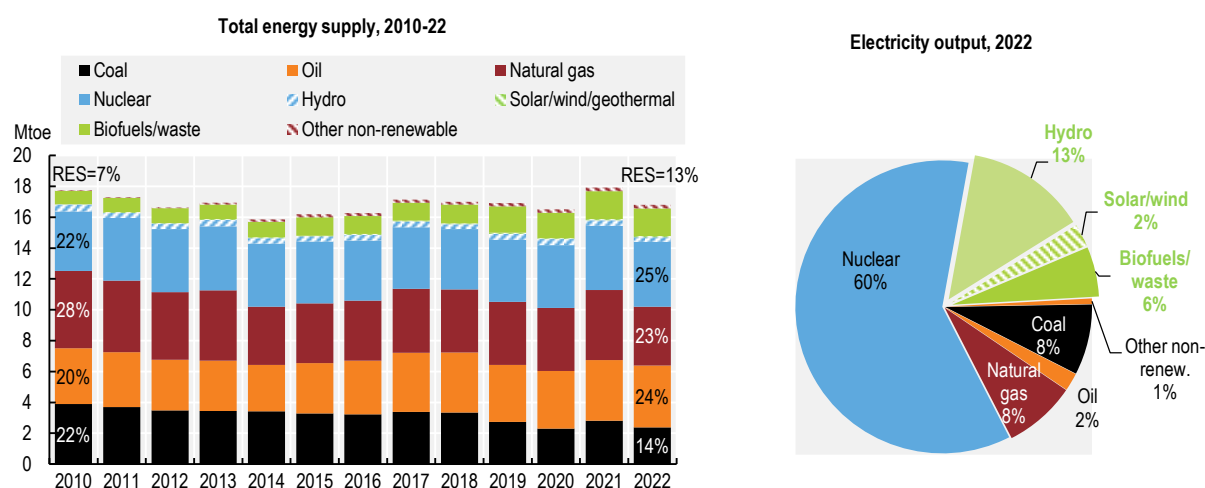
Although predominant, fossil fuels represent a smaller share of Slovakia's energy supply than the OECD average (60% vs. 78%) due to the importance of nuclear energy. Over the past decade, the energy mix has shifted progressively from coal to renewables (mainly biofuels and waste), which still account for a moderate percentage of supply (Figure 1.3). Slovakia is committed to phase out coal mining and coal-fired power generation by 2023.

With 17% of renewable energy in gross final energy consumption in 2020, Slovakia achieved its binding target of 14% set by the EU Renewable Energy Directive (Eurostat, 2023), mainly due to renewable heat development (IEA, 2018). The country was below its 2020 sub-targets for electricity (23.1% vs. 24.0%) and transport (9.3% vs. 10.0%); it met the sub-target for heating and cooling (19.4% vs. 14.6%).

When revising the NECP, Slovakia will have to increase its 2030 renewable target to match the new target of 42.5% for the whole European Union (EU 2023/2413). The draft update of the NECP proposes 23%, an increase on the previous national target of 19% (MoEco, 2023). However, the latest national projections with additional measures forecast 19%, which is below the 24% recommended to reach the previous European 2030 target of 32% (MoEco, 2023) (EC, 2020).

Several main barriers have been identified for developing renewable electricity (Valach and Tallat-Kelpšaitė, 2021). These comprise the partial moratorium on the connection of renewable electricity out of concern for grid stability; requirement for ministerial consent for large installations; unclear ownership and fragmentation of land; mandatory environmental impact assessment (EIA) for small wind projects; and obstructions to EIA (Section 1.3.3).

Figure 1.3. The energy mix has shifted progressively from coal to renewables



Note: The breakdown excludes electricity trade. 2022 data are estimates.
Source: IEA (2023), World Energy Statistics and Balances (database).

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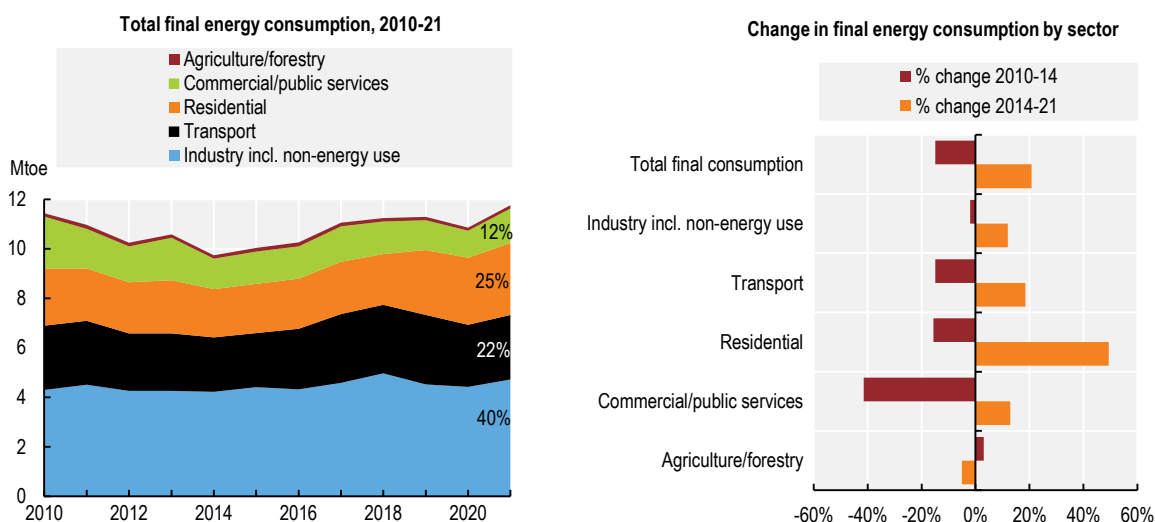
Electricity generation is highly decarbonised. Nuclear power generates more than half of electricity, a share that will increase with the commissioning of two new reactors (one was connected to the grid in 2023). Recent investments in cross-border interconnections, renewable energy and storage capacity under the Recovery and Resilience Plan (RRP) (Section 1.4.1) should help develop and integrate renewable

energies. Slovakia estimated it would need to invest EUR 5.3 billion over 2023-30 to achieve its renewable target on electricity and heat (MoEco, 2023).

Energy consumption has increased since the mid-2010s

Over 2010-22, the energy intensity of the economy declined by 26% thanks to improvements in energy efficiency in industry and buildings, as well as economic restructuring. However, the Slovak economy is over 40% more energy intensive than the OECD Europe average due to its larger industrial base. Since 2014, energy consumption has risen steadily, except during the COVID-19 crisis, reaching in 2021 a level equivalent to 2010 (Figure 1.4). Slovakia has met its 2020 target under the EU Directive on Energy Efficiency but is not on track to meet the more stringent requirements for 2030 (EC, 2023a).

Figure 1.4. Total final energy consumption increased mainly in buildings and transport sectors



Source: IEA (2023), IEA World Energy Statistics and Balances (database).

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Residential energy consumption grew by almost 50% between 2014 and 2021. Despite progress in renovating buildings, solid fuel combustion for domestic heating remains an air quality issue in some regions (Section 1.2.3). The 2020 long-term renovation strategy has set ambitious targets to decarbonise the building sector by 2050 (EC, 2022a). It identified the need to increase annual investment from EUR 900 million in 2020 to EUR 1.3 billion in 2030. Slovakia plans to use European funds to finance these investments. Energy efficiency in buildings is a priority of the RRP (Section 1.4.1).

Transport energy consumption has also risen significantly. Since 2010, the car fleet has increased by almost 60%. Newly registered cars have one of the highest average CO₂ emissions per kilometre among EU countries, reflecting large imports of second-hand cars. The diffusion of electric vehicles has been slower than anticipated. Although charging infrastructure is developing, higher purchase costs of electric vehicles is a barrier for customers. In 2022, only 4% of newly registered passenger cars were either battery electric vehicles or plug-in hybrid electric vehicles, among the lowest figures in the European Union (EAFO, 2023).

The industrial sector is the largest consumer of energy. Restructuring, modernisation and improved energy efficiency have contributed to a long-term reduction in its energy consumption. However, progress has

stalled over 2014-21 with increased energy consumption, particularly in the chemical and petrochemical industry.

Climate risks in municipalities have been identified

Since 1881, the average annual air temperature has increased by 1.7°C. While precipitation fell by 10% or more in the south, it rose by up to 3% in several northern locations. Extreme temperature and precipitation events have become more frequent, increasing the risk of droughts and floods. Temperatures are projected to exceed the 1961-1980 average by a further 2-4°C by 2050. Average rainfall is expected to remain stable, with variations depending on the season and the region (MoE, 2018). Slovakia approved an updated Strategy of Climate Change Adaptation in 2018 and an Action Plan in 2021. While ministries are supposed to cover costs of analyses, legislative changes and soft measures, investments depend on EU funding. Over 2021-27, funding will focus on water retention and nature conservation rather than grey flood protection infrastructure (OECD, 2023c).

In co-operation with the OECD, Slovakia identified municipalities most vulnerable to climate hazards. The joint study investigated risks for local communities stemming from heatwaves, droughts and extreme precipitation up to 2050. Extreme temperatures and droughts will mainly affect the southern part of Slovakia, including Bratislava. About 16% of the population live in municipalities with the highest risk level of heatwaves. While the share of population under threat from extreme precipitation is relatively low, northern regions are still heavily exposed (OECD, 2023c). The study could be used in the investment selection criteria.

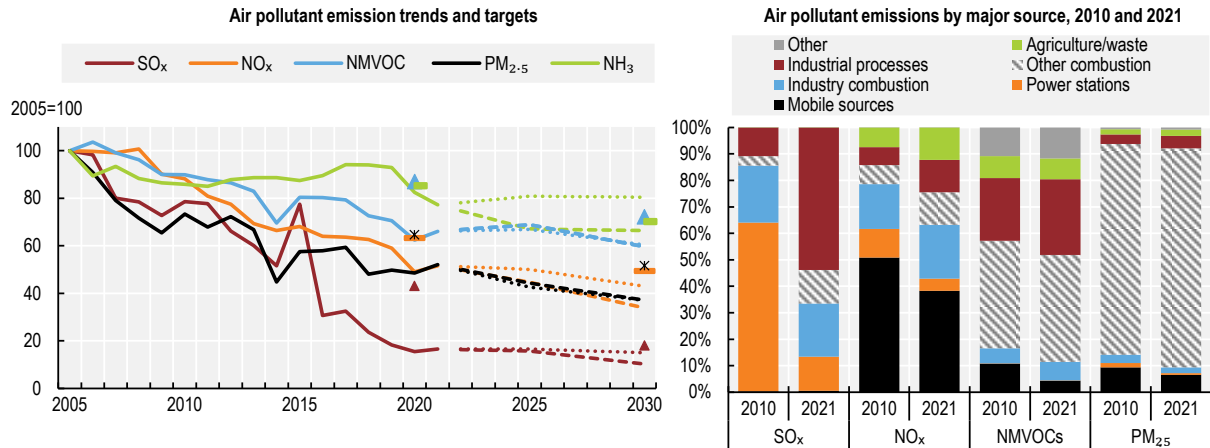
1.2.3. Despite progress, air pollution remains an issue

Slovakia has reduced major air pollutant emissions

After strong reductions in the previous decade due to industrial restructuring, fuel switching, stricter legislation and implementation of abatement technologies, the decline in emissions has slowed since the mid-2010s. Slovakia met its 2020-29 emission reduction commitments under the NEC Directive (Figure 1.5). It is on track to meet its 2030 targets, only with additional measures for ammonia emissions. The 2020 National Air Pollution Control Programme (NAPCP), to be updated in 2023, should model the effects of individual measures to identify the most cost-effective ones.

Improved manure management reduced ammonia emissions in the previous decade. However, growth in inorganic nitrogen fertiliser use has increased emissions over 2011-18. The NAPCP introduced requirements to reduce emissions from livestock and manure management (MoE, 2020b). However, the revised Air Pollution Charges Law (Box 1.2) freezes charges for ammonia.

Figure 1.5. Slovakia is on track to meet its air pollution reduction commitments



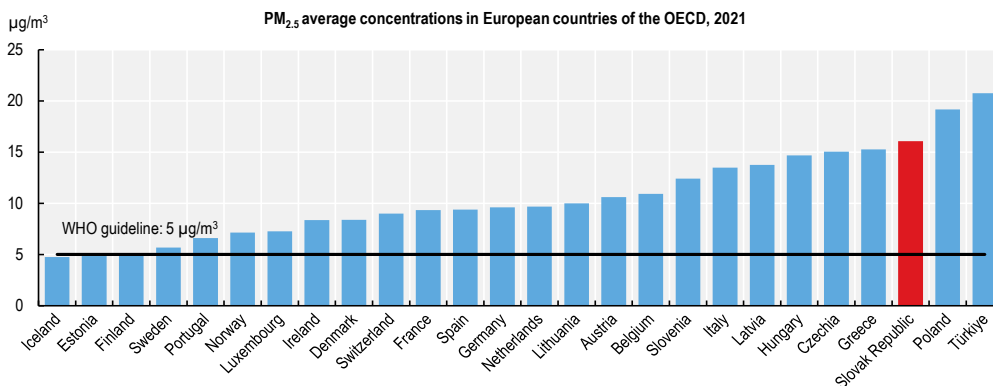
Note: Emission trends and reduction targets under the EU Directive (2016/2284/EC) on the reduction of national emissions of certain atmospheric pollutants (NEC). Dashed lines refer to a policy scenario with additional measures. The 2015 peak for SO_x emissions reflects high lignite consumption by substandard units during the partial reconstruction of a power plant. Source: MoE and SHMI (2023), Informative Inventory Report 2023.

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Air pollution remains a health concern

Exposure to air pollution remains high and associated health risks are significant. The entire population of Slovakia is exposed to concentrations of fine particulates (PM_{2.5}) exceeding the limit set by the World Health Organization. The average concentration is among the highest in OECD Europe (Figure 1.6). The welfare cost attributable to outdoor air pollution is equivalent to almost 7% of GDP, double the OECD Europe average. The country has faced several EU infringement proceedings for failing to meet limit value for PM₁₀.¹ Solid fuel combustion for domestic heating, road transport and metal production are the main sources of this pollution (SHMU, 2021). In 2022, exceedances of EU air quality standards were recorded for PM_{2.5}, PM₁₀, benzo[a]pyrene and tropospheric ozone (SHMU, 2023).

Figure 1.6. High levels of fine particulate pollution affect the population



Note: Data for the United Kingdom are not available. Source: EEA (2023), Europe's air quality status 2023.

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Box 1.2. Slovakia has updated its air quality legislation

The Air Protection Law is expected to improve air management

The Air Protection Law approved in early 2023 (Act no.146/2023) focuses on authority, supervision and enforcement. It defines an acceptable level of pollution and states emission requirements for stationary sources. It also sets quality standards for fuels. The law strengthens competences of state and local authorities, and provides for local programmes to improve air quality. Municipalities acquire new powers to restrict or ban small installations within their administrative boundaries through a local decree. They may declare low-emission zones limiting access of the most polluting vehicles. For the first time, odour will be regulated and its sources potentially restricted. Stationary sources will only be allowed to operate with a special permit. Existing sources will be subject to a permitting procedure in the transient period. Large sources may face fines of up to EUR 1 million for violating the law.

The impact of the revised Air Pollution Charges Law is unclear

Air pollution taxes (“charges” in Slovak) are paid by medium and large pollution sources. The Air Pollution Charges Law, revised in 2023 (Act no.190/2023), aims to reflect inflation in tax rates; simplify the legislation and make it more predictable for businesses; and ease the regulatory burden borne by small businesses. The law was originally intended to reflect the social costs of air pollution in tax rates. However, these rates were negotiated downwards during the legislative process and some pollutants were excluded from its scope (Table 1.2). Except for ammonia, tax rates will double with the entry into force of the law (2024). They will gradually double again by 2030 and then be regularly adjusted for inflation. The revised law exempts operators whose charges are less than EUR 500.

Table 1.2. Development of air pollution tax rates

Air pollution tax rates in euros per tonne

	Particulate matter	Sulphur oxides	Nitrogen oxides	Carbon monoxide	Solid inorganic pollutants**	Gaseous inorganic pollutants**	Total organic carbon	Carcinogenic pollutants**	Persistent organic pollutants
Law in force in 2023	166	66	50	33	1 328/664	332/66*	130	1 328/664	1 328
Version submitted for public consultation (05/2021)	970	470	470	170	3 800	1 800/66*	1 000	7 000	7 000
Revised law (entry into force in 2024)	330	130	100	60		60*	260		

Notes:* Rate on ammonia. **The law in force in 2023 groups diverse chemical compounds.

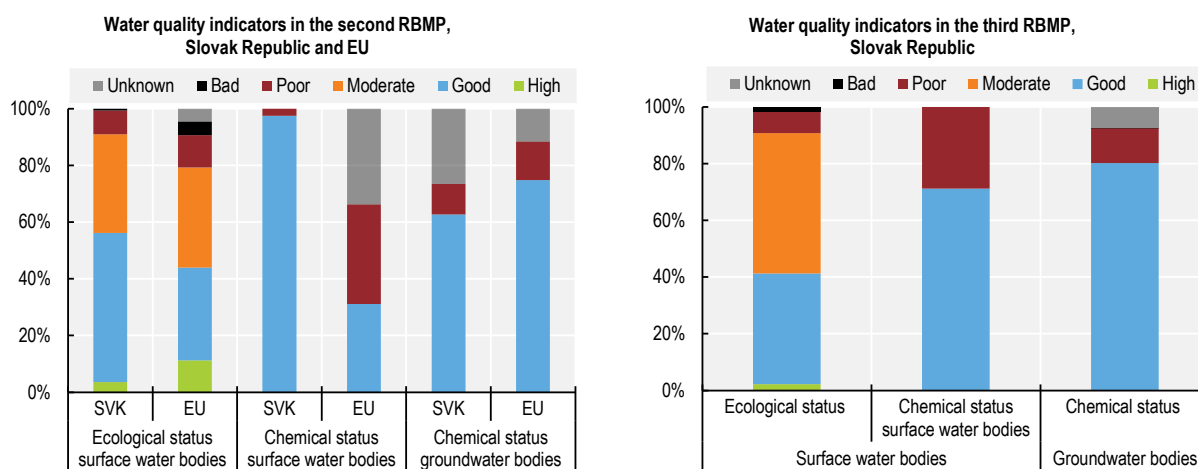
In a welcome step, the reform abolished preferential treatment for emitters with more than 30% of their annual coal consumption from domestically mined resources. The rates they pay will gradually be aligned with those of other polluters in 2025. On the other hand, businesses subject to the ETS will be exempted from tax on carbon monoxide emissions by 2025. Unlike the draft law submitted for public consultation, the impact of the revised law has not been assessed.

1.2.4. Further expanding wastewater treatment coverage is a challenge

Slovakia enjoys abundant freshwater resources and generally experiences low water stress. Nevertheless, climate change puts the southwest region, including the biggest drinking water reservoir (Žitný ostrov) at severe risk of drought (OECD, 2023c). Freshwater abstractions have remained broadly stable in the past decade. Per capita, they are among the lowest in the OECD and only 1% of renewable freshwater resources are withdrawn annually against 10% in OECD Europe.


According to the third River Basin Management Plans, 41% of surface water bodies achieved good ecological status and 71% good chemical status; 80% of groundwater bodies achieved good chemical status (Figure 1.7). The most significant pressures on these water bodies are agriculture (use of fertilisers and pesticides), hydromorphological changes, untreated sewage, point sources of pollution and climate change (MoE, 2022a).

Figure 1.7. Surface water quality must improve to achieve good status



Note: For Slovakia, surface water bodies only include rivers. The second and third River Basin Management Plans (RBMPs) cover 2009-13 and 2013-18, respectively. Periods should be compared with caution as data collection methods evolve. "Poor" corresponds to failure to achieve good status. Classification of water bodies by number. EU25 excluding Greece, Ireland and Lithuania.

Source: EEA (2023), WISE Water Framework Directive (database); MoE (2023), State of Environment Report 2021.

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Population connected to public wastewater treatment plant increased from 59% to 70% between 2010-21 (OECD, 2023b). However, this rate is one of the lowest in the OECD and is even lower in small municipalities. In 2018, 93% of urban wastewater (load generated) was treated according to requirements of the EU Urban Waste Water Treatment Directive (UWWTD), above the EU average of 82% (EEA, 2023). However, nearly 13% of wastewater load was treated through individual or other appropriate systems, the second highest rate in the European Union (EC, 2022b).

Slovakia will face challenges in complying with the more stringent requirements planned in the ongoing revision of the UWWTD: about 28% of the population live in municipalities with fewer than 2 000 inhabitants. Furthermore, the whole territory is designated as a sensitive area that needs advanced wastewater treatment. In addition, expected population decline will affect the revenues from utilities and investment planning in small service areas. The Strategy of Environmental Policy of the Slovak Republic until 2030 (Envirostrategy 2030) aims to connect 85% of the population to public wastewater treatment plants (all residents in agglomerations above 2 000 inhabitants and 50% in agglomerations below this threshold) (MoE, 2019).

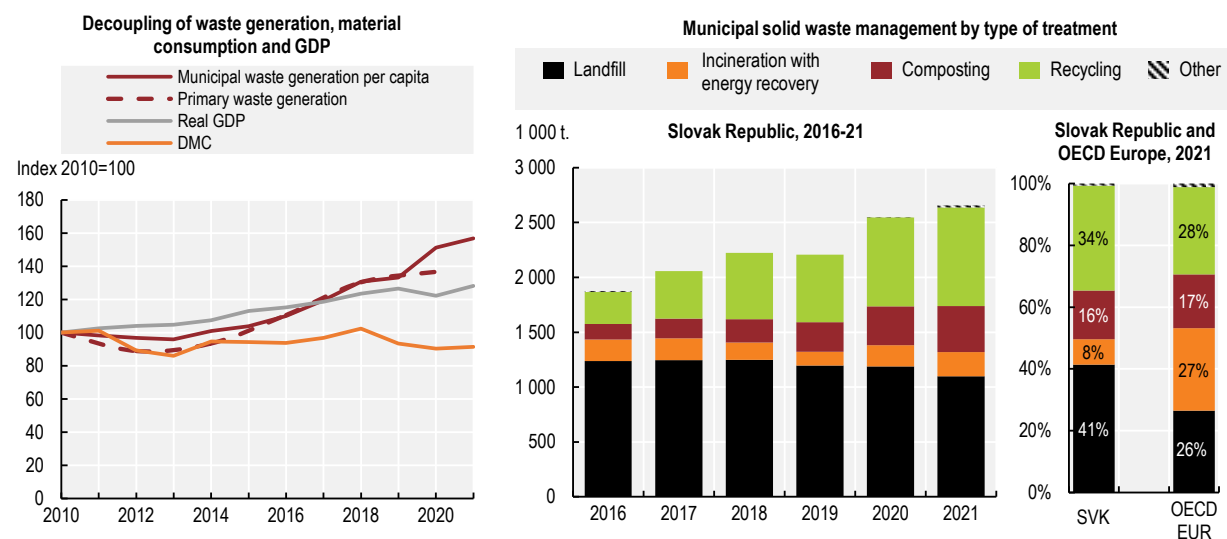
Slovakia has a large financing gap and high reliance on EU funding for water infrastructure (OECD, 2019). Responding to an OECD recommendation, it has developed the National Programme for Implementing the UWWTD to set priorities. It estimates investment needs at nearly EUR 1.6 billion by 2027 (MoE, 2021). The programme projects that around EUR 840 million will be financed by the 2021-27 Cohesion Policy funds and to a lesser extent by the Environment Fund, own resources and state budget, leaving an investment gap of EUR 750 million. Investment needs for improving public water supply have been estimated at EUR 660 million and the gap at EUR 370 million.

Slovakia should support municipalities with limited resources to build capacity to operate and maintain water infrastructure and to prepare and implement new investment projects (OECD, 2019). Tariffs for water services are too low to recover the full costs of service provision and contribute to infrastructure financing needs, especially for small municipalities and regulated entities. Consolidating municipal services would improve operational efficiency and financial sustainability. The OECD also recommended to incentivise connection to central sewer systems; further enforce the polluter- and user-pays principles in the water sector and reflect at least part of the environmental and resource costs in tariffs for water supply and sanitation services and abstraction charges. These charges are three times lower for groundwater than for surface water. The Water Policy Concept of the Slovak Republic plans a comprehensive reform of water pricing instruments by 2030 (Government of the Slovak Republic, 2022).

1.2.5. Slovakia is lagging on waste management

With almost 500 kg of municipal waste generated per inhabitant in 2021, Slovakia was slightly below the OECD Europe average of 520 kg. Although separate collection has improved in the past decade, municipal waste generation increased faster than GDP, and much of this waste still ends up in landfills (Figure 1.8).

Figure 1.8. Waste generation has increased, and the landfilling rate remains high



Note: Municipal waste: household and similar waste collected by or for municipalities, originating mainly from households and small businesses. Includes bulky waste and separate collection. DMC: domestic material consumption, i.e. sum of the domestic extraction of raw materials used by an economy and their physical trade balance (imports minus exports of raw materials and manufactured products).

Source: OECD (2023), OECD Environment Statistics (database); Eurostat (2023), Material flows and resource productivity (database).

Domestic material consumption fell between 2010 and 2021, improving material productivity of the economy (Figure 1.8). However, without additional measures, future materials consumption is projected to increase by more than 50% by 2050 compared to 2017 levels, with significant environmental impacts, including higher GHG emissions (OECD, 2022a).

The Slovak Republic has a relatively well-developed waste policy framework, including the Waste Management Plan 2021-25, the Waste Prevention Programme 2019-25 and the Food Waste Prevention Plan. It has integrated circular economy into recent key strategies (OECD, 2022a). However, it faces implementation gaps. The country has missed most of its 2020 waste objectives (Table 1.3). Moreover, data quality issues call into question its apparent progress in recycling (EC, 2023b). The country is at risk of missing two key targets: 55% for preparation for re-use and recycling of municipal waste by 2025, and landfilling no more than 10% of municipal waste by 2035.

Table 1.3. Insufficient progress towards waste targets

Selected objectives of the Waste Management Plan for 2016-20	Target 2020	Performance 2020	
Significantly divert waste from landfill	Not quantified	4% decrease in municipal waste landfilled over 2016-20	Not achieved
Municipal waste recycling	50%	45% (2021:49%)	Not achieved
Separate collection of municipal waste	60%	36% (2021:39%)	Not achieved
Biodegradable municipal waste in landfill from 1995 levels	35% reduction	n.a.	Not achieved
Recycling of overall packaging (%)	55%	71%	Achieved
Construction and demolition waste prepared for re-use, recycling and other material recovery	70%	81%	Achieved
Re-use and recycling of end-of-life vehicles	95%	96%	Achieved
Recycling efficiencies of portable batteries and accumulators	90% lead, 75% Ni-Ca, 60% other	91%, 75%, 61%	Achieved
Collection rate of waste electrical and electronic equipment	65%	62% (2021:65%)	Achieved

Source: MoE (2023) Enviroportal (database); MoE (2021), Waste Management Plan of the Slovak Republic 2021-25; MoE (2015), Waste Management of the Slovak Republic for 2016-20; Eurostat (2023), Waste Statistics (database).

The Slovak Republic has further engaged consumers in the circular economy by introducing a charge for the use of light plastic bags (2018) and a deposit-refund system for single-use PET bottles and cans (2022). However, the lack of economic incentives to sort recyclable waste and the fragmentation of municipal waste management have been hampering progress (EC, 2023b).

In 2018, the country reformed the landfill tax, increasing rates and linking them to municipal sorting levels. It required all municipalities to pay the tax even if a landfill is operated on their territory (previously an exemption) (OECD, 2022a). However, municipalities in this case receive compensation from landfill tax revenue. This weakens the incentive to divert waste from landfill and reduces potential support for sorting and recycling municipal waste. In addition, the reform does not provide for the tax rates to be adjusted for municipal waste after 2021 (2024 for industrial and construction waste²). The ban of landfilling untreated waste has been postponed repeatedly.

The OECD and the European Commission developed a circular economy roadmap for the Slovak Republic (OECD, 2022a). It recommends strengthening use of economic instruments to promote sustainable consumption and production. Actions would include further raising the landfill tax for municipal waste and reforming the distribution of its proceeds; improving extended producer responsibility schemes; extending the mandatory use of green public procurement criteria; and expanding pay-as-you-throw systems (only used by 6% of municipalities in 2018). The roadmap also recommends promoting a circular construction sector and a circular food and bio-waste value chain. For example, Slovakia could introduce quality

standard for recycled materials and minimum recycled content requirements for construction materials. It could also develop an awareness campaign on food waste prevention and a regulatory framework for bio-waste management.

1.3. Improving environmental governance and management

1.3.1. Slovakia has a vision for sustainable development, but policy integration needs to go beyond the strategic level

Slovakia integrated the Sustainable Development Goals (SDGs) into six national priorities for the implementation of the 2030 Agenda (education; knowledge-based and green economy; poverty reduction and social inclusion; sustainable settlements and countryside; rule of law, democracy and security; health). These were associated with regional development priorities in Slovakia's Vision and Development Strategy 2030, adopted by the government in 2021.

According to the 2023 Voluntary National Review, Slovakia demonstrates good performance on SDG 6 (clean water and sanitation) (Government of the Slovak Republic, 2023). Its performance on SDG 7 (affordable and clean energy) is also positive, although the ongoing energy crisis may put progress at risk. Progress towards SDG 9 (industry, innovation and infrastructure), SDG 11 (sustainable cities and communities) and SDG 17 (partnerships for the goals) is more uneven and requires increased attention and investment. The 2023 review notes that policy integration needs to go further than the strategic level and become a reality at the programme and project levels.

Several inter-ministerial councils have been established to ensure strategic co-ordination. They bring together experts and high-level representatives from line ministries, specialised government agencies, the Government's Office and stakeholders. These include the councils for the 2030 Agenda; for the European Green Deal (in charge of climate policy); for the RRP; and for the Cohesion Policy 2021-27. However, it seems that meetings of the Council for the European Green Deal have never been convened. By mid-2023, the government was considering merging the councils for the 2030 Agenda, the European Green Deal and the Cohesion Policy to improve co-ordination on sustainable development. Slovakia could also envisage creating an independent body such as the Council for Climate Accountability provided for in the draft Law on Climate Change, or mandating an existing one, to assess and report on the consistency of sectoral policies with climate objectives. The respected Slovak Council for Budget Responsibility could serve as a model.

The Envirostrategy 2030, approved in 2019, is the overarching document for the implementation of environmental policy. It sets an array of quantitative and qualitative commitments concerning all sectors (MoE, 2019). Government strategies, policies and legislation need to contribute to fulfilling its goals by 2030. In 2022, the MoE elaborated an implementation plan but did not make it public.

1.3.2. Environment-related responsibilities are fragmented

Slovakia is a unitary state composed of eight regions and 2 890 municipalities. Environment-related responsibilities are fragmented. The MoE develops and implements environmental policies through its specialised agencies (Box 1.3). It is responsible for climate protection but lacks powers over energy policy and forestry. These competences are carried out by the Ministry of Economy and Ministry of Agriculture and Rural Development, respectively. In addition, energy efficiency in the buildings sector falls under the authority of the Ministry of Transport. Annual budget appropriations for the MoE vary depending on EU funding.

Local state administration units receive guidance and support from the central authority. District offices include environmental protection departments, which implement policy at local level. However, these

departments are units of the Ministry of Interior (MoI). The MoE provides guidance and develops methodology for district offices to properly carry out their duties. Since the public administration reform in 2013, specialised departments have received less training and methodological support from line ministries (SAO, 2017).

Municipalities provide environmental services and develop and maintain environmental infrastructure. However, their tax revenues are insufficient, and a large part of their budget comes from national transfers. Slovakia is one of the most centralised OECD countries in terms of subnational expenditure and tax revenue (OECD, 2022b). The revenue-raising power, spending efficiency and overall capacity of municipalities are limited by their small size: just over 1 800 inhabitants per local government area. This suggests an opportunity for strengthening inter-municipal co-operation.

Box 1.3. Division of responsibilities within the Ministry of Environment

The MoE

As a central government authority, the MoE develops policy in the following areas:

- nature and landscape protection
- water management, flood protection, water quality and quantity protection, fishery (excluding aquaculture and maritime fishing)
- air protection, ozone layer and the Earth's climate
- ecological elements of urban planning
- EIA
- provision of a unified environmental information system, as well as monitoring
- geological research and survey
- endangered species protection and regulation
- prevention of major industrial accidents, environmental liability
- GMOs.

The Slovak Environmental Inspectorate carries out supervision and law enforcement tasks on behalf of the ministry.

Ministerial agencies

Subordinated agencies are mainly responsible for monitoring, reporting, consulting, researching and surveying activities. Individual agencies have ministerial contracts in the following areas:

- nature protection – State Nature Conservancy and respective National Park Offices
- water management – Slovak Water Management Enterprise and Water Management Construction Enterprise
- flood protection – Slovak Water Management Enterprise
- water quality – Water Research Institute and Slovak Hydrometeorological Institute
- water quantity – Slovak Hydrometeorological Institute
- air quality and climate – Slovak Hydrometeorological Institute
- geological research and monitoring – State Geological Institute of Dionýz Štúr.

1.3.3. The effect of the reform of environmental assessment and permitting is uncertain

Slovakia is reforming EIA and environmental permitting to shorten the time for granting permits, including for renewables. The MoE planned to separate the permit under the Industrial Emissions Directive (IED) from the building permit, and to combine the EIA process with the IED permit. For simple constructions, the EIA and building permit would be integrated into a single process. These reforms were disrupted by the reform of the construction law, which also changed the EIA and IED permit processes. Although speeding up the granting of building permits is necessary (OECD, 2024), a 2023 legislative amendment has been criticised for giving insufficient consideration to the environment, for limiting public participation and for lack of inter-ministerial consultation (President Zuzana Caputova, 2023) (MoE, 2023). The amendment was passed without the president's signature. The entry into force of the construction law and its amendments (due by April 2024) may be postponed due to the serious reservations expressed by stakeholders.

Slovakia has improved regulatory impact assessment (RIA) processes, but deficiencies remain. Legislation introduced through the standard procedure is subject to mandatory economic, social and environmental impact assessments. The country compares well with other OECD countries in involving business in the development of laws and regulations, although the public and non-governmental organisations are less consulted. However, RIAs focus mainly on impacts on the budget and on business (OECD, 2020a). The establishment of analytical units (Box 1.4) in key ministries is a good practice for improving the quality of assessments. However, they are not systematically involved in decision making.

An increasing number of laws have been enacted through a shortened procedure or directly by Parliament. Between 2020 and late 2022, members of Parliament initiated a quarter of the laws passed, including the 2023 reform of the construction law. While the COVID-19 pandemic and the economic and energy crisis justify extraordinary measures, this process reduces the quality of legislation and impact assessments, and limits stakeholder participation (OECD, 2020a).

Box 1.4. Analytical units support policy making

As part of public finance management reform, the Slovak Republic established analytical units to foster data-driven policy. In 2016, the Ministry of Finance established its Value for Money Department. It sought to evaluate costs and benefits of government investment projects, and to propose ways to improve efficiency. Although the department's recommendations are not binding, it enjoys a strong reputation and significant media coverage.

Line ministries have been creating their own units since 2015. In addition, a few central government agencies, such as the Supreme Audit Office or the Regulatory Office for Network Industries, have their own units. In general, state analysts carry out sector-specific spending reviews, regulatory impact assessments and on-demand economic and policy analyses to support decision making at the ministerial level. They also publish their own peer-reviewed papers to strengthen the public debate. It is envisioned that similar units will be established at the regional level and within the largest local municipalities.

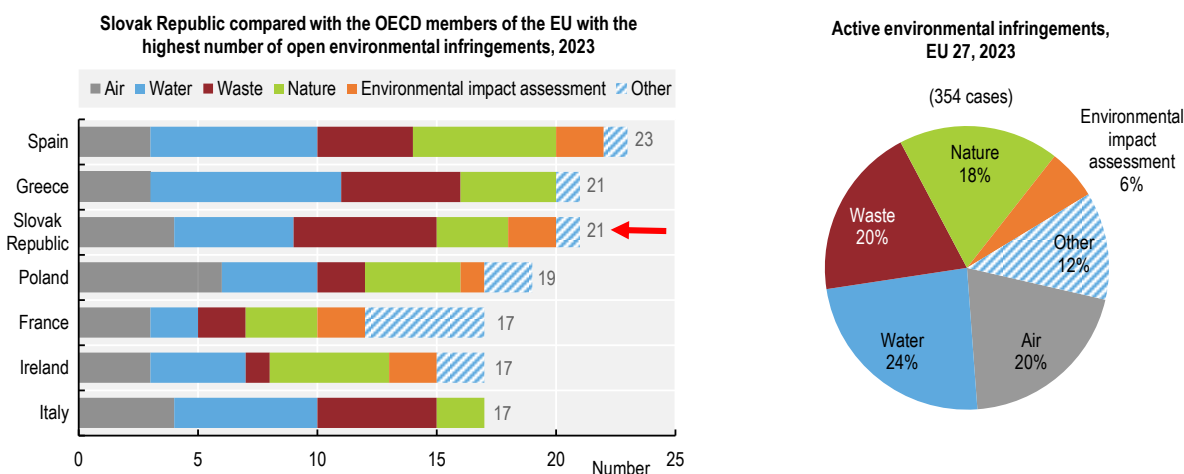
The Institute for Environmental Policy (IEP), an independent unit of the MoE, researches climate and energy policies, air pollution, waste and water management, nature conservation and biodiversity. It also delivers economic and financial analyses. The IEP spearheaded elaboration of the cost-benefit analysis methodology, Envirostrategy2030 and prioritisation of investment projects. IEP studies on low-carbon growth, marginal abatement cost curves and the impact of "Fit for 55" have supported the development of Slovakia's Low-carbon Strategy and the national position on EU-related legislation. The IEP results will be used in both the updated NECP and the NAPCP.

Source: MoF (2023), Methodology of Analytical Capacities Building in the State Administration.

1.3.4. Non-compliance with environmental legislation remains high


Slovakia has a significant number of EU directive infringements, particularly in the areas of water and waste (Figure 1.9). Recently, the country was referred to the EU Court of Justice for exceeding air quality standards, failing to close non-compliant landfills and non-conformity with the Habitats and Birds directives.

Figure 1.9. Slovakia has many infringements of EU environmental law, especially on water and waste



Note: Active infringements as of 28 August 2023.

Source: EC (2023), Environmental Infringements (database).

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The Slovak Environmental Inspectorate (SEI) and the district offices ensure compliance with national environmental legislation. Non-compliance rates are high: in 2021, almost half of all SEI inspections found instances of non-compliance (SIŽP, 2022). SEI departments elaborate their annual control plans based on available capacity, risks and legislative requirements. They also respond to complaints. The balance between planned controls and ad hoc responses varies among departments. While the Integrated Permitting and Control Department has strict multiannual plans, the Nature and Landscape department is heavily burdened with complaints. Audit bodies have highlighted the insufficient capacity of the SEI. They have recommended enhancing risk-based planning of inspections and separating SEI's permitting and inspection roles (IMPEL, 2019) (SAO, 2020). SEI is developing an information system to enable risk analysis of its inspections.

Legislative ranges for fines are often wide, but commonly imposed at the lower ends (LIFE-ENPE, 2017). The fine may not even exceed the marginal costs required by the offender to meet legislative requirements (Dráb, Engel' and Krištofóry, 2020). However, the revenue from fines imposed by the SEI doubled from EUR 1 million in 2016 to EUR 2 million in 2020, exceeding EUR 3 million in 2021.

In Slovak law, the difference between administrative infringements and criminal cases depends on the unlawfulness of the act and the damage caused (European Council, 2018) (WWF Slovakia, 2022). This includes environmental damage, property damage and the costs of restoring the environment. In general, for damage up to EUR 266, the act is considered an administrative offence. Above this amount, it is considered a criminal act. However, the damage cannot always be assessed at the beginning of the investigation, which can create uncertainty as to which authority is competent to deal with the offence. The MoE and the Mol have each developed an action plan to combat environmental illegal activities without

reaching a consensus (MoI, 2020) (MoE, 2022b). Since 2022, Slovakia has been reinforcing the police unit specialised in fighting environmental crime (EC, 2022c). The RRP will help develop its capacity to 200 police officers.

Progress of the state programme on contaminated sites in 2016-21 was slow (SAO, 2022). More than EUR 1 billion is needed to address the issue by 2027, of which 21% will be covered by EU funds. The main obstacles include the difficulty for district authorities to identify polluters or liable entities; insufficient state budget allocations; lack of legislative deadlines to decide which ministry will ensure remediation; and the length of public procurement processes. Remediation through real estate development has only partially materialised (e.g. in Bratislava's new city centre), as it requires significant private investments. A special fund was set up to finance the closure of landfill sites. Each operator is required to transfer funds regularly to a dedicated account administered by the MoE. In practice, however, the government must provide funds for the closure of landfill sites, particularly when an EU infringement is imminent.

The Slovak Environment Agency encourages sustainable business practices by advising companies seeking to adopt environmental management systems. The number of companies certified under ISO 14001 and Eco-Management and Audit Scheme has increased significantly in the past decade (MoE/SEA, 2023). The Ministry of Economy promotes energy efficiency improvements through voluntary agreements with energy-intensive industries. These agreements have been reported as a key measure to improve energy efficiency in industry over 2014-20 (MoEco, 2019). In 2018, 12 industrial corporations, including the largest steel mill, agreed to reduce energy consumption by 20% by 2030. The impact of these agreements remains difficult to assess, as they are accompanied by significant financial support.

1.4. Promoting investment and economic instruments for green growth

1.4.1. Climate is a priority of the recovery plan, but price support limits incentives to save energy

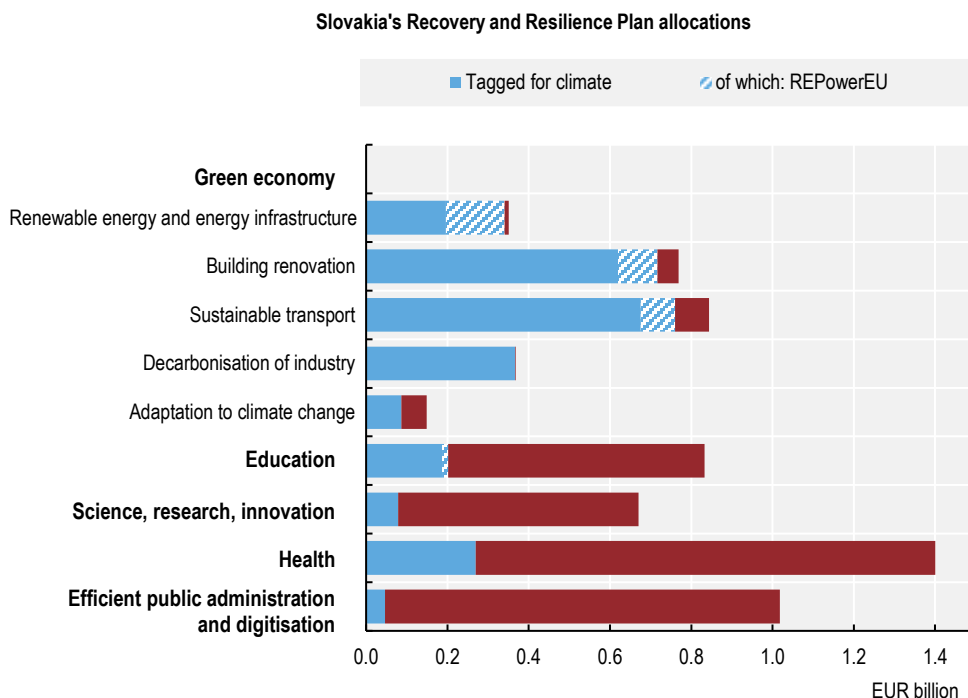
The Recovery and Resilience Plan promotes the green transition

Slovakia responded to the COVID-19 crisis with measures to protect employment and household incomes (EC, 2022d). Overall, the support amounted to 2.3% of GDP in 2020 and 3.4% in 2021 (MoF, 2023a). It planned to decrease support to 0.8% of GDP in 2022 and 0.1% in 2023. In 2021, the country submitted its RRP to boost its economy with Next Generation EU funds. In 2023, it revised the RRP to diversify energy sources and reduce the dependence on Russian fossil fuels, accelerate deployment of renewables and save energy, in line with the REPowerEU plan (Figure 1.10). Slovakia's RRP consists of reforms and investments supported by EUR 6.4 billion in grants³ (about 6.4% of 2021 GDP). It could increase GDP by between 1.3% and 2.1% by 2026.

The country dedicated 45% of its RRP budget to climate objectives (Figure 1.10), well above the EU requirement (37%) and average of 40%. Energy efficiency and sustainable transport are key priorities. This is positive as investment in rail infrastructure has been significantly lower than investment in roads (0.2% of GDP vs. 1.1% in 2021). The RRP aims to renovate at least 30 000 family houses, prioritising vulnerable households, improve energy efficiency and deploy innovative technologies in industry. It also subsidises the modernisation of railway, tram and trolleybus lines, the construction of cycle lanes and the roll-out of electric vehicle charging stations. Climate change adaptation measures will support nature protection, water management and landscape planning.

Slovakia has been among the EU countries with the fastest progress in implementation of the RRP. However, it should ensure sufficient administrative capacity and effective involvement of local and regional authorities for successful implementation of its RRP (EC, 2023a).

Figure 1.10. The green part of the Recovery and Resilience Plan focuses on energy efficiency and sustainable transport



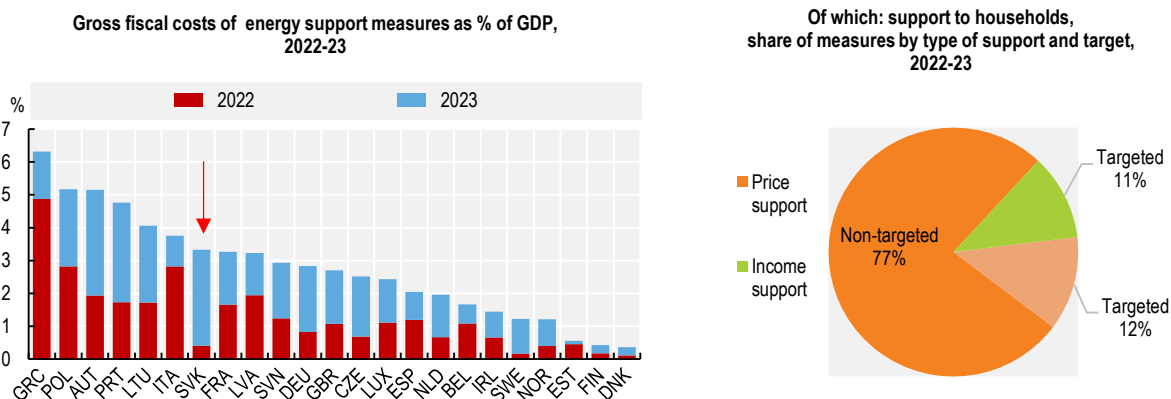
Source: EC (2023 and 2021), Analysis of the recovery and resilience plan of Slovakia.

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Measures taken to respond to rising prices limit incentives to save energy

Between 2022 and 2023, the government adopted measures amounting to 3.3% of GDP to mitigate the effects of the energy crisis, a level above the EU average (Figure 1.11). In 2022, these measures included one-off payments for pensioners, families with children and low-income households. In 2023, larger amounts have been allocated to cap electricity and gas prices for businesses, and electricity, gas and heating supply prices for households. Overall, Slovakia has focused on untargeted energy price support measures (Figure 1.11). These measures are partly financed by taxes on windfall profits of energy suppliers and unspent EU cohesion funds for 2014-20. However, they remain costly to the budget and limit the incentive to save energy.

Figure 1.11. Response to the energy crisis has focused on untargeted price support measures



Note: Not accounting for the effect of possible accompanying energy-related revenue-increasing measures, such as windfall profit taxes on energy companies.

Source: OECD (2023), OECD Energy Support Measures Tracker.

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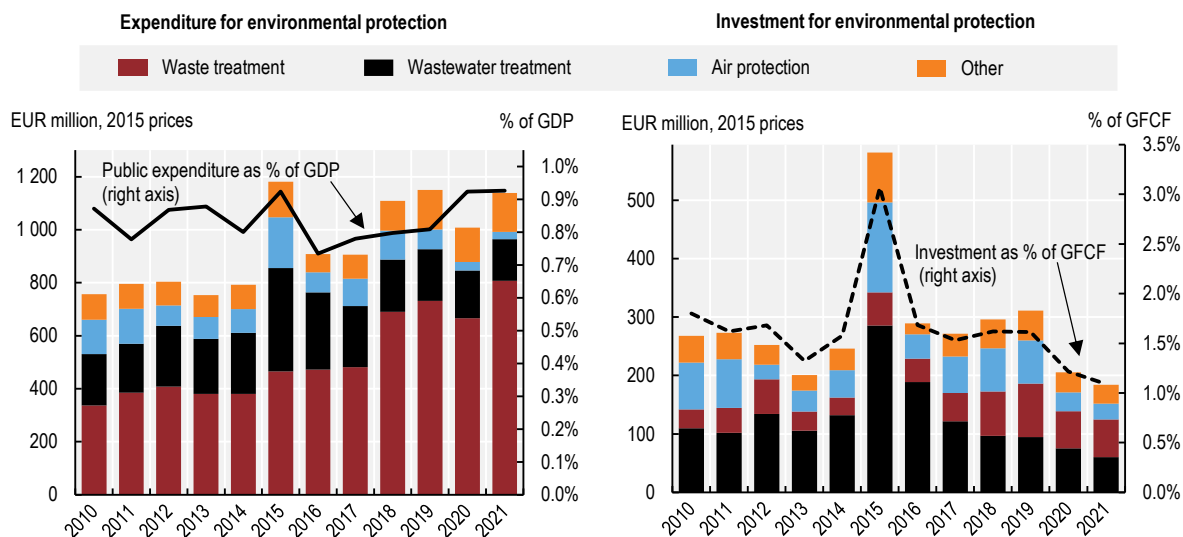
Targeting energy support requires identifying those most in need. Despite facing lower energy prices, Slovakian households spend a higher share of their income on energy than the European average, due to low incomes and a cold climate (EC, 2023c). This suggests they are more at risk of energy poverty. However, Slovakia has not yet assessed the population affected. Until recently, it has only considered the income aspect of energy poverty. Although some strategic documents mention energy poverty, they do not define the criteria for identifying the energy-poor population (MoEco, 2023). In 2023, the Regulatory Office for Network Industries set up an inter-ministerial group to agree on an operational definition⁴ and propose measures to combat energy poverty (URSO, 2023).

1.4.2. Effective use of EU funds is key for green investment

Environmental investments are mainly financed by EU funds

Public expenditure on environmental protection has hovered around 0.9% of GDP in the last decade (Figure 1.12), slightly above the EU average. Total spending by municipalities and businesses rose in real terms reflecting growth in current expenditure on waste management. By contrast, investment declined due to lower investment in wastewater treatment. Environmental investment is set to grow in 2023 with implementation of the RRP and the new round of EU structural funds. Around 70% of spending in environmental protection (mainly capital expenditure) is financed by EU funds, well ahead the state budget (18%) and the Environmental Fund (10%) (MoE/SEA, 2023).

Figure 1.12. Expenditure on waste has risen, while investment in wastewater treatment has fallen



Note: Expenditure and investment by municipalities and corporations with 2 000 or more employees. The increase in 2015 is due to the end of the 2007-13 Cohesion Policy programming period. Left panel: General government expenditure according to COFOG classification as a percentage of GDP.

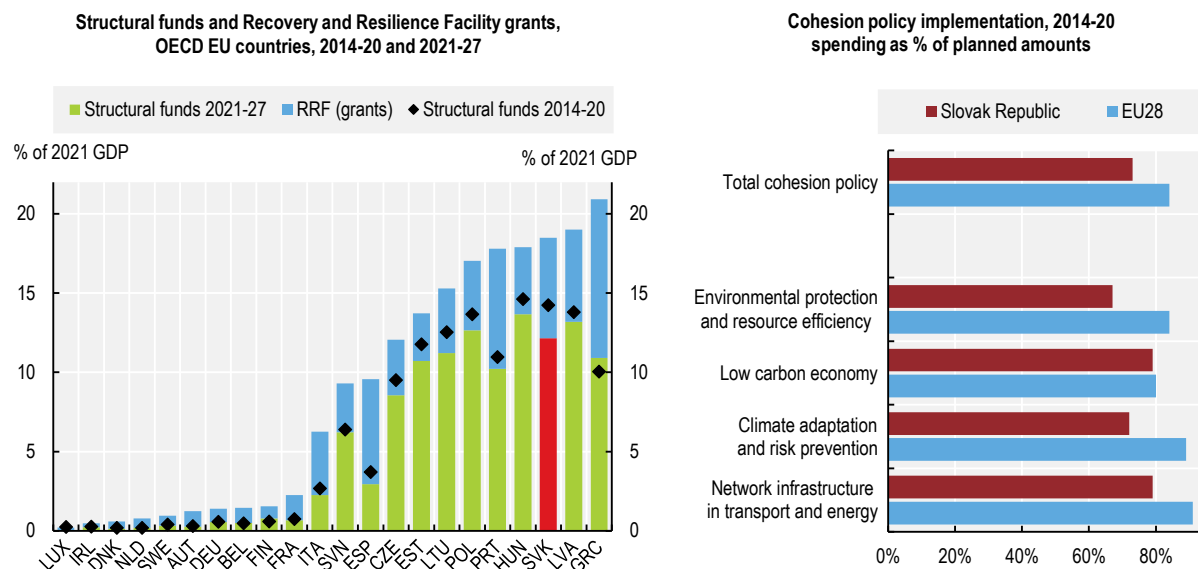
Source: OECD (2023), OECD National Accounts Statistics (database); NSO (2023), Environmental expenditures (database).

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Using EU funds remains a challenge

Slovakia is among the largest beneficiaries of EU funds per unit of GDP (Figure 1.13), but using these funds remains a challenge. Overall, the country had a lower absorption rate of structural funds than the EU average for 2014-20. Its performance was particularly poor for funds allocated to environmental protection and resource efficiency, climate adaptation and risk prevention, and network infrastructure in transport and energy.

Figure 1.13. Slovakia receives large amounts of EU funds, but their absorption is low



Note: In left panel: data refer to total allocations (excluding national co-financing) in current prices as a percentage of 2021 GDP. Structural funds: European Regional Development Fund, Cohesion Fund, European Social Fund, 2021-27: including Just Transition Fund; 2014-20: including Youth Employment Initiative. Recovery and Resilience Facility (RRF) grants: including REPowerEU grants.

Source: EC (2023), Cohesion Open Data Platform period covered up to 30/06/2023; EC (2023), Consolidated Regulation (EU) 2021/241 establishing the Recovery and Resilience Facility, 28 February; EC (2022), RRF: Update of the maximum financial contribution, June.

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The Operational Programme Quality of Environment was the main programme focusing on the environment in 2014-20. Several factors explain the low absorption of funds allocated to environmental infrastructure development and climate change adaptation. These comprise lack of flexibility in reallocation; the large number of small, demand-oriented projects affected by the COVID-19 pandemic and rising construction prices; implementation difficulties within the MoE; and lengthy public procurement procedures (MIRDI, 2023).

The low absorption of EU funds earmarked for marginalised Roma communities is also of concern (EC, 2023a). Slovakia has one of the largest Roma populations in the European Union. Around 200 000 people live in excluded areas, with no access to public drinking water supply and essential services. The country allocated more than EUR 900 million in Cohesion Policy funds for improving their living conditions over 2021-27.

Slovakia has streamlined the governance and management of EU funds. For 2021-27, a single operational programme “Programme Slovakia” is implemented by a single managing authority (the Ministry of Investments, Regional Development and Informatization), with line ministries and other agencies acting as intermediaries. The country has amended its legislation to simplify and accelerate public procurement procedures. Strengthening capacities, particularly at local and regional level, could bolster implementation of reforms and investment (EC, 2021).

The ongoing investment management reform aims to clarify the priorities of ministries’ investment plans and to improve their assessment to prioritise those with the highest social return (Haluš et al., 2023). In 2020, an investment authority was established within the Ministry of Finance to streamline project preparation and improve the quality of investments. A general cost-benefit methodology and sectoral methodologies were adopted. Since 2021, all ministries must publish investment plans based on a standardised methodology. In addition, only investment projects with a positive social return that conform

to the prioritised investment plan are included in the budget. Prioritising well-prepared projects with higher benefit-cost ratios should help implement investment spending and improve spending efficiency (OECD, 2024).

Management of the Environmental Fund has improved, but its resources are underused

The Environmental Fund has recently improved its strategy and management. Funding of water infrastructure, a large part of its expenditure, focuses on late-stage projects to facilitate their completion. A long-term support strategy for water infrastructure over 2020-30 has been set. The assessment of projects has improved and is increasingly based on measurable criteria. Since 2020, project evaluation criteria have included cost benchmarks elaborated with the IEP.

However, the Fund continues to lack a multiannual support strategy for areas other than water. Ministry of Finance limits on the use of proceeds from the auctioning of EU ETS allowances for environmental purposes have hampered budget planning (SAO, 2021). On average, this share reached only 22% between 2015 and 2022 (EC, 2023d), well below the 50% required by the ETS Directive⁵ and the 30% set by the Slovak Act on Emission Allowance Trading (414/2012). As a result, the Fund accumulated surpluses reaching more than EUR 1 billion by mid-2021. It is not clear how much of this amount will be spent on the green transition. In a positive step, Act 414/2012 was updated in 2023 to increase the share of auctioning revenue earmarked for the environment.

1.4.3. The green tax reform should be pursued

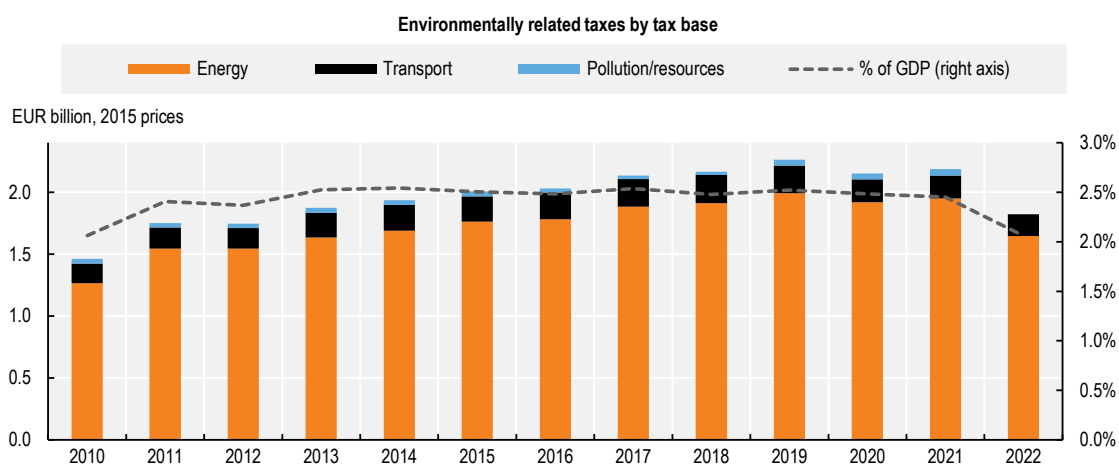
Slovakia has committed to strengthen green taxes

The Envirostrategy2030 has pledged a fiscally neutral green tax reform. The government has committed in its 2021 programme to strengthen the role of environmental taxes and review subsidies to promote environmentally friendly behaviour. Slovakia has increased the landfill tax and the air pollution tax for certain pollutants (Section 1.2.3). However, the environmental impacts of these changes remain to be assessed. There is still some way to go to implement a green tax reform.

The tax burden has not shifted from labour to environmentally harmful activities. The tax to GDP ratio increased from 28% in 2010 to 36% in 2021 (slightly above the OECD average), mainly due to increasing labour taxation (OECD, 2022c).

In real terms, revenue from environmentally related taxes (ERT) increased until 2019, driven by road fuel consumption while inflation eroded fuel taxes (Figure 1.14). ERT then remained broadly stable before falling in 2022 with the surcharge on electricity. As a share of GDP, revenue from ERT was above the OECD Europe average in 2021 (2.5% vs. 2.1%). While energy dominated (2.2% of GDP in 2021), the shares of taxes on motor vehicles (0.21% of GDP) and on pollution/resources (0.06%) were well below the OECD Europe respective averages (0.48% and 0.11%).

Figure 1.14. Revenue from environmentally related taxes has varied in line with transport activity



Note: Energy: includes revenue from a surcharge on electricity to finance feed-in tariffs for renewables and co-generation and subsidies for electricity generation from domestic coal. The decrease in 2022 reflects the fall in revenue from the surcharge (from EUR 560 million to EUR 270 million), as high market prices have led to a reduction in support for electricity and combined heat and power producers.

Source: EC (2023), National Tax Lists, 21 April.

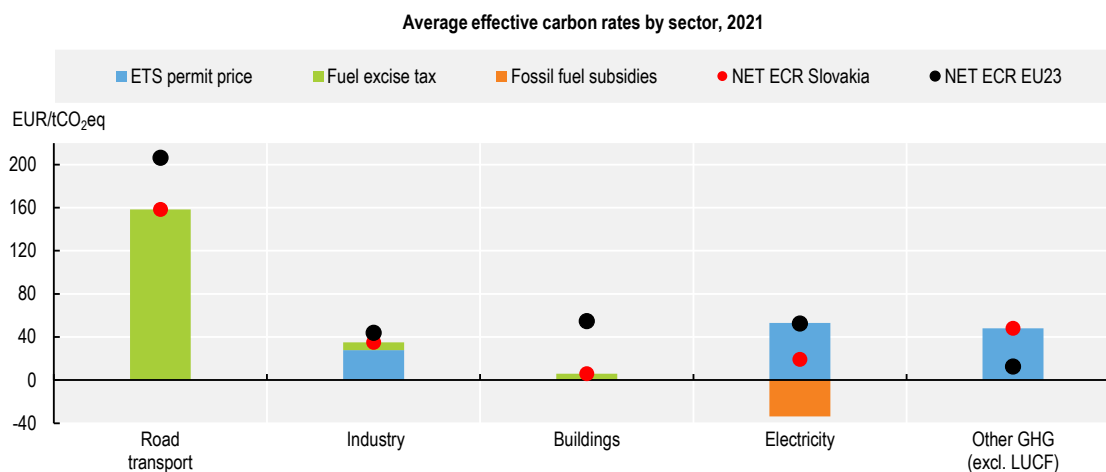
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Carbon prices are low and do not provide consistent incentives to cut GHG emissions

Carbon prices are low compared to EU countries that are all subject to the Energy Taxation Directive and the EU ETS. As Slovakia has no carbon tax, effective carbon rates (ECRs) consist of permit prices from the EU ETS, which cover half of GHG emissions, and fuel excise taxes (Figure 1.15). With an average net ECR of EUR 55 per tonne of CO₂, the Slovak Republic ranked in the bottom third of EU members in 2021. Although it priced about 79% of its GHG emissions, only 21% were priced at a net ECR above EUR 60 per tonne of CO₂, the midpoint benchmark for carbon costs in 2020.


ECRs do not provide a consistent carbon price across the economy. ECRs are highest in the road transport sector, which can be justified by the higher environmental and other social costs of road transport. However, they are low compared to most other EU countries. The excise duty on diesel is still well below that on petrol, despite the higher carbon content of diesel and its local air pollution cost. Carbon prices are also below the EU average in other key emitting sectors, particularly in buildings and electricity. Households⁶ benefit from tax exemptions on electricity, natural gas and coal. Energy sources used to generate electricity and combined heat and power are untaxed. In addition, part of electricity produced from domestic lignite is subsidised, although this support is to be phased out in 2023.

Figure 1.15. Effective carbon rates are below the EU average



Note: Excludes emissions from the combustion of biomass. The figure does not show sectors accounting for less than 1% of Slovakia's GHG emissions. LUCF: land use change and forestry.

Source: OECD (2022), Pricing Greenhouse Gas Emissions: Turning Climate Targets into Climate Action.

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The registration tax is greener, but road pricing could be extended

The Slovak Republic applies a one-off registration tax to all vehicles. Until 2022, the tax varied with engine power and vehicle age (reduced for older vehicles), which has made second-hand, more polluting cars attractive for customers. Since 2023, it has partly reflected vehicles' emissions (EURO standard) rather than its age (National Council, 2023). This is a positive move to rejuvenate the fleet and shift towards less environmentally harmful vehicles.

Only businesses pay the annual motor vehicle tax. Electric vehicles are exempted. Coupled with a preferential amortisation rate, this encourages entrepreneurs to renew their fleets with electric propulsion. However, the tax rate is based on cylinder capacity, number of axles and weight rather than on emissions (OECD, 2020b). In addition, as in other OECD countries, the taxable income from the personal use of company cars is only partially captured by the Slovak tax system, which encourages the use of cars. The budgetary impact of this favourable tax treatment was estimated at EUR 150 million in 2021 (EC, 2022e).

Vehicle taxes can steer towards cleaner vehicles, but they do not depend on actual vehicle use, which limits their effectiveness in addressing external costs (van Dender, 2019). While fuel taxes are effective to reduce carbon emissions, distance-based charges depending on vehicle emissions and the place of driving are the best option to address local air pollution. The Slovak Republic has an electronic vignette system on specific sections of motorways. Heavy vehicles are subject to toll payment depending on the distance travelled, vehicle and emission category, and number of axles (ACEA, 2022). The system could be extended to vehicles of up to 3.5 tonnes, which pay a flat rate. There are no low-emission zones in Slovakia. The 2023 Air Protection Law (Section 1.2.3) allows municipalities to introduce them.

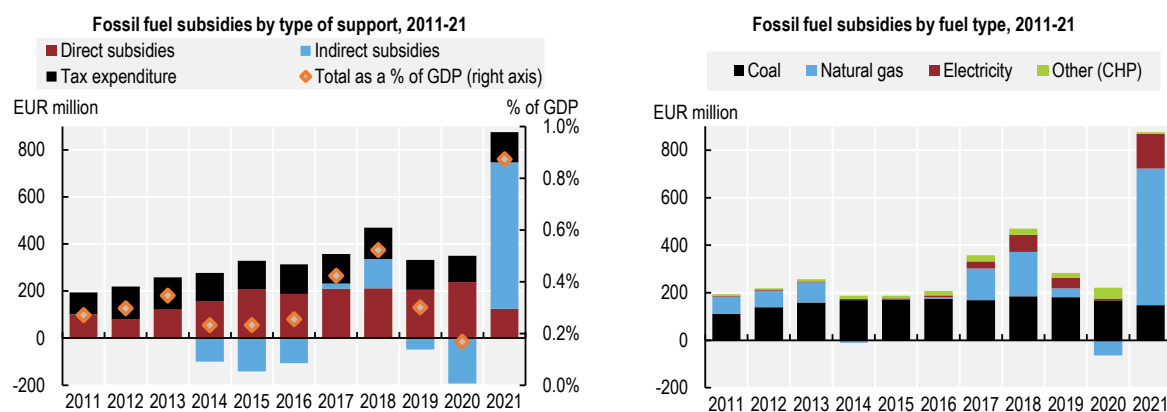
Slovakia to end subsidies for coal-fired power generation

Over 2011-21, Slovakia supported the use of fossil fuels at an average rate of EUR 308 million per year (Figure 1.16) (Hrčićinová and Boros, 2022). This aid mostly took the form of direct subsidies and tax expenditure, and mainly benefited coal rather than gas.

Subsidies for electricity generation from domestic coal are to end in 2023. This is a positive step to reduce GHG emissions and local air pollution. These subsidies amounted to more than EUR 100 million a year and were financed by a fraction of consumers' electricity prices. Apart from the environmental benefits of its abolition, the system was becoming increasingly inefficient, even before the energy crisis. While domestic coal-fired power generation fell, the subsidy rate per megawatt-hour rose from EUR 64 in 2018 to EUR 135 in 2021 (MoF, 2023b).

The Institute for Economic Analyses of the Ministry of Economy has mapped fossil fuel subsidies. It has proposed to start removing regulated energy prices, subsidies for electricity generation from domestic coal, and excise duty exemptions for energy-intensive businesses based on economic, environmental, social and fiscal criteria (Hricišínová and Boros, 2022). The analysis does not propose removing energy tax exemptions for households on social grounds. This runs contrary to recommendations of spending reviews, which suggest that eliminating these exemptions would only marginally affect households, including those most at risk of poverty (MoF/MoE, 2017) (MoF, 2023b). From an environmental and fiscal point of view, it would be justified to keep the price signal and support the most vulnerable households with support unrelated to energy consumption.

Figure 1.16. Until recently, fossil fuel subsidies have mainly benefited coal



Note: Indirect subsidies (mainly regulated gas prices) can take negative values when regulated prices are higher than market prices. CHP: combined heat and power. Electricity and CHP: only the estimated share for fossil fuels is included.

Source: Hricišínová. and Boros (2022), How do we subsidise fossil fuels?, Institute for Economic Analysis of the Ministry of Economy.

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Notes

¹ Early in 2023, the Court of Justice of the European Union condemned Slovakia for persistent exceedances at several sites.

² The landfill tax on construction waste more than tripled in 2022 to EUR 25/t. It will rise to EUR 35/t. in 2024.

³ Considering the 2022 downward revision of the Recovery and Resilience Facility, REPowerEU grants and Brexit Adjustment Reserve.

⁴ According to Act No. 250/2012 Coll. on Regulation in Network Industries, a household is energy poor when its average monthly expenditure on the consumption of electricity, gas, heating and hot water accounts for a significant share of its average monthly income.

⁵ Under the amended EU ETS Directive (2023/959), member states will have to use all auction revenues not attributed to the Union budget for climate-related purposes, with the exception of revenues used for the compensation of indirect carbon costs.

⁶ Households are exempted if they are the final consumers and are directly supplied with the commodity they use for their own consumption (i.e. no exemption if they live in multi-flat buildings).



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