

CONCLUSIONS AND RECOMMENDATIONS*

The Slovak Republic is undergoing two major transitions: a major economic transition and preparation for entry into the European Union. Slovakia's Gross Domestic Product fell by 23% before recovery began in 1994; overall, GDP has grown by 11% over the 1990s. Unemployment is higher than in most other European countries in transition. A number of industrial enterprises were privatised and land ownership changed significantly.

During the 1990s, the decline of economic activities such as industry and agriculture, changes in its energy supply, and environmental management have contributed to substantially reducing pressures on Slovakia's environment. The country is in the process of major legislative changes concerning the environment. Notwithstanding this progress, much of the accumulated contamination of the past is still in place and current emissions and discharges remain comparatively high. On several issues, the road towards environmental convergence with other European OECD countries will be a long one.

The challenge is therefore to: i) strengthen the level of effort to implement environmental policies cost-effectively and expand the environmental infrastructure; ii) better integrate environmental concerns in economic decisions in the context of sustainable development; and iii) meet the country's international environmental commitments.

This OECD report establishes a baseline for assessing future environmental progress and examines Slovakia's environmental performance, i.e. the extent to which its domestic objectives and international commitments are being met. A number of recommendations are put forward that could contribute to strengthening the country's environmental performance.

1. Environmental Management

1.1 *Implementing efficient environmental policies and strengthening the environmental infrastructure*

Slovak citizens have a constitutional right to a healthy environment. Accordingly, environmental legislation was reinforced through the 1990s (e.g. new Acts on air protection, waste management, nature and landscape protection, environmental impact assessment, access to environmental information). A major effort is ongoing to transpose EU environmental legislation in Slovak law. For instance, a new Act on water protection and water management is being prepared, devolving responsibilities to municipalities and promoting river basin management. Environmental policies are founded on solid environmental information (e.g. State of the Environment reports), high quality environmental expertise, and important programming efforts (e.g. National Environmental Action Programmes I and II). To implement environmental law and environmental policies, Slovakia uses a wide range of policy instruments. Regulatory ones are associated to economic instruments and the extensive system of emission charges has generated sustained revenues and landfill charges have provided effective incentives to improve landfill standards. Physical planning instruments were placed under the supervision of the Ministry of the Environment, and land use planning has been developed at the national and regional level since 1998 and is being developed at the municipal level, including disincentives to forestland encroachment.

* Conclusions and Recommendations reviewed by the Working Party on Environmental Performance at its January 2002 meeting.

Environmental impact assessments were carried out for 350 projects and led to project revisions or withdrawal (e.g. dams). In 1997 industry introduced environmental management systems; many companies are certified ISO 14000 and a national programme of eco-labelling is well in place. Very significant financial efforts were devoted to pollution abatement and environmental protection in the 1990s: after large efforts in the early 1990s to deal with the most urgent pollution problems, the country reduced its pollution abatement and control expenditure to 2% of GDP by the mid-1990s and to 1.5% of GDP in 1999. Its environmental expenditure (i.e. PAC expenditure together with water supply and nature protection expenditure) were 2% of GDP in 1999. This evolution was accompanied by a gradual decrease in state support for environmental investment, and an increasing role of enterprises and municipalities. The devolution of responsibilities of waste, water, and waste water services to municipal governments will create opportunities to apply the polluter-pays principle and the user-pays principle more fully.

However, the environmental institutional capacities of Slovakia have gone, in the 1990s, through significant restructuring (e.g. end of the specific regional environmental administrations in 1996, devolution of environmental responsibilities, planned elimination of state funds for 2002). It is important that this restructuring both preserves Slovakia's own environmental "acquis" and strengthens Slovakia's capacities to face the environmental challenges of EU accession. Environmental policy implementation can be significantly strengthened. The implementation of NEAP I has not been assessed. Enforcement of and compliance with environmental regulations appears relatively weak; the State Environmental Inspection (SEI) should be strengthened, compliance fines updated and increased, and environmental charges and fines collection rates improved; inspection fees should contribute to cover inspection costs and self-monitoring should be improved. Enforcement responsibilities between the SEI, regional, and district offices should be clarified. Enforcement of administrative procedures are not buttressed by judicial ones; there are no prosecutors specialised in environmental matters, no standing access to courts for recognised NGOs to represent the common interest in environmental cases, and no records of environmental cases. The introduction of legislation on integrated pollution prevention and control in line with the IPPC Directive is intended. Economic instruments (e.g. charges) should be given higher incentive effect; increases in cost-recovery levels concerning water supply, waste water services, and waste management is needed. Slovakia has started its approximation process with the EU environmental "Acquis". A major legislative effort is underway. Beyond it, a major task will be to implement this new legislation, particularly in the areas of water supply and waste water related infrastructure and for the control of major risks involving dangerous substances. The National Programme for the Adoption of the "Acquis Communautaire" envisages more than a doubling of environmental investment for the period 2000-08 compared to the late 1990s level. Funding will have to come mostly i) from increased environmental charges for municipal waste water and waste infrastructure and ii) from enterprises for their own environmental investments; there will also be some additional funding: foreign funding (e.g. EU funds) and state support mostly to small and medium enterprises. The completion of a municipal waste water infrastructure responding to the EU Urban Waste Water Directive may require efforts spread over much more than one decade.

It is recommended to:

- Strengthen enforcement capacities, raise the level of non-compliance fines and introduce inspection fees, increase the educational and incentive functions of the State Environmental Inspection;
- Introduce specialised prosecutors for environmental cases and standing access to courts for recognised environmental NGOs;
- review and revise the pricing of environmental services, in light of the polluter pays and user pays principles, and of economic and social constraints;
- as part of the process of devolution of power to regions and municipalities, ensure that both obligations and revenues are adequately phased in;
- increase the use of environmental auditing to assess environmental liabilities arising from past operation of state enterprises, particularly within the context of privatisation;
- complete land use planning at municipal level (e.g. in the eastern part of Slovakia).

1.2 Air

During the 1990s, Slovakia achieved a decoupling of most air pollutants emissions from economic growth: while GDP increased by 11%, emissions of SO₂, NO_x, CO, suspended particulates, heavy metals, VOCs, and CO₂ decreased significantly. This reflects i) the decline in industrial output, ii) a decrease in energy intensity and fuel switching (e.g. from domestic brown coal to imported natural gas) as well as iii) some progress in air management. In the short and medium term, Slovakia should be able to fulfil its major commitments with respect to combating air pollution, stratospheric ozone depletion, and climate change. Slovakia has satisfactory air legislation and institutions, including air monitoring and good emissions inventories. Legislation on energy efficiency and an action plan on the use of renewable energy sources are under preparation. There are recent strategies and programmes for air management. A strategic environmental assessment of the energy policy was recently carried out with broad stakeholder participation. Emission charges are in use as well as domestic emissions trading system for SO₂; plans for starting CO₂ emissions trading are well advanced. However, the practical effect of the SO₂ emissions trading system has been limited. The energy intensity of the Slovak economy decreased by about 25% over the 1990s, partly as a result of changes in technology and in energy prices. Between 1998 and 2001, electricity and gas prices rose by 90% and 75% respectively, diesel prices by 60% and gasoline prices by 56%.

Nevertheless, more efficient incentives and enforcement are needed to reduce the environmental burden caused by air pollution, and to cut down on the frequent breaches of ambient air quality standards in major cities and industrial areas. Total annual revenues of air pollution charges and non-compliance fines dropped, partly due to actual emissions reductions and partly due to somewhat lax enforcement. Tax breaks and exemptions on meeting environmental regulations have been subject to controversy and lack full transparency; some of them might be regarded as subsidies to foreign investors. The financing of air management projects in the first and second National Environmental Action Programmes should be clarified. The energy intensity of Slovakia is still 1.75 times higher than the OECD Europe average, even after the closure of plants using the most obsolete techniques. In addition to the major ongoing reforms of the energy sector, there is a great potential to improve energy efficiency in the industrial, residential, and services sectors, through appropriate programmes with quantitative targets. Despite the current excess capacity in electricity supply, the use of renewable energy resources (e.g. installed hydrocapacity, biomass) may be increased. In the transport sector, freight traffic increased significantly: 55% for road freight traffic.

It is recommended to:

- make the enforcement of emissions charges and fines more effective (e.g. through monitoring and reporting on enforcement and related revenues);
- review exemptions from environmentally related taxes and environmental standards to industry and energy producers, and ensure they are fully transparent and consistent with fair competition;
- clarify the sharing of funding and other responsibilities between the private and public sectors concerning air management projects under the National Environmental Action Programmes;
- include more quantified targets and timelines into strategies and programmes dealing with air management, energy, transport, and climate policy;
- continue adjusting electricity and gas prices to reflect costs and promote efficiency in the energy sector, taking into account social considerations;
- continue fuel switching from domestic brown coal to natural gas and renewable energy sources (e.g. biomass), taking into account employment and environmental implications;
- further decouple energy use from economic output in the Slovak economy by improving energy efficiency in different sectors through appropriate incentives and programmes.

1.3 Water

Overall pressures on water quantities are low and total annual water withdrawal fell due to the decline and restructuring of industrial production, reduced household consumption, and a decrease in irrigated area. Pollution loads in surface waters decreased in the 1990s, as a result of a contraction in industrial and agricultural outputs and restructuring of these sectors (e.g. less energy intensive industry and less agrochemical intensive agriculture). Overall, there was a decoupling of water withdrawal and pollution discharges from GDP growth. Slovakia has ratified key regional multilateral agreements in the area of water management.

However, river development has contributed to more acute flooding. Surface water quality improved very little over the 1990s, although eastern Slovakia, in general, reached quality parity with the western part of the country. Eutrophication of bathing water is a problem. Limit values for drinking water quality are often exceeded for some heavy metals and ammonia and there are persistent cases of nitrate pollution. The share of the population connected to waste water treatment increased only slightly over the 1990s, reaching nearly 50%. Nitrogenous fertiliser use decreased sharply, but the application rate of fertilisers remains high. A major water reform is being considered, to include transposition of EU water legislation (draft of new Act on water protection and water management). This reform is very much needed. Different ministries deal with water quantity and quality issues and water management responsibilities of local authorities are not clearly defined. Water management at the river basin level would greatly improve water management planning. A new water pricing policy should be established: the national government still sets water prices at low rates for households; various concessions apply to abstraction charges; pollution charges have little incentive function; the user pays and polluter pays principles should be applied progressively to the water sector. The implementation of the Drinking Water and Urban Waste Water Directives will require large investments, especially to upgrade piped water supplies and build new treatment plants. Much of investments into water supply, sewerage, and waste water treatment infrastructure is still funded through the state budget and state funds.

It is recommended to:

- adopt the proposed new Act on water protection and water management transposing EU legislation, and implement the new institutional framework for water management;
- prepare water management plans by river basin, taking into account flood prevention concerns;
- mobilise financial resources to upgrade and extend the urban sewerage and waste water treatment infrastructure;
- apply more fully the user pays and polluter pays principles, taking into account social considerations, aiming at full cost recovery for household water services pricing, and eliminating charge concessions and increasing pollution charges;
- identify areas vulnerable to nitrate pollution by agriculture.

1.4 Waste

The 1991 Waste Act provides the institutional framework for waste management. This Act was fundamentally revised in 2001 to incorporate the most relevant EU Legislation. In 1993, the first Waste Management Programme already included specific and ambitious objectives regarding waste reduction, recovery and disposal, and cleaning of old, uncontrolled landfills and other contaminated sites. All uncontrolled dumps and landfills were closed down; a network of landfills meeting regulatory conditions was created; its present capacity is sufficient for the safe disposal of the waste generated in the country. Separate collection of municipal waste is being introduced and a recycling industry is developing. A number of economic instruments are in use; in addition to user charges and waste disposal charges the new Waste Act introduced the concept of product charges concerning a number of items which must be collected and processed separately from other waste, or for which increased recovery is considered desirable; the revenues go to a Recycling Fund, which will be used to support the necessary investment and operational costs of recovery activities. Small amounts of hazardous waste, for which no treatment facility exists in the country, are exported in compliance with the Basel Convention. Estimation of cost-recovery is not possible on the basis of available information.

The stated objectives in terms of waste reduction and hazardous waste disposal have not been fully met. No measures were taken to promote waste minimisation and cleaner technologies. The amount of materials separately collected from municipal waste is still rather low. Separate collection schemes have failed in a number of cases, due to insufficient consideration of possible outlets for the separate materials. Current incineration plants do not cover the demand for hazardous waste elimination. Moreover, many existing facilities do not meet the technical requirements for air protection. No new large hazardous waste incinerator is under construction. Although a strategy and action plan are under development, no programme has been developed to systematically address old environmental burdens, contaminated industrial sites in particular. The import of waste destined for recovery operations is still restricted, with only a partial acceptance of the OECD Green List.

It is recommended to:

- promote waste minimisation initiatives;
- pursue efforts to develop separate collection of municipal waste and promote the processing of separated materials as secondary raw material or energy source, including use of the Recycling Fund;
- complete a national survey of hazardous waste incineration needs, proceed with the upgrading of technical standards for existing medical waste and other hazardous waste incinerators, and build the required additional incineration capacity;
- elaborate a comprehensive programme to map contaminated sites of industrial origin, assess the potential risks for the environment and propose remedial measures;
- fully adopt the OECD Green List for the import of waste destined for recovery operations.

1.5 *Nature conservation and biodiversity*

Overall, Slovakia's nature and biodiversity are in good condition. Total forest area has remained constant over the decade at 41.5% of the country. There is a rich array of flora and fauna with a number of species not found in many areas of Europe. There is a well-developed legislative and strategic planning framework covering nature, with the 1994 Act on nature and landscape protection and the 1997 National Biodiversity Strategy. An extensive network of protected areas exists, covering nearly 22% of the country; almost 800 species of plants and more than 800 animal species are afforded some level of protection. Slovakia has ratified most international conventions on nature conservation and biodiversity. Slovakia also has a budding agro-tourism and eco-tourism industry.

There are however, some points of concern. Tourist activities are over concentrated in some areas putting undue pressure on the landscape and animals (e.g. the mountain chamois). A lack of financial and personnel resources, allows for little oversight of protected areas and difficulty in implementing management plans. The government's land restitution plan of the 1990s has turned some protected lands over to private owners who now in turn carry out illegal activities on them. A decline in agriculture has negatively affected some species of birds. Poaching of some protected animals is an issue.

It is recommended to:

- increase co-ordination and communication between the ministries and state agencies involved in land management and nature protection;
- harmonise hunting legislation and nature conservation legislation to enhance biodiversity protection;
- develop incentives and voluntary initiatives with private forest land owners to integrate biodiversity conservation in forest management plans and forestry practices;
- enhance protection of wetlands and other key biotopes in grassland and forests;
- pursue efforts to develop agro-tourism and eco-tourism enterprises, including in under-used areas of the country.

2. **Towards Sustainable Development**

2.1 *Integrating environmental concerns in economic and sectoral decisions*

Following a period of GDP contraction, Slovakia's GDP was by 2000, 11% higher than its 1990 level. During the 1990s, Slovakia succeeded in decoupling a number of environmental pressures from economic growth. Pollutant emissions into air, discharges into water, and water abstractions were cut by as much as 30% to 70%; however, municipal waste generation increased at a rate close to the one of GDP. This was not only due to the contraction of industrial production (-16%) and energy use (-22%), but also to changes in production and consumption patterns and sectoral structural reforms; for instance, fertiliser and pesticide use were reduced massively, mostly as a result of changes in agriculture production methods and agricultural land ownership; the energy sector went through major policy reforms and experienced increased energy efficiency, changes in energy supply mix, significant shifts in energy prices, overall translating in important environmental benefits. This was also due to environmental policies based on the 1993 strategy, which defined short, medium, and long-term objectives and key policy principles in environmental management. Integration of environmental concerns in sectoral policies was uneven, but institutional and market-based integration occurred in a number of instances, in the energy, transport and agricultural sectors. Excise taxes on fuels were introduced in 1994; leaded gasoline was phased out

in 1997. Reduced vehicle tax for commercial cars equipped with catalytic converters encouraged changes in the composition of the car fleet. Reduced VAT applies to environmentally friendly fuels and equipment, income tax concessions to environmental services, and exemption from real estate tax to protected areas. Strategic Environmental Assessment of policies and programmes was usefully applied for the review and revision of energy policy in 1998. Overall, agricultural support has declined and agri-environmental payments are provided for converting arable land into permanent grassland and to support organic farming, although most direct payments to farmers are related to input use; a code of good agricultural practices has been completed. Most of these economic and sectoral changes have contributed to the strong decoupling achievements of Slovakia. A Sustainable Development Council was established in 1999, as an advisory body. A sustainable development strategy was approved by the government in October 2001.

Looking ahead, further progresses in the integration of environmental concerns in economic development are feasible and necessary. First, through enhanced interministerial co-operation concerning strategic planning, investment programming, annual budgeting, and project assessment; the latter applies also to foreign direct investments which should, inter alia, follow environmental charters and guidelines applying to multinational companies. Secondly, further promote the integration of environmental concerns in agriculture, energy, and transport sectors through market based integration and appropriate economic signals (e.g. reducing environmentally damaging subsidies, enhancing the incentive effects of current economic instruments and taxation). Given its high growth, the transport sector is of particular concern; road taxes only apply to commercial vehicles and not to private motor vehicles; modernisation of public passenger transport should be further pursued. Given the far ranging structural changes in these sectors during the ongoing economic transition of Slovakia, it is of the utmost importance to include environmental concerns and win-win strategies in their design. Thirdly, the possibility of introducing a green tax reform should be further investigated, including an energy tax and a tax on the sulphur content of diesel oils. Fourthly, as households have already faced important price changes concerning their energy needs (heating, lighting, transport fuels) and will have to face further price changes concerning, inter alia water supply, waste water services, and waste services, attention should be given to the progressivity of these changes over time and to the poorest segments of the population. This will in turn bear on the capacity of investments in environmental infrastructure of Slovakia, in the context of both its economic transition and its accession process to the EU. This will require strategic decisions balancing economic, environmental, and social progress of the country and will imply a very high profile for environmental criteria in the EU accession negotiations.

It is recommended to:

- enhance inter-ministerial co-operation, to foster the institutional integration of environmental concerns in economic and sectoral policies;
- extend further strategic environmental assessment in sectors, such as energy, transport, tourism, and agriculture; continue environmental planning and programming efforts;
- enhance market-based integration of environmental concerns in sectors such as transport, energy, and agriculture;
- further investigate possibilities to introduce eco-taxation, e.g. by shifting the tax burden from labour to the environment;
- develop and implement pricing of environmental services (e.g. water supply, waste water treatment, solid waste management), progressively moving towards full-cost pricing, with appropriate attention to social concerns and the balance between economic, social, and environmental progress.

2.2 *Environment-social integration*

Concerning environment and health, pollution was recognised as a main reason for the degradation of human health in Slovakia. A 1997 action plan for environment and health identified policy priorities, specific policy objectives, and action schedules. The plan, which was updated in 2001, also covers occupational health. In the 1990s, life expectancy rose for a number of reasons, including significant improvements in pollution prevention and control. Concerning environmental information, a national monitoring and information system is in place. The environmental administration provides information actively on the Internet and through published reports (e.g. yearly state of the environment reports). Environmental NGOs are knowledgeable and have an important role to play especially in nature protection, EIA, and access to public information.

Nevertheless, life style improvements (relating to food, exercise, alcohol, tobacco, drugs) and environment related risks must receive more emphasis in future health policies. In particular, a quarter of the population still lives in areas with the poorest environmental quality. Progress in the effectiveness of environmental monitoring should continue, independent of institutional boundaries, with emphasis on multiple benefits and without compromise on information quality and timeliness. There are social and ethnic disparities concerning access to environmental services (e.g. drinking water, waste services) and environmental quality (e.g. environmental living conditions in black spots). Public participation and access to courts in relation to environmental issues are still largely unknown procedures to citizens; they should become an integral part of environmental democracy. However, the government has taken steps to increase awareness among citizens of their own legal rights. Environment and employment issues have not received proper attention: jobs could be offered by a more efficient and extensive use of renewable energy sources (e.g. forest biomass), by increased farm tourism and organic farming, and by nature conservation and management. Despite prevailing economic difficulties, environmental issues have remained high on the political agenda, because of their importance in the EU accession process rather than high environmental awareness.

It is recommended to:

- continue to implement the action plan on environment and health;
- further review the effectiveness of environmental monitoring systems, regardless of institutional boundaries without compromising on the quality and timeliness of environmental information;
- continue to improve access to environmental information, public participation in decision-making, and access to justice in environmental matters;
- continue to foster public environmental awareness with a mix of instruments;
- explore possibilities of creating environmentally related jobs (e.g. biomass, eco-tourism, nature conservation).

3. International Commitments

Slovakia is now a party to most worldwide and relevant regional environmental agreements (Annexes II.A and II.B). The country is financially contributing to the UNEP, Montreal Protocol, Biodiversity Convention and CITES. Slovakia has promoted bi- and multilateral co-operation with its neighbouring countries and participates in the Danube basin management multilateral process. Slovakia is now a member of the OECD and the Council of Europe: this had important effects in policy areas such as chemicals control, waste management, industrial accidents, public participation, and protection of endangered species. Slovakia easily fulfilled its commitments on transboundary air pollution (LRTAP), with considerable decreases in the emissions of classical air pollutants (e.g. SO_x, NO_x, suspended particulates, and VOCs). Concerning climate change, Slovakia has prepared two national reports to the meetings of the Contracting Parties. CO₂ emissions have been reduced and are well below their 1990 level in 2000; they may also be 8% below the 1990 level in 2010.

However, Slovakia has not yet adopted a co-ordinated national strategy to combat climate change. Postponing the removal of all direct subsidies and cross-subsidies relating to electricity prices, partly for social reasons, has delayed further improvements in energy intensity and consequent reduction of greenhouse gas emissions. With a substantial increase in car and truck traffic between Slovakia and other European countries, sustainable transport is a concern. In the context of the EU accession process, EU legislation has already started being transposed into the national law. However, the remaining legislative task is still considerable, and concerns a number of topics dealt with by different ministries. Increased emphasis on implementation and enforcement of environmental law is much desirable in this respect. Implementation of some EU legislation will need time, because of the cost of creating a new environmental infrastructure and of the social constraints: Slovakia has requested transition periods for a number of EU environmental directives.

It is recommended to:

- ratify and implement relevant international agreements;
- continue the transposition of EU environmental legislation, with appropriate resources, and strengthen the implementation and enforcement of related new legislation and commitments;
- set national commitments for reducing greenhouse gas emissions, and develop and implement policies and measures accordingly, and improve energy efficiency;
- contribute to the effective implementation of international agreements concerning the Danube and its river basin, as well as the Black Sea;
- continue co-operation in the field of the environment with its neighbouring countries;
- make full use of opportunities for foreign assistance and foreign direct investment, with the aim of strengthening environmental infrastructure and contributing to the solution of international environmental problems.