

CONCLUSIONS AND RECOMMENDATIONS*

Since 1989 Poland's economy has undergone a profound transformation from a centrally planned to a market economy. Economic growth has been accompanied by restructuring of the economy (e.g. privatisation of many large industries, liberalisation of the electricity market). In 2001 the service sector accounted for 64% of GDP and industry for nearly 33%, with a shift towards less energy- and material-intensive industries and processing activities. After a two-year recession followed by a gradual economic recovery, the highest rate of GDP growth was reached in 1995 (6.9%); the growth rate subsequently slowed, to 4.3% in 2000 and 1.1% in 2001. There are currently serious concerns about the state of Poland's public finance.

Since the early 1990s Poland has made remarkable environmental progress, meeting most of its environmental targets and decoupling a number of environmental pressures from economic growth. This progress reflects both the reshaping of its economy and a strengthening of its environmental policies. Since the 1995 OECD Environmental Performance Review, the EU accession process has shaped Poland's approach to environmental management through the requirement to transpose European Directives. Yet in several respects the road towards environmental convergence within the EU is likely to be a long one. While pursuing sustainable development balancing economic, environmental and social concerns, Poland could still improve its ranking among OECD countries for a number of indicators of pollution intensity per unit GDP. Priority environmental issues include pollution prevention, waste water treatment, waste management, biodiversity and landscape conservation, and climate protection.

To meet these challenges, Poland will need to: i) expand its environmental infrastructure (e.g. for waste and waste water treatment) and continue implementing its environmental policies; ii) further integrate environmental concerns into economic and social decisions; and iii) reinforce its international co-operation on environmental issues.

This report examines progress made by Poland since the previous OECD Environmental Performance Review in 1995, and evaluates the extent to which the country's domestic objectives and international commitments are being met. It also reviews progress in the context of the OECD Environmental Strategy.** Some 46 recommendations are made that could help strengthen Poland's environmental performance in the context of sustainable development.

* Conclusions and Recommendations reviewed and approved by the Working Party on Environmental Performance at its January 2003 meeting.

** The Objectives of the "OECD Environmental Strategy for the First Decade of the 21st Century" are covered in the following sections of these Conclusions and Recommendations: maintaining the integrity of ecosystems (Section 1), decoupling of environmental pressures from economic growth (Sections 2.1 and 2.2), and global environmental interdependence (Section 3).

1. Environmental Management

Transition towards a market economy has led to major institutional and economic structural changes in the last ten years. Reforms initiated in the early 1990s provided opportunities to revise and implement environmental management and legislation, and to achieve greater integration of environmental concerns into other policies. Adopted in 1997, Poland's present Constitution states that the country will ensure "protection of the environment, while pursuing the principle of sustainable development." More recently the EU accession process has been the main driving force for further institutional and economic structural changes. The transposition of EU environmental legislation in particular has led to a range of new legislation.

Implementing environmental policies and strengthening environmental infrastructure

Poland's environmental management is founded on solid environmental institutions and competences. Two national environmental policies were adopted in 1991 and 2000 under fast-changing circumstances. The Second National Environmental Policy defines short-term (2000-02), medium-term (2002-10) and long-term (2010-25) objectives for management of natural resources, improvement of environmental quality, strengthening of policy instruments for environmental management, and co-operation on environmental issues of international concern. Together with economic structural changes, these efforts by Poland have contributed to progress on a number of fronts (e.g. reductions of traditional air pollutant emissions, water withdrawal, nutrient discharges and non-municipal waste generation). Poland's inspection and enforcement capacity has been preserved (in the national Inspectorate for Environmental Protection), although follow-up by prosecutors could be strengthened. Expenditure on pollution abatement and control, which was between 1.5 and 2% of GDP throughout the 1990s, has largely been financed by high pollution charges and fines (e.g. for air pollution) redistributed through the National Fund for Environmental Protection and Water Management (hereafter referred to as the National Fund for the Environment) and a number of other environment funds operating at regional and local levels. Between 1990 and 2000, Poland expanded its use of economic instruments to implement environmental policy and to recover the operational costs of environmental services (e.g. drinking water supply, waste water treatment). Access to environmental services varies significantly among regions; related investments should be targeted to ensure that basic social and health standards are met throughout the country. Increases in prices relating to household services (e.g. provision of water, energy and transport) have had a significant incentive effect, although with some regressive distributional consequences. In line with the Aarhus Convention, legal bases have been established for access to information and to the courts.

However, despite undeniable progress in reducing pollutant emissions and discharges to the environment, Poland lags behind most other OECD countries with respect to a number of environmental indicators. Having done a great deal to resolve environmental problems inherited from the past, Poland now aims at another level of environmental quality and at environmental convergence with other European countries. Considerable investment in environmental infrastructure is therefore still necessary. In particular, an environmental investment estimated between 1.2 and 2.7% of GDP per year will be required over ten years to comply with the terms of EU accession. Financing of this investment remains uncertain despite the support expected from European funds. Poland must clarify environmental priority setting and ensure that cost-effectiveness has a central place in decision criteria. On-going efforts to improve the transparency and accountability of decision-making by environment funds should be sustained.

Introduction of the European system of integrated pollution prevention and control (IPPC) and the recent decentralisation of environmental management will necessitate further strengthening of environmental institutions. Consideration needs to be given to use of emissions trading schemes to help reduce Poland's high air pollutant emission intensities. Further efforts are also needed to ensure that local spatial development plans correspond with those established at the regional level, and that both types reflect national environmental objectives. Use of quantitative environmental indicators to inform the process of policy formulation, for communication with stakeholders as well as monitoring policy effectiveness, will also be important.

It is recommended to:

- further implement the polluter pays and user pays principles to make provision of environmental services more efficient and contribute to their financing, taking into account social considerations;
- increase and maintain environmental expenditure at levels necessary to implement the EU environmental acquis, using more private funding (e.g. user charges) and EU funding for environmental investments;
- further enhance the transparency, accountability and effectiveness of environment funds (national, regional and local);
- expand the use of economic instruments to improve the cost-effectiveness of environmental management; assess the potential role of tradeable emissions permits;
- further strengthen enforcement of environmental regulations, expanding the role and capacity of the Inspectorate for Environmental Protection and of prosecutors, in line with new responsibilities (e.g. implementation of IPPC, decentralisation of environmental management responsibilities);
- strengthen integration of environmental objectives into spatial planning and enhance the coherence of local and regional plans;
- strengthen the use of quantitative indicators to assess pressures on the environment and the effectiveness of policy responses.

Air

Since 1990 Poland has significantly reduced its emissions of air pollutants, which are now strongly decoupled from economic growth. While GDP increased by 43% from 1990 to 2000, SO₂ and NO_x emissions fell by 53 and 35%, respectively. Emissions of other pollutants such as NMVOCs, heavy metals and dioxins have also decreased significantly. This progress reflects: i) economic restructuring; ii) energy efficiency improvements and fuel switching (from coal to oil and natural gas); and, iii) environmental management. Economic instruments, including taxes, charges and fines, have played a major role in stimulating emission reductions. Poland has further strengthened air legislation in recent years in the context of the EU accession process; by the end of 2003 EU air legislation will have been completely transposed. Ambient air quality standards and emission standards for new and existing vehicles already conform to those of the EU. The energy sector has been partially reformed, with a contraction of primary energy supply, significant increases in household energy prices, some fuel switching from coal, and a new emphasis on renewable energy sources. Internalisation of environmental externalities in automotive fuel prices and vehicle excise duty has progressed, with tax differentiation roughly proportionate to emissions. Air quality monitoring systems have been modernised and pollutant coverage has been extended.

Despite these achievements, there is much room for further progress. Emission intensities of major air pollutants (per unit of GDP) are among the highest in the OECD (Poland ranks 28th for SO_x, 22nd for NO_x). Poland's energy intensity is also one of the highest (23rd); its energy supply structure is still heavily dependent on subsidised coal (62% of TPES in 2000). There is considerable scope to upgrade pollution control facilities, including through clean coal technologies and cleaner processes. Environmental externalities are not well internalised in industrial fuel prices. Pressures on air quality from transport are growing as the size of the vehicle fleet increases (doubling between 1990 and 2000) and a strong modal shift towards road transport continues.

It is recommended to:

- finalise and implement the national air management strategy and related sectoral action plans, with appropriate review mechanisms;
- continue efforts to reduce emissions of SO_x, NO_x, NMVOCs, particulates and toxic organic chemicals from both stationary and mobile sources, in order to meet national and international commitments and minimise local air pollution hotspots and chronic photochemical oxidant pollution;
- further enhance the role of economic instruments (e.g. emission trading, extended use of excise duty on non-automotive fuels) in the policy mix to improve the cost-effectiveness of environmental management;
- further integrate environmental concerns into energy policies, including through promotion of energy efficiency, progressive removal of environmentally harmful subsidies, and strengthening of incentives for cleaner production;
- accelerate the modernisation of air quality monitoring networks and streamline their administration.

Water

Overall pressure on water quantities due to water abstraction decreased in the 1990s. This mainly reflected the decline and restructuring of industrial production, together with reduced water consumption for irrigation and municipal purposes. There has been strong decoupling of water abstraction from GDP growth, especially important in a country like Poland that is relatively poorly endowed with freshwater resources (Poland's per capita freshwater resources are only 40% of the OECD Europe average). In both urban and rural areas there has been significant progress in connecting the population to water supply and sewerage systems. Nutrient loading (e.g. nitrogen, phosphorous) of coastal waters from point sources has declined following the construction of waste water treatment plants. There has been progress within the overall water management framework, including the introduction of metering, reduction of leakages, and charging for both water abstraction and waste water discharges to surface waters. Preparatory work on transposition and implementation of EU water legislation is well advanced, with the adoption of the 2001 Water Act and the establishment of Regional Boards for Water Management. Flood management has also progressed since a major flood in 1997. A number of Polish rivers and lakes (e.g. in the north-eastern and eastern parts of the country) remain in a natural state, providing important wildlife habitats.

However, surface water quality is still generally unsatisfactory, especially in rivers and with respect to BOD. Relatively high investment in waste water treatment plants in the 1990s has not yet led to corresponding improvements in surface water quality, suggesting that cost-effectiveness has not been one of the most important criteria for these investments. A long list of priorities, partially driven by requirements for EU accession, will necessitate large expenditure for water management infrastructure although its financing remains uncertain. Integration of water management with other policy areas such as health protection needs to be strengthened. In particular, the quality of drinking water supplied by public networks must be improved to comply with European standards. Further efforts need to be made in rural areas to improve septic tank functioning, increase the number of connections to sewerage systems, and control nitrate contamination of wells.

It is recommended to:

- mobilise financing needed to upgrade and extend both urban and rural sewerage, waste water treatment and drinking water supply infrastructure, giving consideration to greater involvement of the private sector;
- apply the user pays and polluter pays principles more fully for water services, taking into account social considerations;
- pursue implementation of EU legislation and implementation of the new institutional framework for water management established by the 2001 Water Act;
- focus water management priorities, with clear quantified objectives and time limits, while paying particular attention to minimising the costs of meeting environmental quality targets;
- continue to implement flood prevention and mitigation programmes and plans, in particular by protecting flood plains and natural buffer zones;
- introduce measures to promote use of phosphate-free detergents (e.g. product charges, phase-out).

Waste

Concerning non-municipal waste, weak decoupling of waste generation from economic growth has been observed and the waste recovery rate has increased, largely due to a structural shift toward less material-intensive economic activities (i.e. from heavy industries to services) but also to increased use of cleaner production processes. In preparation for EU accession, waste legislation has been strengthened with respect to management and disposal (e.g. introduction of a permitting system for waste generators and management operators). For hazardous waste, regulations have been made considerably tougher and a systematic approach is beginning to be taken (e.g. implementation of a computerised manifest system). Development of a system for safe disposal of PCBs and obsolete pesticides has been initiated. Poland has been actively using economic instruments for waste management by putting industrial waste disposal and municipal waste collection charges into effect. Extended producer responsibility has been introduced for some products (e.g. packaging, batteries, tyres). A legal framework for clean-up of contaminated land was recently established.

However, comparatively little progress has been made in the area of municipal waste management. Despite weak decoupling of municipal waste generation from economic growth between 1990 and 2000, the municipal waste recovery rate has remained negligible (under 5%). The great majority of municipal waste is still landfilled, much of it at sites that do not meet technical standards. Recycling markets are still in their infancy. Hazardous waste generation has continued to increase. Many illegal dumping sites pose threats to the environment. A large future financing gap is expected, in view of the need to augment and diversify waste treatment capacity to comply with EU Directives on waste management. How the projected clean-up of contaminated land will be financed is still unclear, especially in view of the very high expected cost and numerous competing priorities.

It is recommended to:

- implement the national waste management plan, establishing a mechanism for regular review of progress;
- strictly enforce technical standards for landfills and urgently close a number of substandard sites; reinforce enforcement of prohibitions against illegal dumping;
- review possible approaches to increasing private and public financing of the upgrading and expansion of waste management facilities; address the large financing gap expected due to implementation of EU waste legislation and domestic legislation on land contamination;
- continue to improve the system for regulating the movement and treatment of hazardous waste, expanding the capacity to destroy PCBs and obsolete pesticides;
- strengthen measures to increase municipal waste recovery rates, with stronger initiatives by authorities concerning separate collection and the creation of sustainable recycling markets.

Nature and biodiversity

Poland has a high level of biodiversity and a wide variety of habitats. Protected areas have increased significantly and now cover 9.7% of the country (32% if Protected Landscape Areas are included). The current quality of ecosystems results largely from historical circumstances, including the high rate of public ownership of forests and traditional low-intensity agriculture, dominated by small, privately owned farms. Poland's nature conservation achievements have nonetheless been impressive and the institutional and legislative framework for protected areas continues to improve. The comprehensive Forestry Strategy is making a major contribution; management plans are being developed for protected areas, and a legal and administrative structure has been established to integrate conservation plans for Landscape Parks with local spatial planning. There has been a major drive to develop a strategic approach to the integration of biodiversity into other sectors. The National Biodiversity Strategy is to be accompanied by more specific action plans and operational tasks. Significant progress has been made in preparing for implementation of the EU Habitats and Birds Directives, including a scientific inventory and new legislation to achieve transposition. The Ministry of Agriculture has developed specific agri-environmental schemes, especially for Natura 2000 sites, despite the failure of the EU SAPARD programme to provide timely support. Poland has ratified most global and regional conventions on wildlife, habitats, landscapes and biodiversity.

However, Poland's rich biodiversity will be at serious risk if adequate safeguards are not established quickly. Large-scale changes in land ownership and land use have been triggered by the transition to a market economy. EU accession is likely to lead to support for major infrastructure projects, and might lead to intensification of agriculture, both of which could impact negatively on biodiversity. Urbanisation and housing development pressures are increasing. There is a potentially serious lack of understanding concerning the degree of compliance necessary for Natura 2000 and its implications for legal transposition into land use planning and other activities and for site identification, consultation and designation. While there is great emphasis on consultation at ministry level, consultations do not take place locally. There is already tension regarding selection of Natura 2000 sites between the national level (selection on scientific grounds) and the regional level (restriction of sites to existing protected areas or nature reserves). Potential local resistance to designation of sites outside existing protected areas appears to be underestimated. Although pesticide use in agriculture is currently low, the reduced VAT rate on pesticides is a perverse incentive in biodiversity terms. In the most widespread type of protected area, the Landscape Park (designated and managed by regional administrations), there are no mechanisms to encourage or compel private owners to conserve biodiversity. Protection of biodiversity in the marine environment is still at an early stage. Greater attention should be given to the potential of Poland's green assets to stimulate economic development and job creation (e.g. through eco-tourism, organic agriculture and renewable energy initiatives).

It is recommended to:

- ensure proper implementation and monitoring of the National Biodiversity Strategy, including through strengthened institutional co-ordination at all administration levels and improved measurement of status and trends of biodiversity across the country;
- ensure that development projects and programmes respect Natura 2000 designations and management concepts, and redouble efforts to organise consultations at the local level on Natura 2000 proposals, especially when sites are outside existing protected areas;
- improve conservation in Landscape Parks through incentives and legal mechanisms to encourage private owners or leaseholders within these parks to respect biodiversity conservation objectives; ensure integration of Landscape Park conservation plans into local land use planning;
- develop diverse, thriving rural economies that value biodiversity (e.g. through green tourism, environmentally sound agriculture, efficient use of agri-environmental and less favoured area programmes); remove perverse incentives such as the reduced VAT on agricultural pesticides;
- establish protected areas in the marine environment and expand efforts to protect marine biodiversity.

2. Towards Sustainable Development

Economic forces and changes in major sectors such as industry, energy, transport and agriculture strongly influence environmental conditions and trends. They can either enhance or diminish the benefits of environmental policies and technical progress. Further integration of economic and sectoral policies is needed to move towards cost-effective environmental protection and sustainable development in Poland.

Integration of environmental concerns into economic decisions

While GDP grew by 45% between 1990 and 2001, Poland strongly decoupled its emissions of several air pollutants (e.g. SO_x, NO_x, CO₂), its use of water resources, and its use of agricultural inputs (e.g. nitrogenous fertilisers, pesticides) from economic growth. Municipal waste generation, increasing at only one-fourth the rate of GDP during this period, was also weakly decoupled from economic growth. Economic restructuring, industry and energy sector reforms and environmental policies explain these trends. The ongoing privatisation process, combined with a high share of foreign direct investment, is accelerating the introduction of cleaner production processes and cleaner products. Poland has established a national policy and institutional frameworks for sustainable development. Strategies for economic and sectoral development (e.g. transport, rural development and agriculture) rather systematically integrate environmental objectives. Environmental objectives have also been integrated into certain areas of fiscal policy (e.g. through differentiated taxes on motor vehicles and their fuels). Environmental impact assessment is used to assess and mitigate the negative environmental impacts of major infrastructure projects (e.g. motorways).

Despite this progress, the emission intensity of Poland's economy remains among the highest in the OECD with respect to SO_x, NO_x and CO₂ emissions per unit GDP. Further measures are especially needed to reduce emissions from the energy and industry sectors (e.g. from large combustion plants). While there has been some reduction in use of coal, the subsidisation of coal mining distorts market signals; this has slowed progress on reducing discharges of saline effluents to surface waters, and on switching by stationary sources to less carbon-intensive fuels. Taxes on fuels used for stationary combustion are very limited so far, providing little incentive to conserve energy or to switch to less polluting forms of energy. The moderate fuel switching that has occurred has mainly resulted from modernisation, reinforced by air emission charges and fines. Pressures from transport and agriculture were relatively low between 1990 and 2000 (e.g. compared with the OECD and EU averages), but they are likely to increase markedly with the growth or intensification of these sectors. There has been little integration of environmental concerns into non-environmental chapters during the EU accession process. Polish authorities should better integrate these concerns into sectoral reforms and development projects, as well as into spatial planning. Continuing efforts towards efficient pricing of natural resources and environmental services would enable Poland to improve overall economic efficiency; social concerns (e.g. affordability) should be taken into account.

It is recommended to:

- further decouple environmental pressures from economic growth to reduce pollution intensity and improve resource efficiency of the economy;
- consider economic, environmental and social aspects in setting national priorities at the strategic, planning, programming and budgeting levels;
- at project level, ensure the integration of environmental concerns through EIA and spatial planning and develop sharing of best practices among regions and municipalities;
- continue to integrate environmental concerns into sectoral fiscal and price signals; extend the taxation of fuels used by stationary sources, differentiating tax rates to internalise environmental externalities;
- prioritise implementation of cost-effective measures to improve the energy efficiency of large stationary sources and to reduce the carbon intensity of the energy supply (e.g. through progressive removal of environmentally harmful subsidies);
- further promote capacity building and networking for local development initiatives integrating economic, social and environmental concerns (e.g. Local Agenda 21) in urban and rural development.

Sectoral integration: transport

In the 1990s, Poland progressively incorporated environmental concerns into its transport policies. It established a range of measures to make its transport system environmentally sustainable in the 2001 National Transport Plan. Air emissions from the transport sector were significantly reduced in the 1990s through tightened emission and fuel quality standards for motor vehicles. Leaded petrol now accounts for less than 10% of total petrol sales. A vehicle inspection system, including an emission test, was introduced in 1992. Environmental impact assessment has been used since the early 1990s for major transport infrastructure developments. Internalisation of environmental externalities has progressed in the Polish transport tax system (e.g. differentiation of the excise duty on diesel fuel by sulphur content and of the vehicle excise duty by engine size).

However, Poland's road vehicle stock increased rapidly since 1990 and is likely to continue to do so, as it remains among the lowest per capita in OECD countries. The rate of growth of road passenger and freight traffic volume far exceeded that of GDP in the 1990s. In contrast to the rapid increase in road transport, use of public transport declined significantly in the 1990s. With almost complete withdrawal of national administrative and financial support for local public transport, infrastructure and quality of service have deteriorated, accelerating the loss of modal share. The decline of rail passenger transport has also been significant (-67% since 1990), partially as a result of governance issues and low efficiency in service provision; a large modal shift towards road transport has resulted. Increasing the efficiency of rail transport could be expected to reduce costs and increase utilisation. The planned motorway network should be carried out in a way consistent with nature protection objectives (e.g. the Habitats Directive). Measures to alleviate urban road traffic congestion, including economic instruments (e.g. road charges, parking charges), are still limited.

It is recommended to:

- fully implement exhaust emission control, automotive fuel quality control and in use-vehicle inspections to reduce road vehicle emissions;
- fully integrate environmental considerations into Poland's road transport infrastructure development (e.g. the Trans-European Network), using environmental impact assessment and strategic environmental assessment; in particular, ensure consistency with the Habitats Directive and with the sustainable development scenario of Poland's 2001 National Transport Plan;
- establish priorities for scheduling and financing transport infrastructure investments;
- implement demand management measures for both passenger and freight transport (e.g. park and ride, combined freight transport, tighter parking control in city centres);
- facilitate sharing of cities' experiences improving urban public transport, with appropriate national administrative support for local authorities;
- review and revise transport taxes and charges, with a view to better internalising the environmental externalities of various transport modes.

3. International Commitments

Poland has strengthened its international environmental commitments in a global context (e.g. ratification of the UNFCCC and its Kyoto Protocol), and in a European context during the EU accession process (e.g. transposition of EU Directives into national legislation). It has reduced its emissions of CO₂ from energy use by 16% since 1990 through economic restructuring, energy conservation and fuel switching. By participating in several pilot Joint Implementation projects, it has contributed to international experience with the Kyoto flexible mechanisms. Poland has reduced its contribution to regional transfrontier pollution in recent years, achieving large reductions in its emissions of acidifying air pollutants in line with the protocols to the UN-ECE Convention on Long-range Transboundary Air Pollution (i.e. Oslo, Sofia, Gothenburg, Aarhus), which it has signed but not yet ratified. It has considerably reduced pollutant loading to transboundary rivers and to the Baltic Sea. Poland has also updated its legal framework for transfrontier shipments of hazardous waste to be consistent with the Basel Convention, as well as strengthening and expanding its enforcement capacity.

Poland has not yet adopted a coherent national climate protection policy, despite some steps to integrate climate protection concerns into energy policy. Such a policy would facilitate identification of the climate protection measures that would most cost-effectively reduce emissions of other air pollutants (e.g. SO_x, NO_x, VOCs) as well as GHGs, thus contributing to more efficient use of limited pollution control resources. Poland's emissions of acidifying pollutants (e.g. SO_x, NO_x) per unit of GDP remain among the highest in the OECD. To fully comply with its HELCOM commitments, it will need to further reduce nutrient loading to coastal waters, in particular by completing waste water treatment networks in the Vistula and Odra basins and by ensuring the use of port waste reception facilities. Given the overexploitation of a number of important fish stocks in the Baltic Sea, Poland should strengthen its management of shared fish stocks (i.e. through increased surveillance and inspection), and take further steps to reduce fishing fleet capacity.

It is recommended to:

- adopt and implement a coherent national climate protection policy which identifies priority policy measures based on their cost-effectiveness (e.g. in terms of cost per unit of avoided emissions) and is co-ordinated with energy and transport policies (e.g. taking ancillary benefits into account);
- ratify relevant Protocols to the UN-ECE Convention on Long-range Transport of Air Pollutants, and pursue their reduction targets (e.g. for SO_x, NO_x, VOCs, NH₃) through the national air management strategy;
- complete investment in municipal waste water treatment stations and strengthen measures to reduce nutrient run-off from agriculture, as necessary, to comply with pollution reduction commitments made in the framework of HELCOM;
- strengthen monitoring and inspection of fish catches (in harbours, on ships, by satellite) and work to improve information collection on by-catch and discards in offshore fisheries; take further steps to reduce fishing capacity;
- strengthen enforcement against illegal trade in ozone-depleting substances, endangered species and hazardous waste;
- ensure better integration of environmental concerns into development projects financed by international and EU funding.