



OECD Environmental Performance Reviews

SWITZERLAND

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CONCLUSIONS AND RECOMMENDATIONS*

This report examines Switzerland's progress *since the previous Environmental Performance Review* by the OECD in 1998, and the extent to which the country has *met national objectives and honoured international commitments*. The report also reviews Switzerland's progress in the context of the *OECD Environmental Strategy*.** Some 46 recommendations are made that could contribute to further environmental progress in Switzerland.

Switzerland's environment is subject to *severe pressures* (pollution, extraction of natural resources, spatial restructuring), due in particular to industry, agriculture, transport and tourism. These pressures stem from very high population densities and a high level of economic activity, and from Switzerland's location at the heart of Europe.

For over 30 years, the ambitious environmental policies promoted by the *Confederation* have been implemented by the *cantons* and the *communes*. They have been based on a prescriptive approach, sustained government funding and active public opinion that is deeply concerned about the environment (especially following certain major industrial accidents, the environmental impact of intensive farming, the deforestation debate and the 1987 floods). These policies have yielded remarkable results in combating pollution and natural hazards. More recently, and during the period under review, environmental policies have focused on *partnerships* with economic interests and civil society as a whole, on application of the *polluter pays principle* and on *prevention* (e.g. in risk management and management of natural resources).

* Conclusions and Recommendations reviewed and approved by the Working Party on Environmental Performance at its meeting on 26 September 2006.

** The objectives of the OECD Environmental Strategy for the First Decade of the 21st Century covered in these Conclusions and Recommendations are: 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).

Despite the progress made in factoring the imperatives of sustainable development into sectoral policies, including energy, transport and agricultural policies, it is still difficult to translate the concept of sustainable development into *consumption patterns*, e.g. the *consumption of space, transport and recreational activities*. There has been continued regression with regard to *biodiversity*, nature and landscapes. Concerns about sluggish or weak economic growth, and about *international competitiveness*, are tending to lessen the priority given to environment-related issues in the short term.

1. Environmental Management

Strengthening the implementation of environmental policies

In many respects, Switzerland's performance in fighting pollution is *among the best* of any OECD country. This is the result, in particular, of an ambitious, long-term legislative and institutional policy regarding the environment. The federal Law on the Protection of the Environment (LPE), revised in the mid-1990s, stresses the *principles of co-operation, causality* (the polluter pays and user pays principles) and *prevention*. On the whole, there is *very good co-operation among all stakeholders*, including civil society (e.g. environmental NGOs, businesses, farmers' associations), as well as between the Confederation and the cantons and communes. The *cantons* implement most environmental policies and related measures and supervise environmental actions at the local level. The federal authorities (including the Federal Council) also formulate wide-ranging planning documents that incorporate environmental issues. Economic *instruments* (e.g. charges for water and waste management services) are being used with growing effectiveness within the framework of *greater internalisation of external costs*. A number of environmental taxes and budget-neutral fiscal measures have been explored and/or adopted (e.g. the VOC incentive tax, the proceeds of which are returned to households via health insurers). The creation of the Federal Office for the Environment (FOEN) on 1 January 2006 demonstrates the determination to expand *sustainable management of natural resources* (forests, nature, water) and to encompass the management of natural hazards and technological risks. Government and business spending on the environment (pollution abatement and nature protection) has remained stable at around *1.4% of GDP*. These outlays have yielded *economic benefits* with regard to: i) health (avoided expenses, improved productivity at work); and ii) the Swiss economy in sectors such as tourism, engineering, electrical equipment, the environmental industry and agri-food (thanks to Switzerland's ecology-friendly international image). All these changes are taking place within an economy that is very open to trade with the European Union and the rest of the world.

However, Switzerland is faced with numerous environmental challenges resulting from non-point source pollution (e.g. of agricultural origin) and unsustainable consumption patterns (e.g. in transport, recreational activities and land use). Its biodiversity and landscapes are threatened. There is a need to focus on the *actual results* of environmental policies and to strengthen co-ordination among different levels of government, based on reliable data. An integrated and harmonised system should be devised for authorising industrial activities. Switzerland's overall *enforcement of environmental legislation* is not being documented. Companies with plants in more than one canton sometimes face different environmental regulations and/or enforcement levels. *Regional development* policy has not been able to contain rapid growth on the outskirts of cities. Thus, there has been considerable construction of farm buildings and transformation of existing structures *outside designated zones*. Greater use should be made of economic instruments (e.g. the CO₂ tax) to increase the effectiveness of environmental policies and sustainable management of natural resources. Even though progress has been made regarding water and waste, the polluter pays and user pays principles are not applied sufficiently in the realms of climate, air, noise and the protection of nature.

Recommendations:

- step up efforts to promote *more sustainable consumption patterns* by adopting appropriate regulatory and economic instruments, and through adequate demand management;
- continue efforts to implement the *principle of causality* (the polluter pays and user pays principles);
- further improve the effectiveness and efficiency of environmental policies with improved *monitoring of the environment* and its interactions with the economy (environmental data and economic analysis), expanded use of *economic instruments* and documentation of compliance with environmental legislation;
- continue efforts to strengthen co-ordination between the Confederation and the cantons, so as to implement *harmonised and efficient environmental policies* throughout the country (e.g. by adopting an integrated system for authorising industrial activities, along the lines of the European Union's IPPC approach);
- adopt strategies that are more highly integrated to *manage natural hazards and technological risks*, taking into account other sectoral policies (e.g. regional planning, transport, forests); accelerate completion of cantonal cadastres of *contaminated sites* and begin to decontaminate priority sites.

Air

Since the first review, there have been further reductions in concentrations of the main air pollutants, and air quality has continued to improve. The results obtained by Switzerland are *among the best* in any OECD country (e.g. lowest emissions of SO_x and NO_x per unit of GDP). Thanks to strict management and significant financial support, the *public transport system* (interurban, suburban and urban transport) is one of the most highly developed networks in any OECD country, giving public transport a large share of the modal split. With regard to transalpine transport, the *Overland Transport Agreement* promotes a shift from road to rail in order to cope with the growth in heavy vehicle traffic. Recent data show a nearly 30% increase in combined transport, while heavy vehicle traffic decreased by around 10% in the last three years. This agreement, like the continuous modernisation of *railway infrastructure* and the introduction of a distance-related *heavy vehicle fee*, can be seen as a model. Switzerland's energy intensity is lower than that of any other OECD country. Launched in 2001, the SwissEnergy programme has helped to reduce energy consumption by 6.5% and CO₂ emissions by 7%. In addition, the share of *renewable energy sources* in the total energy supply has increased to 17.5%.

Recommendations:

- implement further measures to combat *fine particulates and ground-level ozone* from transport (on-road and off-road vehicles), industry and households, and *ammonia* generated by agriculture (e.g. by adopting tougher emissions limits, promoting innovation and increasing the use of particulate filters on diesel engines);
- further exploit the *multiple benefits* associated with air quality, climate change and energy efficiency objectives;
- continue to *internalise the external environmental costs of road passenger transport* (e.g. by introducing distance-related incentives or combining energy labels with a bonus/malus system applicable at the time of purchase);
- pursue a *freight traffic shift* from road to rail through targeted investment, financial support for public transport and intermodality, and extension of the heavy vehicle fee;
- pursue implementation of the *SwissEnergy* programme; consider increasing taxes on gasoline and diesel fuel to improve internalisation of external costs; further promote energy efficiency in buildings and industrial installations.

However, in recent years it has become more difficult to *maintain the levels achieved* or to make *further substantial improvements*, due mainly to budget restrictions. Important challenges remain: *PM₁₀*, *ground level ozone*, *NO₂*, ammonia and greenhouse gases (e.g. CO₂). High levels of particulates are one of the most serious threats to the health of people living in cities and near major traffic routes. Ambient air quality standards for ozone are frequently exceeded in summer. The massive *increase in mobility* offsets the effects of pollution abatement measures and technological progress. Incentives to promote sustainable mobility and environmentally responsible consumption patterns and production may help to improve air quality. The two essential elements in this regard are *green tax reform* and a policy to make transport bear the external costs of air pollution.

Noise

Switzerland has long been *in the forefront* of noise abatement efforts. In addition to government investment, the country is stepping up development and implementation of the best possible technologies to reduce sonic emissions. The use of *technical and operational measures* to eliminate or reduce these emissions and protect the population from noise is well advanced. A *clear strategy*, based on six principles, provides orientations for further progress. During the review period, *some progress* has been observed in respect of noise emissions from transport (e.g. from individual heavy vehicles, aircraft and railway rolling stock) and noise abatement measures (e.g. noise barriers, road repairs). Modal shift policy has also contributed to a reduction in the number of people exposed to severe noise pollution. Switzerland uses *cost-benefit analysis*. Countrywide, the external costs of transport noise (e.g. health impacts and loss of property value) are estimated at CHF 1 billion per year. In general, neighbourhood noise (over which the communes have jurisdiction) is not seen as a serious problem.

However, the population's exposure to noise is being exacerbated by increasing traffic volumes, which offset the benefits of technological advances and of stricter noise abatement measures. Consumption patterns are the main reason for this increase. People who live near airports are exposed to more aircraft noise due to increases in air traffic as well as airport expansion. There should be continued harmonisation of the noise monitoring being carried out by cantonal and federal authorities. Financing problems are one reason for the postponement of some noise reduction measures. The basic noise policy objective set forth in the federal Law on the Protection of the Environment (LPE) is relatively modest. Noise pollution should be reduced at natural sites and in recreational areas. The polluter pays principle is not being fully applied, and economic instruments ought to be used more extensively.

Recommendations:

- establish a countrywide integrated noise monitoring system;
- expand efforts to establish noise limits (e.g. for motor vehicles, aircraft and household appliances) and take further measures to reduce noise from road transport (e.g. economic instruments, speed limits, construction of noise barriers);
- extend the concept of noise abatement to encompass natural sites and recreational and residential areas.

Water

Switzerland's performance is still among the best of any OECD country. The quality of *drinking water* remains high, as does that of national and international lakes (e.g. Lake Constance and Lake Geneva). Nearly 97% of the Swiss population (and much of Swiss industry) is connected to *waste water treatment*. Waste water undergoes advanced (tertiary) treatment in the watersheds of the lakes and the Rhine. This level of performance is the result of many years of continuous capital investment in water-related infrastructure (supply, sewerage and waste water treatment) operating at high standards. Between 1990 and 2003, the recovery rate for the cost of waste water treatment (sewerage and waste water treatment) increased from 43 to nearly 70% following the incorporation of the polluter pays principle in federal legislation (in 1997). In addition, *water pricing* helps finance the *renewal of sewerage systems* (many of which are a century old) and the incineration of waste water sludge (a legal obligation since 2006). The loads of industrial pollutants have been estimated and their environmental costs internalised in the water prices charged to businesses connected to public sewerage systems. The first national inventory of groundwater quality was made public in 2004. The cantons routinely monitor the ecomorphology of watercourses (i.e. the extent of their artificialisation). *Institutional integration* of issues involving water quality and volume has been facilitated by the merger in 2006 of much of the Federal Office for Water and Geology with the Federal Office for the Environment, Forests and Landscape, when the Federal Office for the Environment was created.

Nevertheless, non-point source pollution from agriculture and excessive concentrations of inputs are found in inland lakes and aquifers. Little has been done to address growing concerns about the presence of *micropollutants* (e.g. endocrine disruptors and drugs) in water. Despite recent severe flooding in the

country, land use planning has not paid enough attention to flood prevention, despite legal obligations to do so (e.g. with regard to flood-prone areas). Only rarely does the hydroelectricity sector meet its obligations (in force since 1992) to maintain a *minimum flow in rivers*, or “residual flow”, and few fish ladders have been installed at dams, which has had adverse consequences for aquatic ecosystems. The renaturing of rivers (i.e. returning them to a more natural state) and the restoration of nature along river banks suffer from lack of funding, other than what is allocated to protect against flooding. *Water basin management* is progressing, but without any legislative or strategic framework at the federal level. Industry does not seem eager to assume *responsibility for environmental problems arising from accidental spills* to rivers, insofar as Switzerland has not signed the Kiev Protocol on Civil Liability and Compensation for Damage Caused by the Transboundary Effects of Industrial Accidents on Transboundary Waters.

Recommendations:

- promote *integrated water basin management*, in particular by combining objectives for water quality and for the quantity of water resources, as well as the objectives of nature conservation and guaranteed minimum space for watercourses so they can perform their ecological functions;
- make further progress in *financing the upkeep and renewal of water treatment infrastructure*, including through pricing measures;
- establish funding mechanisms for the *renaturing of watercourses*;
- prepare national *flood management* plans by water basin, in co-operation with the cantons; help avert flood risks by implementing the recommendations of cantonal master plans for land use;
- identify sources of *micropollutants* from cities, industry and agriculture; introduce preventive measures in line with the polluter pays principle; continue to reduce *non-point source pollution from agriculture*, especially in small lakes and in groundwater;
- harmonise *water quality monitoring* by the cantons and the Confederation.

Nature, landscapes and biodiversity

Switzerland has set up a very high-quality biodiversity *monitoring network*; based on systematic scientific work, this network measures the dynamics of biodiversity and is used in particular to update “red lists” of endangered species.

Planning documents regarding the landscape, nature and forests (e.g. the “Swiss Landscape Concept”) have been adopted and the corresponding plans implemented. Progress has been made towards *sustainable forest management* and wetland conservation. The Swiss Landscape Fund, which provides financial support for projects to protect and promote the landscape, has been extended until 2011. The process for developing a *natural parks system*, including the creation of a Regional Natural Park (PNR) category, is about to be completed; dozens of PNR projects are already being prepared. Roughly 40% of farmland consists of semi-natural habitats (ecological compensation areas and Alpine pastures) that help preserve the biotope for the fauna and flora.

Nevertheless, as the updated “red lists” show, the *erosion of biodiversity* has not been curbed; on the contrary, most of the species monitored (e.g. flowering plants, amphibians and reptiles) have regressed since the lists were last published. Little progress has been recorded in identifying meadows and dry pastures to be

Recommendations:

- prepare and adopt a *National Biodiversity Strategy* (which could succeed the Swiss Landscape Concept), along with corresponding plans of action; set precise objectives and timetables which anticipate, inter alia, the effects of climate change;
- limit consumption of agricultural and natural space; contain dispersed urbanisation by enhancing the integration of biological and landscape diversity goals into spatial planning by cantons and communes, based on *reform of the federal law on regional development* and adjusted property taxation;
- clarify the *federal inventory of natural landscapes, sites and monuments* so that landscapes can be factored more rigorously into cantonal and communal planning;
- set up *Regional Natural Parks*, peri-urban natural parks, a national ecological network and a second national park; extend international *networks of protected areas*, such as Ramsar, Man and the Biosphere, and World Heritage sites, and establish the Emerald Network (Bern Convention); expand *financial resources* to invigorate policy for the development of protected areas;
- strengthen sustainable *forest management*; expand forest reserves and ensure the “public good” function of forests;
- do a better job of evaluating, taking into account and remunerating *services rendered by ecosystems*.

protected by the inventories of nationally important biotopes. Urbanisation, tourism activities and transport infrastructure exert increasing pressure on natural and agricultural areas. The diversity and quality of landscapes continue to be threatened by progressive urbanisation, building outside construction zones, and the commoditisation and increasing uniformity of buildings. Forest reserves should be expanded, and the environmental services rendered by *forests* should be financed. Spatial planning cannot stem the *consumption of new land*, which is proceeding at a rate of one square metre per second. The federal landscape inventory lacks clarity and effectiveness. Moreover, delays have been recorded in the adoption of certain inventories (e.g. dry grassland) and in the implementation of the Emerald Network, despite the work carried out by NGOs. A *National Biodiversity Strategy* ought to be drawn up and adopted. Without such a strategy, it is difficult to see how Switzerland can possibly meet its own objectives and honour its commitments (e.g. with regard to the Earth Summit in 2002, the Convention on Biological Diversity and pan-European biodiversity objectives).

2. Towards Sustainable Development

Integration of economic and environmental decisions

While concerns about sluggish or weak economic growth and the international competitiveness of its economy are very real, Switzerland has made significant progress in *decoupling* environmental pressures and economic growth, in particular with regard to conventional air pollutants (SO_x, NO_x), water abstraction and the use of fertiliser and pesticides. The two *sustainable development* strategies at the federal level (1997 and 2002) have spurred better collaboration among federal government agencies and have been accompanied by evaluation and monitoring procedures. Indicators of sustainable development have been adopted at the federal level and developed by certain cantons and cities. The federal authorities prepare *sectoral strategy or planning documents* that cover environmental issues. Progress has been made in *internalising external costs* in waste management and water treatment, and in *integrating environmental concerns* into policies for sectors such as agriculture (required ecological services) and transport (shifts of passenger and freight traffic from road to rail). The economic instruments implemented since the previous review, such as the VOC tax and the heavy vehicle fee, have proven effective.

However, problems related to decoupling remain, in particular with regard to *road transport* and the *consumption of space* by dispersed urbanisation and by infrastructure. The federal strategy for sustainable development has few quantified

objectives (apart from that of limiting urbanisation to 400 square metres of built-up area per capita), is disconnected from sectoral strategies and needs to be better implemented, e.g. with respect to the consumption of transport, recreational activities and space. A *long-term vision* is lacking in the environmental policy area. The *green tax reform* recommended in the previous review and by the 2002 federal strategy for sustainable development has yet to be introduced. The taxation of energy, in particular gasoline, is still too low and cannot prompt changes in behaviour. The gasoline price differential between Switzerland and the neighbouring countries should be reduced to encourage savings on fuel consumption and cut back on emissions resulting from “gasoline tourism”.

Recommendations:

- implement the *green tax reform* called for in the 2002 federal strategy for sustainable development; identify and eliminate subsidies and tax provisions that are potentially detrimental to the environment (in particular, eliminate the planned deductibility of expenses for commuting by car);
- formulate a pro-active, long-term *environmental policy* vision;
- improve the use and *integration of strategic instruments in the areas of transport, energy, the environment and regional development*, from a sustainable development standpoint;
- promote the use of environmental indicators and indicators of sustainable development in government strategies, paying special attention to *regional development and land use planning*;
- associate the *federal strategy for sustainable development* with sectoral strategies; set quantified objectives; encourage the *cantons* to implement strategies for sustainable development in liaison with their sectoral policies.

Agriculture

The interconnections between agriculture and the environment have been even more central to Swiss agricultural policy since a referendum held in 1997. Except for the nitrogen balance at national level and the protection of lowland biodiversity, *agri-environmental objectives* have on the whole been achieved, including those of the “Agricultural Policy 2007” programme. Agriculture’s *negative effects* on the environment (e.g. from phosphorus and greenhouse gases) have been reduced in most areas, with some exceptions remaining. The *positive*

effects (e.g. with regard to biodiversity, landscapes) have been increased. The use of *natural resources* seems to have become more efficient. Monitoring and evaluation activities have been expanded, as has scientific and quantitative analysis of policy impacts. As a result, new programmes, including “*Agricultural Policy 2011*”, are being prepared based on more solid information. Professionals and NGOs contribute actively to this effort and often take initiatives themselves in the agri-environmental area.

However, the overall level of support for agriculture (as measured by the “producer support estimate”, calculated by the OECD) remains very high. The form of this support is nevertheless shifting in a direction favourable to the environment, as *direct payments, essentially targeting environmental services*, are increasing to the detriment of price supports, which have been a major source of distortions. This policy shift ought to be continued so as to improve the competitiveness of Swiss agriculture and support the pursuit of environmental objectives. Problems involving *specific regional pollution* (e.g. ammonia, nitrates, pesticides, etc.) persist and ought to be addressed by actions that are targeted more precisely. In a number of cases in recent years, the pace of pollution abatement seems to have slowed. Despite progress in monitoring and evaluation, certain areas are not yet covered by reliable indicators, and on some

Recommendations:

- pursue *agricultural policy reform* in order to enhance economic competitiveness and, at the same time, ecological efficiency; in this context, continue to give high priority to meeting agri-environmental objectives;
- continue to *reduce pollution of agricultural origin*, in particular through targeted and regional actions;
- maximise *agriculture’s beneficial effects* on the environment, especially with regard to biodiversity and the landscape;
- develop a market conducive to trade in more environmentally friendly products by applying the principles of integrated product policy to the entire *agri-food chain*, and by heightening consumer awareness;
- continue to develop *monitoring and evaluation*, especially in areas for which indicators are insufficient, and base the formulation of future objectives on extensive analysis and on close co-operation among all the parties involved;
- bolster co-ordination between *agricultural and other policies* (e.g. environmental, regional, forestry) and between actions taken by federal and cantonal authorities.

points evaluations still do not agree. The *integration of various other policies* (e.g. regional, forestry) with agricultural policy is still insufficient, and the cantons' implementation of the regional programmes of federal policies, as well as their participation in monitoring and evaluation, are still unsatisfactory. The environmental components of activities along the entire agri-food chain (e.g. transformation, marketing) are not well understood, nor is *consumer demand*, and labelling techniques are not always uniform.

Integration of environmental and social decisions

In Switzerland, *environmental democracy* is based primarily on the practice of holding referenda, on the accessibility of environmental information to all interested parties and to the general public, and on appeals to the Federal Supreme Court by environmental NGOs. *Environmental education* is dispensed at all levels, from elementary school to adult education, and it is characterised by innovative approaches and great thematic richness. The economic consequences of pollution-related *health* problems have been studied, as have the effects of environmental measures on *employment*.

However, Switzerland has not yet ratified the Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (*Aarhus Convention*), and practices concerning dissemination of information, access to the courts and public participation will

Recommendations:

- ratify the *Aarhus Convention* and ensure that practices at the federal and cantonal levels concerning access to environmental information, public participation, and access to justice comply with obligations under this convention; ensure that NGOs have access to the courts and can participate in decision-making related to EIA procedures at an early stage;
- continue efforts to disseminate *environmental information*; continue to ensure high-level *environmental education* at all stages;
- fully implement the ongoing *Environment-Health action plan*; formulate and implement complementary measures that are cost-effective;
- make further efforts to achieve *sustainable mobility and recreational activity*, in particular by integrating protection of the environment, nature and landscapes into transport and regional planning at all levels; extend *Agenda 21* programmes to rural and scarcely populated areas.

need to be harmonised with this convention. Public participation in *environmental impact assessments* (EIAs) is limited. Draft legislation on public access to information is in the pipeline. In general, there are insufficient countrywide, harmonised *monitoring and economic data*. The *use of indicators* is still only partial. Efforts to set up a *national environmental data network* need to be continued. Although local Agenda 21 programmes now cover 30% of the population, there is a need to develop them further, especially in sparsely populated areas. Scant attention has been paid to the *redistributive aspects* of exposure to pollution. While protection of the environment continues to be the Swiss population's top priority for the future, it is not being given high priority at present. *Recreational traffic* is one of the main problems that Swiss transport and environmental policy ought to address, as it accounts for a high proportion of automobile traffic and is growing rapidly.

3. International Co-operation

Switzerland has an effective system for co-ordinating international environmental activities, based on formal consultations (at federal level and between the Confederation and the cantons) and on various processes for informal consultations. It maintains extensive co-operative relations with *neighbouring countries and the EU* as a whole, including with regard to harmonisation of environmental legislation. It has transposed the provisions of a number of *multilateral environmental agreements*, including: the Protocol on Substances that Deplete the Ozone Layer (Montreal Protocol) and its amendments, the Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention), the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention), the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, the Stockholm Convention on Persistent Organic Pollutants (POPs), the Convention on Biological Diversity and the International Treaty on Phytogenetic Resources for Food and Agriculture. It actively promotes environmental protection and sustainable development in *international fora*. Swiss *official development assistance*, as a percentage of gross national income, has been increasing (0.44% in 2005). ODA for environmental purposes and other environmental expenditure at the international level (e.g. for activities in the countries of Eastern Europe, Caucasus and Central

Asia) have been substantial. In addition, some CHF 250-300 million per year is collected by *NGOs and the private sector* (e.g. the Swiss Alliance of Development Organisations) and is invested primarily in international co-operative activities with strong environmental relevance.

Nevertheless, there is room for improvement. Concerning *climate change*, there are problems meeting targets for reducing emissions of *CO₂ and other greenhouse gases* (internationally agreed targets as well as domestic ones). It is true that Switzerland has low energy and CO₂ intensities. Likewise, it has adopted voluntary measures that have to some extent reduced CO₂ emissions, although these have been insufficient. The *CO₂ tax* envisioned in the federal law on CO₂ has yet to be implemented. Switzerland is also having trouble meeting the targets established for several *air pollutants* (e.g. PM₁₀ and NO_x from automobiles) under the Convention on Long-range Transboundary Air Pollution. *It has not ratified* the Aarhus Convention and its Protocol on Pollutant Release and Transfer Registers, the Protocol on Strategic Environmental Assessment to the Espoo Convention, the Water and Health and Civil Liability Protocols to the Water Convention, or the Protocols to the Convention on the Protection of the Alps. Even though Switzerland is in fact prepared to comply with the provisions of certain multilateral environmental agreements, reluctance to enter into binding international agreements has recently increased, reflecting a lack of consensus across the country. Certain international commitments have not been fully met at the cantonal level.

Recommendations:

- take steps to meet Switzerland's targets under the Kyoto Protocol, including introduction of a *CO₂ tax*;
- implement the measures needed to further reduce *emissions of NO_x, VOCs and PM₁₀* so as to meet the targets in the Ordinance on Air Pollution Control and the Convention on Long-range Transboundary Air Pollution;
- improve *implementation of the provisions of multilateral environmental agreements (MEAs)*, including at federal and cantonal levels;
- expand *Alpine co-operation*, in particular concerning transport, energy and tourism;
- ratify and implement *recent MEAs* to which Switzerland is not yet a party;
- further increase overall *official development assistance (ODA)* and improve reporting on ODA in the area of environmental protection (e.g. water).

OECD Environmental Performance Reviews SWITZERLAND

Topics covered:

Environment Management: Air, Noise, Water
Nature, Landscapes and Biodiversity Management
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Environment and Agriculture
Environmental-Social Interface
International Co-operation

This book is part of the OECD Environmental Performance Reviews Programme which conducts peer reviews of environmental conditions and progress in each member country. It scrutinises efforts to meet both domestic objectives and international commitments. The analyses presented are supported by a broad range of economic and environmental data and lead to recommendations for further environmental and sustainable development progress.

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