

ENVIRONMENTAL PERFORMANCE REVIEW OF MEXICO

EXECUTIVE SUMMARY

Within a challenging, economic, demographic and social context ...

Despite the 1994-95 peso crisis and a sharp economic slowdown in 2001, Mexico's GDP grew by 41% overall between 1990 and 2001 while its population increased by 22% (the highest rate among OECD countries) to reach over 100 million today. The Mexican economy is the eighth largest in the OECD and the largest in Latin America, though GDP per capita is among the lowest in the OECD area. These national data mask the existence of dual consumption and production patterns and the persistence of regional disparities. Income inequality in Mexico is among the greatest in the OECD area. Poverty remains widespread, affecting 53 million people in urban and rural areas, including in particular the indigenous population. Particularly since 1994 (conclusion of the North American Free Trade Agreement and accession to the OECD), Mexico has pursued a policy aimed at opening up its economy and integrating it with world markets. Mexico is Latin America's most important exporting country by far; it has extensive oil and natural gas reserves and a wealth of other mineral resources, while its industrial sector is competitive in many fields. With 1.3% of world land area, Mexico hosts about 12% of known terrestrial biota and is one of the world's 12 megadiverse countries.

Strong decoupling of environmental pressure from GDP, as seen in a number of OECD countries, has not yet been achieved in Mexico. Indeed, recovery from the currency crisis and overall subsequent rapid economic growth have occurred together with increased pressures on the environment, including through pollution and natural resource use, despite the establishment of a solid environmental legal and institutional framework. Further, Mexico has adopted an ambitious approach to environmental governance, increasingly mainstreaming sustainable development as a guiding principle of sectoral policy-making processes and as a shared responsibility of different sectors and institutions. Today, priority environmental issues include: water and forest management, which have become issues of national security; integrated management of natural resources; environmental management and environmental planning at the watershed level; decentralisation of environmental management and decision-making; increased public participation and the right of access to environmental information; ensuring that users of natural resources pay for the environmental cost of resource use; and, strengthening of environmental legislation, inspection and compliance rates. Several of these issues reflect pressures on the environment deriving from Mexico's development choices and demography, as some 1.5 million new citizens per year increase the challenges of providing basic environmental services.

This report examines progress made by Mexico since the previous OECD Environmental Performance Review in 1998, and 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 61 recommendations are made that could help strengthen Mexico's environmental progress in the context of sustainable development.

... solid environmental policies are in place...

Environmental legislation progressed during the review period. The General Law on Ecological Balance and Environmental Protection (covering air, sea and fresh water quality, hazardous waste, soil, protected areas, environmental impact assessment and noise) was updated in 1996 to introduce integrated pollution control for air, water and waste (introducing a Single Environmental License) and, in 2001, to establish the right of public access to environmental information and to strengthen public participation. New general laws were recently enacted on wildlife protection (2000) and on waste management (2003). In addition, all states have created their own environmental legal regimes. An increasing number of environmental offences are considered in the criminal code, and penal sanctions have been taken (e.g. for arson in forests). Emission standards are now linked to environmental quality objectives for recipient bodies. Voluntary industry audits have led to the granting of clean industry certificates. User charges for Federal marine reserves have recently been introduced and will be extended to terrestrial protected natural areas. Efforts are being made to develop public-private partnerships in the water sector.

* 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 2.3), integration of social and environmental concerns (Section 2.2) and global environmental interdependence (Section 3).

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... but their implementation and financing need to be strengthened.

However, though Mexico has recognised the severe environmental degradation confronting it, time as well as sustained and continuous efforts will be required to implement and fund its environmental policies. Devolution of environmental policy implementation has not been accompanied by adequate capacity building at state and municipal levels. This implementation gap reflects, in particular, the complex and sometimes unclear distribution of environmental competency across levels of government and limited local authority to raise revenues from taxes or charges. The scope of environmental enforcement has been broadened to address unsustainable use of natural resources (e.g. illegal forest cutting) but without the necessary parallel increases in staff and budget of the Federal Attorney for Environmental Protection (PROFEPA). Irrigation Districts continue to be inspected separately by the National Water Commission (which both inspects and enforces its own irrigation schemes), while individual irrigation schemes (50% of irrigation water) are virtually un-inspected. There is wide scope to extend the use of economic instruments, particularly in air and waste management. User charges for water and waste water services are set below cost recovery levels. Farmers are exempt from water abstraction charges. Pollution abatement and control expenditure has remained low by OECD standards. In fact, there are very large needs with respect to environmental infrastructure (e.g. water supply, waste water collection and treatment, waste infrastructure) which reflect cumulated underinvestment in such infrastructure and rapid population increase in urban areas. Given Mexico's environmental objectives, there is a financing gap: insufficient Federal spending on environmental protection, limited application of the user and polluter pays principles, the limited revenue-raising ability of states and municipalities and low reliance on external financing explain Mexico's difficulties.

Sustainable development is a major governmental aim ...

Attaining sustainable development has become increasingly an explicit aim of the strategic National Development Plan (issued by the Office of the President and covering six year periods, based on a 25-year outlook). This plan provides the framework for the programming of much Federal public expenditure by sectors. Environmental programming is co-ordinated with other sectoral programming. The National Environmental and Natural Resources Programme is issued every six years. The Programme to Promote Sustainable Development in the Federal Government seeks to include sustainable development targets and action plans in sectoral planning. "Presidential" targets have been set for all ministries, including performance requirements in terms of environmental outcomes and public administration. Two national crusades have been launched, to raise public awareness of tropical deforestation and water resources and of waste management. Since 2001, the Ministry of Environment and Natural Resources (SEMARNAT), which oversees air, water and waste management as well as nature conservation and forestry, has participated in inter-ministerial economic, social and law and order meetings. There is institutional integration of environmental concerns within tourism policies (e.g. national eco-tourism programme, Agenda 21 for the tourism sector) and within energy policies (resulting in lower energy intensity and weak decoupling of total final energy consumption from economic growth, fuel switching from oil to natural gas, improvement of road fuel quality). Prices of road fuel have steadily increased. A petrol surcharge was levied in Mexico City's metropolitan area to raise revenue for environmental activities; it has been discontinued.

... requiring improved market-based integration of environmental concerns in economic and sectoral decisions.

However, Mexico has not achieved strong decoupling of environmental pressure from economic growth as has been done in some other OECD countries. This reflects its development choices as well as rapid population growth. Major sources of direct environmental pressure include road traffic, industrial and agricultural production, and energy production and consumption. Road freight traffic increased by 78% between 1990 and 2001, while industrial production, agricultural outputs and primary energy supply rose by 43%, 33% and 24%, respectively. Market-based integration has remained very limited. There have been many proposals to improve energy pricing and transport taxation, but few have been put into practice. Excise duty on fuels, designed to protect public revenue and consumer prices from fluctuations in world oil prices, and taxes on vehicles could be further differentiated according to environmental externalities. No strategic environmental assessment is carried out in the case of transport sector policies. Limited efforts have been made to influence modal split, resulting in a 78% increase in road freight traffic over the decade. There is very little institutional and market-based integration within the agricultural sector. On the contrary, support is provided for the development of intensive irrigated production, and the various agricultural and rural development programmes are designed and implemented with little regard to environmental protection. Progress in developing renewable energy sources has been slow, and further investments are needed to expand natural gas production and distribution to meet targets.

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Mexico plays an active international environmental role and has progressed towards implementing its commitments.

Mexico has greatly improved the manner in which its international environmental agenda is being addressed. To a great extent it has acted in line with other OECD countries, though it has not always been obliged to do so. It has assumed responsibilities beyond its legal obligations under the Climate Change Convention and the Montreal Protocol. Mexico ratified the Kyoto Protocol in 2000. CO₂ inventories have been carried out and effective measures have been taken to reduce GHG emissions. CO₂ emissions have been decoupled from GDP growth. Consumption of ozone-depleting substances has been much reduced, in advance of mandatory requirements. Mexico has important responsibilities relating to its rich biodiversity, but resources with which to protect the environment and conserve natural resources are limited. It has made considerable progress towards protection of whales, sea turtles and dolphins and has created the world's largest whale sanctuary. It promotes co-operation with like-minded countries that are also rich in biodiversity, with a view to creating an equitable system of natural resource use. Bilateral environmental co-operation has been strengthened, and regional environmental co-operation with other Latin American countries has increased. Mexico has provided technical assistance to support sustainable development in a number of Latin American countries. Tripartite environmental co-operation within North America is increasing and has led to concrete results; improvements were made recently in waste water treatment near the northern border.

However, Mexico is experiencing difficulties implementing its legal regime, as well as adequately funding projects, in order to meet its international commitments. Law and order in the environmental protection area could be improved, especially in an open economy like that of Mexico. Air pollution in the twin cities along the northern border has worsened, largely due to increasing international lorry traffic. Cross-border difficulties have arisen over water use in northern Mexico. Current plans concerning access to drinking water and basic sanitation are not consistent with undertakings under the UN Millennium Declaration or the objectives agreed at the Johannesburg Summit. Additional financial resources should be made available to ensure consistency. Regarding climate change, economic instruments are still not used as incentives for behavioural change or to finance subsidies encouraging use of cleaner energy. Activities to protect the marine environment and coastal ecosystems from land-based activities and pollution sources, and from pollution from ships, could be given greater attention and be better co-ordinated.

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Annex: 61 Recommendations*

<p>Environmental management</p>	<ul style="list-style-type: none"> • improve <u>enforcement of environmental legislation</u>, especially for nature and forest protection, by enhancing the human and financial capacity of PROFEPA and fostering partnerships with police authorities; review water related enforcement and compliance and include waste water discharge in integrated pollution control licences; • extend the application of the <u>user and polluter pays principles</u> through better pricing of water and waste services, with due regard to social constraints; • review the scope for introducing <u>new economic instruments</u> such as product charges on hazardous waste streams, air emission charges, payments for environmental services and water pollution charges; • expand <u>environmental infrastructure</u>; in particular, increase related spending (e.g. from public, private and international sources), improve efficiency in the provision of environmental services, and develop public-private partnerships in the water and waste sectors; • accompany decentralisation of environmental management to states and municipalities through commensurate <u>devolution of powers to tax and charge for environmental services</u> and determined efforts to build local administrative and technical capacity; • formalise <u>institutional integration</u> mechanisms relating to sustainable development; further integrate environmental concerns into economic, fiscal and sectoral policies (e.g. transport, energy, agriculture, tourism).
<p>Air</p>	<ul style="list-style-type: none"> • continue to strengthen <u>implementation and enforcement</u> of the regulatory system; • extend air emissions regulation to additional <u>industrial branches</u> and update existing regulations for SMEs; improve compliance rates, particularly for the most polluting firms; • better enforce <u>vehicle inspection</u>, make it mandatory in the most polluted cities and extend it to buses and lorries; speed up <u>renewal of the vehicle fleet</u>; further develop and implement <u>traffic management</u> in urban areas, giving appropriate priority to public transport; • strengthen integration of air quality concerns in the industry, transport and energy sectors through use of <u>economic instruments</u> as well as elimination of subsidies with harmful environmental effects; • continue efforts to improve <u>fuel quality</u>; in particular, reduce the sulphur content of diesel and petrol, internalise externalities in fuel prices; proceed with appropriate investment to reduce emissions and to prevent accidents in the energy sector (e.g. in refineries, power plants); • give higher priority to pollutants with significant impacts on <u>human health</u>; in particular extend air quality monitoring to include PM_{2.5} and VOCs; • further develop the air management capacity of <u>states and municipalities</u>; extend <u>air emission estimates</u> to the whole country, including to all cities with over 500 000 inhabitants and to energy and industrial facilities; strengthen criteria in air quality emergency plans and extend such plans to the most polluted cities.
<p>Water</p>	<ul style="list-style-type: none"> • increase current water-related <u>investments</u> and management efforts, in order to meet Mexico's 2025 long-term objectives and the 2015 Johannesburg targets for water supply and sanitation, with due regard to the rural population; • pursue current proposals to increase <u>compliance</u> by local utilities and industry with the effluent limits and deadlines of 1996 standard; • encourage drinking water and waste water facilities to obtain ISO accreditation to improve the <u>operational performance</u> of treatment plants; • continue efforts to improve the <u>water efficiency of agricultural irrigation</u>, particularly groundwater-fed irrigation; take measures to halt overexploitation of groundwater aquifers; • further develop demand management measures that encourage <u>sustainable water use</u> and further progress in the transition towards pricing of water services, whilst giving attention to the special needs of the poor; • strengthen and further develop an <u>integrated watershed approach</u> to both improve water and forest resources management and provide environment-related services more efficiently; • reinforce current policies for <u>awareness raising</u> on water quality and for fostering stakeholder participation in water basin management; • give greater weight in water management to the protection of <u>aquatic ecosystems</u> (e.g. rivers, lakes, estuaries, deltas, wetlands).
<p>Waste</p>	<ul style="list-style-type: none"> • <u>enforce waste regulations</u> and reduce <u>illegal disposal</u> of hazardous and municipal waste, at national and local government levels; • continue to enhance <u>hazardous waste</u> management, and to improve monitoring of hazardous waste generation, by working towards the completion target for the national registry (100% coverage by 2006); • implement the newly adopted framework legislation for <u>municipal waste management</u>; increase the waste management capacity of municipal authorities and operating enterprises; • develop a national strategy and local programmes to reduce urban and hazardous <u>waste generation</u>; • increase <u>investment in infrastructure</u> (e.g. new sanitary landfills, closure of illegal landfills) for municipal waste management and extend services to medium and small cities; • improve and modernise <u>recycling and reuse of municipal waste</u>, introducing producer responsibility for selected waste streams and taking social factors into account (e.g. the role of the informal sector); increase <u>composting of organic waste</u>; • speed up identification of <u>contaminated sites</u>; develop and implement a national remediation strategy.

* These Recommendations were formally approved by the OECD Working Party on Environmental Performance.

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Nature and biodiversity

- integrate biodiversity concerns into the planning, execution and evaluation of public policies (e.g. agriculture, forestry, tourism, rural development), in line with the National Biodiversity Strategy and National Biodiversity Action Plan;
- significantly increase financial resources (from public, private and international sources) for biodiversity conservation at national, state and local levels, including through user charges;
- further develop the National System of Protected Natural Areas: extending its geographical and ecological coverage; providing resources to develop and implement management plans; promoting the establishment of biological corridors; and stimulating participation by private initiatives, as well as indigenous and local communities, in their conservation;
- foster recovery of endangered species populations, protecting their natural habitats and reducing illegal trafficking in wild species;
- support conservation and management of terrestrial and aquatic ecosystems outside protected natural areas; expand ecological land planning;
- combat deforestation, particularly for tropical woods and forests: strengthening reforestation programmes; promoting sustainable forest management; encouraging forest certification; and redirecting agricultural subsidies in forest areas to finance public ecological assets;
- consolidate information systems on Mexico's biological diversity and introduce monitoring and evaluation of biodiversity related policies and actions;
- promote new laws to regulate the access to and sustainable use of genetic resources, consistent with international trade and multilateral environmental agreements.

Integration economy-environment

- fully take into account environmental concerns should fiscal reform be completed; there is a strong need for an increase in revenues to invest in environmental infrastructure;
- improve the environmental effectiveness of energy and transport taxes, differentiated according to air pollutant emissions and fuel efficiency; consider wider use of green taxes (petrol surcharge) to internalise environmental externalities and raise revenues;
- remove environmentally harmful subsidies (e.g. electricity and water) whilst giving due consideration to social concerns (e.g. replacement by direct income support for poor farmers and households so as not to distort price signals);
- improve institutional integration within agriculture policies, including through creating an environmental unit within the Ministry of Agriculture, Rural Development, Fisheries and Food;
- prepare a strategic environmental assessment of transport policy, including measures to reduce urban traffic congestion and develop rail and sea freight traffic, based on cost-benefit analysis;
- finalise the strategy on energy and the environment, with nationwide objectives and targets and expected completion dates, including for PEMEX and the Federal Electricity Commission's facilities.

Integration social-environment

- further improve health and quality of life, particularly in areas with high marginalisation levels, by reducing the share of people who do not have access to basic services (e.g. safe water, basic sanitation, electricity);
- continue to promote initiatives that contribute to income and/or job generation together with environmental improvements (e.g. reforestation, eco-tourism, sustainable forestry), particularly in rural and less developed regions;
- further strengthen environmental education and awareness, especially among young people;
- continue the development and use of indicators to measure environmental progress and related institutional effectiveness;
- ensure practical implementation of the right of access to environmental information.

Sectoral integration: agriculture & rural development

- create synergies among agriculture, rural development, environment and natural resource management, particularly by reinforcing institutional integration between SAGARPA and SEMARNAT and their respective agencies at the Federal and state levels and by developing a national agri-environmental strategy with quantified objectives;
- pursue efforts towards water pricing reform in agriculture, particularly by progressively eliminating environmentally harmful irrigation subsidies;
- contribute to the development of profitable forestry in the context of agricultural policy reform; in particular, further reduce incentives to intensify agricultural production and compensate populations engaged in forest management for otherwise unremunerated though environmentally beneficial public services, possibly through PROCAMPO;
- promote consolidation of forest units on ejido land into viable larger-scale forest units in the context of land tenure reform, and introduce more flexibility to allow contracting out of forest management;
- explore use of economic incentives to increase the revenues of rural populations; in particular, evaluate the potential for further promoting eco-tourism in protected areas;
- assess the environmental effects of PROCAMPO support payments, as well as the anticipated environmental effects of NAFTA.

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International commitments

- continue to emphasise the use of indicators and quantified targets in developing result-oriented international environmental strategies;
- address the negative environmental impacts of growing international trade and investment in northern Mexico;
- strengthen both the institutions to enhance bilateral co-operation and the mechanisms that encourage international commitments, consistent with environmental management decentralisation;
- develop like-minded countries positions on international issues, such as biodiversity conservation, response to climate change, and international law, and assume leadership as appropriate;
- develop a national strategy to reduce the rate of growth of GHG emissions, with specific objectives and precise measures to be taken over the next few years, including under the proposed Clean Development Mechanism;
- seek the development of integrated management of international water basins, with special emphasis on efficient use of water;
- improve institutional mechanisms to provide better protection of the environment in marine waters, coastal waters and coastal zones, and increase involvement by SEMARNAT in this regard;
- continue to develop institutions and measures to combat marine pollution from ships and to respond rapidly to oil emergencies.

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