# SPAIN

## CONCLUSIONS AND RECOMMENDATIONS*

Spain's rapid economic development over the last two decades has made it the eighth largest economy among OECD countries. In many instances, this growth has been accompanied by an even greater increase in pressures exerted on the environment, in terms both of the use of natural resources (e.g. water, soil) and of pollution. The development of tourism, in particular, has put high pressures on the country's coastal zone.

Since 1978 substantial, though not uniform, devolution of environmental decision making from the central state to the 17 autonomous regions has led to a kind of environmental federalism. Since joining the European Community in 1986, Spain has made much progress with the development of its infrastructure in, for example, transport and water supply. A number of large environmental investment plans have been adopted and are being implemented.

The progress Spain has made towards achieving economic convergence with its European partners needs to be matched with environmental convergence. The challenge ahead is thus: i) to effectively and efficiently implement environmental policies, which includes carefully balancing environmental investment priorities while taking account of both national needs and international commitments, and ensuring that all autonomous regions make harmonised environmental progress; ii) to more fully incorporate environmental considerations into sectoral policies; and iii) to enhance Spain's role in international co-operation to protect the environment.

This OECD report sets out the baseline for assessing future environmental progress, and it examines the environmental performance of Spain: the extent to which government domestic objectives and international commitments are being met. A number of recommendations are put forward that could contribute to further environmental progress in Spain.

### 1. Implementing Environmental Policies

#### *Achievements and further progress*

Spain has made very significant efforts since the 1980s to develop and implement a coherent environmental policy. It has adopted specific environmental plans and developed a modern set of basic environmental laws and regulations in line with EU directives. It has progressively strengthened its environmental administration, and in 1996 it created a Ministry of the Environment (MMA) with wide responsibilities for inland and coastal waters, pollution, waste management, nature protection and biodiversity. Spain has adopted basic minimum standards applying to the whole country. It has given wide responsibilities to autonomous regions and municipalities to implement its environmental policies. Broad decentralisation of environmental activities, when supported by strong regional governments, should facilitate implementation of environmental policies and help build public support. It should also increase cost-effectiveness by allowing differentiation in standards to reflect differences in ecosystems and use of natural resources. Nonetheless, there is also a need to ensure that all parts of the country make comparable environmental progress. For example, streamlining and codifying the very large body of environmental laws and regulations would facilitate enforcement and implementation by lower levels of government.

During the 1980s, Spain increased its public environmental expenditure at a rate higher than that of GDP growth. During the 1990s, public investment for environmental activities has remained approximately constant. Pollution abatement and control expenditure has reached only about 0.8 per cent of GDP. The environmental policy of Spain is hampered by a heavy reliance on subsidies, government transfers and other forms of aid to finance environmental activities. The availability of environmental funding for specific types of projects from the European Union and the central Government can distort regional and local investment priorities. A more systematic use of the polluter pays principle and the user pays principle would be a key part of ensuring that future development will be sustainable. Spain has introduced several economic instruments to support its environmental policies. Thus far these instruments are used on too limited a scale and there are problems to be overcome to ensure that municipalities collect and pay all environmental charges.

Spain publishes yearly reports on the state of the environment and has created a series of measurement networks. High-quality environmental information is provided for the public at the central and some regional levels. The public now has access to environmental data held by the administration, though this access is sometimes limited

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by bureaucratic difficulties. Not enough is known to allow a comparison of the environmental performance of the autonomous regions, to evaluate enforcement by municipalities or to assess the environmental achievements of enterprises. Also, more economic analysis should be made to assess cost-effectiveness and help internalise external costs.

It is therefore recommended that consideration be given to the following proposals:

- streamline environmental legislation and adopt a framework law on the environment;
- make greater use of user fees and earmarked environmental charges to internalise external costs and change behaviour;
- eliminate environmentally harmful subsidies, especially in water management;
- encourage greater access to environmental information and provide environment performance indicators at national and regional levels;
- perform ex ante and ex post evaluations of cost-effectiveness of policies and mixes of instruments.

***Water management***

Water issues have always been of pre-eminent importance in Spain. The uneven seasonal and geographical distribution of supply and demand makes the availability of water a constraint on sustainable development in some regions. For much of this century, large-scale hydraulic engineering works for hydropower, irrigation and water supply have been the dominant feature in water management. The Drainage Basin Authorities have long played an essential role and the 1985 Water Act provides a solid framework for water quantity and quality management in a country where water transfer among basins is considered a means of providing equal access to this most valuable resource. Municipal sewerage networks have been extended and the treatment of municipal waste water has made great strides in the last 15 years: the installed capacity of municipal sewage treatment plants grew from 13.4 million population equivalent in 1980 to almost 47 million in the early 1990s. The quality of coastal bathing waters generally is good. With major investment plans for municipal waste water management and irrigation approved in 1995 and 1996, Spain has provided itself with a set of concrete water management objectives. These need to be complemented by the proposed National Hydrological Plan, which should give prominence to ambient water quality and the ecological needs of watercourses.

Despite the progress to date, a balance between the use of water for economic development and the protection of aquatic environments has yet to be achieved. Overpumping is depleting aquifers, and distorted consumption patterns caused by a rigid water allocation system prevent rational use of water. Considering that the average efficiency of agricultural water use (which accounts for 80 per cent of total consumptive use) is less than 47 per cent, irrigation water should be viewed as underpriced; furthermore, water prices to households are among the lowest in the OECD. A lack of transparent and rigorous economic analysis for new water development projects is a potential threat to aquatic ecosystems. The system for permitting and water pollution fees under the Water Act has failed to achieve sufficient progress in the clean-up of municipal and industrial waste water. Sewerage connection rates and treatment levels vary widely among autonomous regions, and several large cities (e.g. Valladolid, La Coruña) are still without any form of treatment. Implementation of the National Sewerage and Waste Water Treatment Plan will depend greatly on increasing the commitment and environmental expertise at the municipal level. Large industrial facilities generally have sufficient treatment capability, but small industry lags behind, particularly in the animal husbandry and foodstuffs branches. The Drainage Basin Authorities should give greater emphasis to their role in erosion control in headwater areas.

It is therefore recommended that consideration be given to the following proposals:

- place greater emphasis on water demand management approaches, including improved flexibility of water allocation procedures, strict application of the user pays principle along with establishment of a water pricing regime that encourages water conservation and optimum use, installation of flow meters in irrigation channels and, where needed, establishment of infrastructure for local water transfers;
- institute rigorous and transparent cost/benefit analyses, taking account of all costs, for all public investment in water development infrastructure;
- upgrade drinking water treatment facilities and reduce water losses in pipe networks;
- simplify permitting procedures for waste water discharges and improve the implementation of the system of water pollution fees under the 1985 Water Act while also raising environmental awareness and know-how at the local level to persuade municipalities to take greater responsibility for waste water issues, and applying the polluter pays principle to industrial discharges into municipal sewer systems;

- adopt the proposed plan for the control of industrial discharges;
- implement further measures to reduce pollution from diffuse sources, particularly fertiliser and pesticide leaching from agricultural land;
- make the proposed National Hydrological Plan an instrument for integrated water management, through broad stakeholder consultation and by giving due weight to receiving water conditions and aquatic ecosystems, implementing planned programmes to enhance the natural functions of watercourses and devoting part of water use efficiency gains to the replenishment of rivers.

***Air management***

Spain has made progress in developing a policy framework for air management in the last two decades. The Atmosphere Protection Act has been implemented since the mid-1970s, and more recently Spain has actively been incorporating EU rules and other international requirements in its legal framework; among these are fuel quality regulations and emission standards, including those for motor vehicles. Recent national efforts have focused on, inter alia, improving the air quality monitoring system and emission controls for large combustion plants. $SO_2$ emissions show a decreasing trend in the 1990s, and concentrations of $SO_2$ and particulates have decreased through sulphur reduction in fuel and a shift away from coal, as well as emission regulations. Acidifying substances emitted in Spain cause acidification only in limited areas, as critical loads are generally high and acid deposition low. Spain has taken the first step towards integrating environmental concerns in energy policy with its 1991 National Energy Plan. The plan has many quantitative targets related to the environment and many of its measures are designed to achieve both energy targets (such as reduction of reliance on oil and increases in energy saving) and environmental targets (e.g. emission reductions). Progress has been made in areas such as natural gas use and co-generation. The 1995 Strategy for Energy and Environment provides updated and reinforced targets concerning, for instance, $CO_2$ and $SO_x$ emissions.

Further efforts are necessary, not only to meet current targets and solve current problems but also to deal with future concerns. $NO_x$ and VOC emissions are still increasing, though Spain has adopted stabilisation or reduction targets. More attention should be paid to improving local air quality; various kinds of local pollution exist, caused by heating installations and industrial plants, and also by vehicles, which are of increasing concern. Target levels and emission standards are generally modest in Spain, and it is necessary to establish a long-term strategy to upgrade them. Some autonomous regions do not have sufficient capacity to implement regulations and in certain cases their environmental authorities do not enforce regulations because of social and employment concerns. Although $CO_2$ emission levels are lower than the OECD Europe average, current policy related to $CO_2$ reduction is expected to limit the growth only to 10 per cent for total emissions and 15 per cent for energy-related emissions between 1990 and 2000; implementation of programmes is lagging, especially those involving energy saving. More integration of environmental concerns is necessary in transport policy to improve local air conditions and restrict $CO_2$ emissions.

It is therefore recommended that consideration be given to the following proposals:

- strengthen air pollution management at regional and local levels to deal effectively with local air pollution problems, notably in specially designated air pollution zones;
- use air monitoring systems for evaluation of progress and policy development;
- review levels and implementation of emission standards for stationary sources other than large combustion plants, and develop a strategy to upgrade pollution control at such facilities;
- implement as soon as possible measures in the 1995 Strategy for Energy and Environment to reduce air emissions, and seek ways of further limiting the increase in $CO_2$ emissions;
- review the structure of energy taxation to better take into account environmental damage by, for instance, reducing the tax differential in favour of diesel fuel and introducing a tax differential based on sulphur levels for heavy fuel oil;
- strengthen measures on vehicle traffic to improve local air conditions and to reduce $CO_2$ emissions; fully implement the revised energy saving policy for the transport sector;
- develop coherent atmospheric emission data for the 1980s to allow assessment of achievements regarding emission reduction targets.

***Waste management***

Spain adopted national legislation aiming at safe disposal and waste minimisation for municipal waste in the late 1970s and for hazardous waste in the late 1980s. Progress has been made on ensuring safe disposal of waste.

The amount of urban solid waste subject to uncontrolled landfilling has decreased from 60 per cent to 25 per cent in the last 15 years. Regulation of hazardous waste management started in 1986; the number of reports on hazardous waste generation has significantly increased. To deal with contaminated soil, Spain has been developing an inventory of contaminated sites since 1991. Recent efforts at central level have focused on establishing national plans; plans for hazardous waste and for remediation of contaminated soil have been approved, and MMA is developing a plan for urban solid waste. Improvement is also seen at regional level; the autonomous region of Catalonia, for instance, has adopted a comprehensive law for waste management.

Concrete achievement has been limited so far to some progress in proper waste disposal and recycling; little progress has been made on waste prevention. Improvement of hazardous waste management is an urgent issue: treatment and disposal capacity is insufficient, leading to export and uncontrolled disposal. Little attention is paid to minimisation (reduction and/or reuse) of construction/demolition waste and non-hazardous industrial waste. For the remainder of the 1990s, Spain faces a challenge to make progress at every step of the waste hierarchy. Another important task is to upgrade waste management in the autonomous regions; some regions do not have sufficient capacity for hazardous waste control, and in a few regions uncontrolled landfill accounts for more than half of solid waste disposal.

It is therefore recommended that consideration be given to the following proposals;

- establish a national strategy to deal with urban solid waste, with a clear priority of reducing generation of waste and further promoting recycling;
- extend separate collection of recyclable materials and hazardous household waste and ensure sufficient treatment capacity for them;
- adopt national legislation for packaging waste and implement it as soon as possible;
- strengthen controls on hazardous waste and invest in new capacity for treatment and disposal while putting stress on the user pays principle;
- improve management of non-hazardous industrial waste and construction/demolition waste, with clear assignment of responsibility to generators;
- use a range of policy instruments to encourage waste minimisation (e.g. waste collection fees, landfill fees, product charges, deposit-refund system, voluntary agreements, information and education);
- develop clean-up standards and remediation methods for contaminated sites while paying attention to the cost-effectiveness of clean-up.

***Nature conservation***

Spain encompasses a large part of Europe's biological diversity in terms of habitats and species. At the national level, it has adopted both general aims and modern nature conservation legislation. The proportion of its territory benefiting from protection has grown significantly over the last decade; in terms of the IUCN classification (Categories I to V) it now amounts to 8.4 per cent. The management of parks and protected areas today on the whole receives significant resources to protect nature and promote the recreational use of parks. Spain has made considerable investments in sophisticated planning and decision-making tools, and is developing a state-of-the-art database for natural resource management and monitoring. Some species recovery plans are being carried out successfully at both the national and regional levels. The autonomous regions have been given a greater role in recent years. Much of the work on protected areas is driven by the requirements of the EU habitat directive. Public participation in nature conservation has expanded considerably, as have negotiations and agreements with local communities and landowners. Environmental NGOs are active throughout the country. Increasingly effective fire services manage to contain forest losses despite the steadily growing number of fires.

Yet, development pressures and the use of natural resources have long caused degradation of ecosystems and a loss of biodiversity, and it is not clear whether past trends have been halted. Much remains to be done in terms of setting quantitative objectives, extending the area protected and making it more representative of the wide diversity of Spanish nature. A significant proportion of areas identified for protection under international agreements still awaits follow-up action. Visitor pressure is becoming a concern in some parks. The management framework for nature conservation needs to be simplified, for example in respect of the multitude of categories of protected area. In the management of natural resources (soil, water, forests, fisheries) there is still little integration with biodiversity and nature conservation considerations. The rate of implementation of the National Plan of Hydrological Forest Restoration so far has been too slow to reverse erosion trends, and efforts to push back desertification should be stepped up.

It is therefore recommended that consideration be given to the following proposals:

- approve the National Strategy for the Conservation and Sustainable Use of Biological Diversity;
- transcribe the EU bird and habitat directives into national law and set quantitative targets and deadlines for extending the number and total size of protected areas in all autonomous regions, and ensure that they are representative of the main habitat types; continue to improve stakeholder participation in the planning and management of protected areas;
- step up habitat rehabilitation projects, particularly in ecological corridors such as the traditional drovers' roads and along rivers and streams;
- complete and adopt the National Plan against Desertification and expand efforts to control erosion and other soil degradation by developing and implementing policy instruments to encourage private landowners to adopt erosion control measures and practices, by giving higher priority to erosion control in the allocation of funding for afforestation activities and by fully exploiting the provisions of the 1985 Water Act to promote soil conservation plans and protective zoning along rivers and streams in basin hydrological plans;
- pursue further integration at national and regional levels of nature conservation and biodiversity considerations in sectoral laws, plans and management practices for fishing, agriculture and forestry;
- extend public awareness campaigns to include issues such as desertification, soil degradation, fisheries and water use.

## 2. Integrating Environmental and Economic Decisions

### *Integration of environmental concerns in economic policies*

Integration of environmental concerns in other policies has been progressing, but slowly. Environmental considerations have now been introduced in some sectoral plans. In spite of the success achieved, the mechanisms of integration among sectors are not yet fully efficient and effective. Spain does not have a government approved national environmental plan or strategy with quantitative targets and commitments by other ministries.

Environmental impact assessments (EIAs) have been used to integrate environmental considerations in major public investment projects. Further efforts would be required to ensure the use of EIAs for wider categories of projects. There would also be merit in using EIAs to assess strategies or programmes, especially transport, tourism and irrigation programmes.

The price mechanism can play a very positive role in limiting waste of scarce natural resources and integrating environmental considerations in other policies. In particular there is a need to examine the extent to which water prices, especially for irrigation water, and other forms of agricultural subsidies may lead to water overuse and inefficiencies in land use.

Co-ordination of environmental efforts among various levels of government needs to be strengthened. In particular, existing mechanisms for consultation with the autonomous regions should be used more extensively in relation to draft EU directives. Lower levels of government could better carry out their environmental responsibilities if they had adequate funding for this purpose: the issue of fiscal revenues and earmarked taxes and charges may therefore require further examination to strengthen the role of lower levels of government.

The central Government is very supportive of consultative procedures involving representatives from industry, employer and labour groups and NGOs. It has created a number of bodies to discuss environmental matters. Voluntary plans in partnership with industry are being used with success.

It is therefore recommended that consideration be given to the following proposals:

- develop a comprehensive national environmental strategy, building on national and regional plans;
- seek greater integration of environmental policies with other policies and ensure that development in agriculture, transport and tourism is fully sustainable;
- widen the use of EIAs at the project level and develop EIA at strategic level;
- clarify the respective roles of central and regional authorities to avoid conflicts and enhance cost-effectiveness in environmental policy; ensure that environmental responsibilities transferred to regional authorities can be adequately funded.

***Sectoral integration: transport***

Environmental concerns in the transport sector have only recently been taken into account in Spain, with related measures on urban and interurban infrastructure dating from the beginning of the 1990s. EU directives for reducing air emissions and noise at source are being implemented. EIAs are being improved as regards their use in transport infrastructure projects and their extension into some of the autonomous regions. Environmental and energy-saving concerns are being introduced in transport planning. Intermodal public transport programmes have been elaborated in some large cities through a financial partnership by all relevant levels of government. Promising efforts are being made in some cities with local traffic management programmes, which promote environmentally friendly transport modes.

However, the transport sector is growing faster than GDP (with increases of 50 per cent in passenger traffic, 60 per cent in freight traffic and 70 per cent in car ownership over the last 15 years, compared with GDP growth of 40 per cent); and the pattern of growth, with its emphasis on road building and diesel-fuelled vehicles, further intensifies environmental pressures. Of most concern are pollution and energy consumption, and deteriorating air and noise quality in urban areas. Because the country is at the periphery of the core European markets, Spain's economic integration in the EU particularly contributes to growth in freight transport. Cost-effective measures now will mean less need to redress pressures later at higher costs. In this respect, much better integration of environmental concerns in transport policies and plans is needed at both national and regional levels. Setting environmental targets for pollution levels would provide a frame of reference for the formation of transport policy; the targets already set for energy saving provide an example. Rigorous and expanded use of environmental assessment of proposed transport infrastructure is needed. The increase in the diesel car fleet, which is mainly due to fuel taxation policy, is of particular environmental concern in urban areas. Since surveys clearly show that the Spanish population is exposed to relatively high noise levels, especially in urban areas, more attention needs to be given to noise from road and air traffic.

It is therefore recommended that consideration be given to the following proposals:

- develop a comprehensive strategy for the transport sector, including quantified targets for noise and pollutants (notably particulates, $NO_x$, VOCs and $CO_2$), integration with the National Energy Plan and a monitoring process to aid in adjusting freight and passenger transport policies; fully implement the revised energy saving policy for the sector;
- extend the range of EIAs to the formulation of infrastructure plans and programmes, with improved public consultation and participation;
- adjust fuel taxation policy with a view to giving consumers price signals that take environmental damage into account;
- further stimulate and develop programmes to improve the urban environment through the implementation of a comprehensive set of measures limiting the use of cars and promoting other modes;
- set legal standards for acceptable levels of ambient noise and develop a policy to both redress current pressures and avoid future ones.

## 3. International Co-operation

Spain has long had good relations with its neighbours concerning environmental activities. It is party to numerous bilateral and trilateral agreements aiming at managing common problems, notably in the area of surface and marine waters. Spain rapidly incorporated EU law into its own law, and has given direct responsibilities to the autonomous regions to implement environmental law. Many autonomous regions are implementing Agenda 21 at their level, and some have started co-operation with developing countries, including financial aid. Concerning air pollution, $SO_x$ emissions have decreased but $NO_x$ has not been stabilised. Growth in $CO_2$ emissions has been reduced, but continues. Many steps have been taken to reduce water pollution emanating from Spain. Aid to developing countries has been increased very significantly since 1988; Spain, which was a recipient country 20 years ago, is now insistent on increasing its level of official development assistance (ODA) beyond the OECD-DAC average.

While the overall record is positive, there are areas where further progress could be made, particularly to ensure that Spain's economic convergence within Europe is accompanied by environmental convergence and that its environmentally dependent activities (e.g. agriculture and tourism) benefit from a solid natural resource base and a positive environmental image. The co-ordinating or overseeing role of the central Government concerning matters within the jurisdiction of regional governments could be strengthened in areas where Spain has international

commitments. Great care should be exercised to avoid international difficulties linked to growing demand for water. In this context, it may be appropriate to deepen bilateral co-operation based on the latest international agreements in this field, as well as EU directives. Concerning $NO_x$ and $CO_2$, Spain should take measures to stabilise its emissions as soon as possible. Given the existing severity of desertification and water shortages in Spain, more advanced measures to prevent climate change should be of great interest. Protection of the marine environment has progressed but could receive higher visibility and be more closely co-ordinated with activities concerning environmental protection in coastal areas.

It is recommended that consideration be given to the following proposals:

- seek to enhance Spain's role in international forums dealing with environmental protection by increasing funding devoted to international activities and by taking more action-oriented positions;
- ratify and rapidly implement several international agreements related to protection of the environment (Annex III), particularly those on oil pollution of the sea;
- strengthen existing mechanisms to ensure meaningful consultation with regional governments on international issues, to oversee the degree to which regional governments reflect Spain's international commitments in their own legislation and to assess whether implementation of environmental laws and regulations in the regions is sufficiently uniform as not to create distortions in competitiveness among regions;
- implement more consistently the principles in the Rio Declaration, notably those concerning full payment for use of natural resources, liability and compensation, and the precautionary approach;
- strengthen and co-ordinate activities in the area of marine environment, in particular better integration of activities to protect the terrestrial and marine environments;
- work closely with other European countries and African countries to protect threatened migratory species;
- increase the aid budget to enable Spain to reach its 0.7 per cent of GNP target for ODA by 2000, and devote more ODA to enhancing environmental protection, notably in Mediterranean countries.