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CONCLUSIONS AND RECOMMENDATIONS*

Spain's *GDP has grown* by 36% in the last ten years. It is now the ninth highest in the world. GDP per capita has also risen and is now closer to the EU 15 average, partially owing to EU support. In many instances economic growth has led to increased pressures on the environment in Spain, in terms of both pollution and use of natural resources (e.g. water, land). This partly reflects a 52% increase in international tourist arrivals, and housing construction at a rate of 700 000 new dwellings per year (the *tourism and construction sectors* accounting for 11% and 9% of GDP, respectively). The population density of the *coastal regions and the islands* (where almost 60% of the population lives) is five times as high as in the interior regions. In some tourism areas population density can triple in the summer. Economic integration into the EU has led to 77% growth in road freight transport. Despite a significant decline, the unemployment rate is over 11%, among the highest in the OECD area.

Over the review period, *decoupling* of some environmental pressures from economic growth (e.g. for SO_x and NO_x emissions, water abstractions) has been achieved and much progress has been made in developing environmental infrastructure (e.g. water supply, waste water treatment). Environmental legislation has evolved very significantly, and some regions implement very advanced environmental policies. However, Spain faces important challenges with respect to high energy intensity, high water use intensity, and increasing CO_2 emissions and municipal waste generation. *Priority environmental issues* include natural resource management (e.g. water management), biodiversity conservation, climate change and air pollution, sustainable tourism and waste management. Under the Constitution, the *autonomous regions*, which present

* Conclusions and Recommendations reviewed and approved by the Working Party on Environmental Performance at its meeting on 1 July 2004.

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considerable differences in their physical, social and economic conditions, have a major role to play in implementing environmental policy.

To meet these challenges, it will be necessary for Spain to: i) thoroughly implement its environmental policies, improving their cost-effectiveness and inter-regional co-ordination; ii) further integrate environmental concerns into economic and sectoral decisions; and iii) pursue its international environmental co-operation. This report examines progress made by Spain *since the previous OECD Environmental Performance Review* in 1997, 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 46 recommendations are made that could help strengthen Spain's environmental progress in the context of sustainable development.

1. Environmental Management

Implementing more efficient environmental policies

Within the overall Spanish constitutional framework regarding the distribution of environmental competencies, *environmental legislation* has evolved positively and significantly over the review period, partly in response to EU Directives. Major national laws have been enacted, including on packaging waste (1997), waste (1998), environmental impact assessment (2001), integrated pollution prevention and control (IPPC) (2002) and forest (2003). The autonomous regions have also adjusted their legal frameworks. The Sectoral Conference on the Environment and Sustainable Development and the new *network of environmental authorities* areimportant co-ordination mechanisms (between the central government and the autonomous regions), including for transposition of EU Directives and distribution of EU funds. Many of the environmental efforts of national and regional administrations have continued to focus on *programming environmental infrastructure* investment and its financing, including through EU structural (e.g. water supply and waste water infrastructure) financing. Enforcement activities have increased. Product charges on packaging wastes have been developed and landfill taxes on municipal waste were recently introduced. Progress has been made with voluntary eco-labelling

* Objectives of the 2001 OECD Environmental Strategy covered in these Conclusions and Recommendations include maintaining the integrity of ecosystems (Section 1), decoupling environmental pressures from economic growth (Sections 2.1 and 2.3), the social and environmental interface (Section 2.2) and global environmental interdependence (Section 3).

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of products. Spanish firms have greatly expanded their participation in *environmental management systems*. Voluntary approaches have been adopted countrywide in several industrial sectors; their environmental effectiveness and economic efficiency should be monitored. Regional and local fiscal powers, including for environmentally related taxes, have recently been increased.

During the review period *environmental expenditure* increased somewhat. It nevertheless remains relatively low compared to that in other comparable OECD countries: pollution abatement and control expenditure represents about 0.8% of GDP (below the EU and OECD averages). Spain's environmental policy continues to be hampered by *reliance on subsidies*, government transfers and other forms of financial assistance. Spain makes limited use of environmental taxes and other *economic instruments* to influence behaviour, as it is widely believed that they could affect competitiveness and employment. There is considerable scope to *improve efficiency* through full recovery of the costs of supplying environmental services such as water and sewerage. Some municipalities do not charge for waste services; less than a third of waste collection and treatment costs are recovered countrywide. Increasing the use of economic instruments (e.g. water services pricing) to *finance environmental services* is a matter of urgency in view of the expected decline of EU funding. Penal infringements and confinement sanctions for poor implementation of environmental legislation remain limited.

Recommendations:

- strive for implementation of the *polluter-pays and user-pays principles* to improve the efficiency of environmental policies and secure financing of environmental services, including in the context of fiscal powers devolution;
- review the policy mix supporting environmental management; increase the use of *economic instruments*; strengthen *enforcement mechanisms* for both pollution and land use regulations (e.g. administrative and penal sanctions); monitor the effectiveness and efficiency of voluntary approaches;
- speed up the development of a *national environmental strategy* with appropriate multistakeholder consultation, measurable and timebound environmental objectives and targets, and related indicators;
- increase the use of *economic analysis* to improve the efficiency of environmental policies; eliminate environmentally harmful subsidies in the water sector.

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Air

Spain has taken many steps to address air pollutant emissions and strengthen its air quality management system. *Sulphur dioxide* emissions from the energy and transformation industries and *carbon monoxide* emissions from mobile sources have been reduced. Use of cleaner vehicles has helped control the growth of nitrogen oxides emissions from *road transport*. Purchase of new (cleaner and more efficient) vehicles and scrapping of industrial vehicles (at least seven years old) and private cars (at least ten years old) was promoted with a lower registration tax. Lead emissions decreased drastically following the ban on leaded fuel. Further *technology and fuel quality improvements* should follow adoption of EURO I-III emission standards and of fuel specifications. In the context of Local Agenda 21, some municipalities have begun to use strategic environmental assessment (SEA) tools to evaluate transport plans and programmes. Reduced VAT on rail and bus tickets encourages use of public transport. Liberalisation of the *energy* sector has occurred more rapidly than indicated by EU timelines. Compulsory purchase of domestic coal by electricity producers is set to decrease. Significant efforts have been made to develop cogeneration and *renewable energy sources*, particularly wind energy, although this has entailed price support mechanisms. Notable progress has been made in reducing dioxin and furan emissions from the waste sector. The quantity and quality of ambient air data have been improved through expanding and upgrading the air quality monitoring network.

Despite this progress, pressing air quality challenges remain. In particular, *concentrations of ground-level ozone* and *particulate matter* threaten human health and the environment. Of special relevance to ozone formation are emissions of non-methane volatile organic compounds (particularly from increased solvent use) and NO_x emissions from road transport. Data show that particulate matter concentrations are high relative to limit values at many locations and are therefore likely to have adverse health effects. Spain has not met its international NO_x and VOC reduction targets. *Emissions of SO_x, NO_x, NMVOCs and NH_3*, some of which are trending upwards, considerably exceed national emission ceiling (NEC) targets for 2010. Moreover, a 38% increase in CO_2 emissions has contributed to an overall increase in total greenhouse gas emissions. More national and local air quality management planning and enforcement are needed, especially to address impacts on air quality associated with *transport*. Further market-based integration of environmental concerns in transport decisions should be fostered through use of economic instruments. Efforts to reduce *emissions from stationary sources* should be encouraged, with priority attention to regulating older, more polluting sources (e.g. through

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implementing the IPPC and LCP Directives) and related investments. Measures to increase *energy efficiency* on both the demand and supply side are also needed. Further attention should be given to air quality issues in the context of *structural changes in the energy sector* (e.g. deregulation, privatisation).

Recommendations:

- strengthen efforts to *improve ambient air quality* (e.g. ozone and particulate matter concentrations) and to reduce air pollutant emissions (e.g. SO_x and NO_x from power generation, NO_x and VOCs from transport, VOCs from solvent use, ammonia from agriculture); strengthen efforts to meet national emission ceiling targets for SO_x, NO_x, VOCs and NH_3;
- improve *air quality planning and management* through better integration of air quality policies in regional/local planning (especially transport planning); strengthen air quality enforcement authority and capacity at all levels of government;
- reduce *greenhouse gas emissions in conjunction with other goals*, such as meeting the air emission reduction objectives for 2010, energy security, energy efficiency and greater use of renewable energy;
- improve the *integration of air quality concerns in transport decisions* with respect to both freight and passenger transport, including reduction of energy consumption (e.g. through increased use of public transport, cleaner and more energy efficient vehicles, application of economic instruments), review of fuel pricing strategies (e.g. reducing the diesel tax differential, creatingfurther incentives for use of cleaner fuels); develop and thoroughly implement more rigorous *inspection and maintenance* of in-use vehicles;
- improve the *integration of air quality concerns in energy decisions* (including promotion of greater energy efficiency and investments to reduce emissions from power plants, refineries and industrial facilities), with a focus on large combustion plants and integrated pollution prevention and control; continue developing and using renewable energy sources.

Water

Some notable improvement occurred in the *quality of Spanish rivers* and streams during the review period. Good water quality was recorded for up to 62% of the total length of Spanish rivers in 2002, compared with 52%

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in 1995. Spain has a very good record concerning the quality of *coastal bathing waters*. These successes are largely due to progress made in treating point sources of pollution: 61% of the volume of urban waste water was treated in accordance with the EU Urban Waste Water Treatment Directive in 2002, up from 41% in 1994. The massive investment effort on water-related infrastructure is partly supported by large EU financing. Spain is more advanced than most other OECD countries in reuse of treated waste water. A *new Water Act* has been enacted, driven partly by EU Directives. It contains some important tools for improving the sustainability of water management, such as the principle of cost recovery, provision for water trading, the requirement that water used in irrigation be metered and the creation of ecological reserve flows in rivers. Preparation of a *number of water related plans and investment programmes* (sometimes approved following many years of debate) is one of the crucial developments in Spanish water management; they include the National Hydrological Plan, the National Irrigation Plan, the National Sewerage and Waste Water Treatment Plan and management plans for all the *major drainage basins*.

Despite this progress, water management in Spain is still *far from sustainable*. Water quality in many rivers continues to be poor (particularly in the lower reaches, where naturally low flows are depleted by water abstractions for human use in irrigation, industry and water supply). Minimum flow requirements would more fully acknowledge the needs of aquatic species. *Eutrophication* remains a problem in many reservoirs. A number of *groundwater aquifers* are contaminated and are still over-exploited, leading to saltwater intrusion in coastal areas. The management framework for the coastal zone needs strict implementation to address adequately the many development pressures in these areas. Much remains to be done to further extend *municipal waste water treatment*. It is unclear how much progress has been made with industrial waste water treatment. A definitive pollution licence has not yet been obtained for a large share of municipal and industrial discharges. Basin authorities are unable to recover 20% of the cost incurred for the supply of bulk water to irrigators. Notwithstanding new legislative provisions concerned with cost recovery, *water prices* remain low and the pricing system is not used sufficiently for demand management. Above all, Spain will need to complete the *shift from demand forecasting to true demand management* to successfully implement the letter and spirit of the new Water Law and the EU Water Framework Directive. In that context, the National Hydrological Plan and its financing should be reviewed from environmental and economic perspectives.

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Recommendations:

- further strengthen *demand management* with respect to all types of water use (e.g. agricultural, municipal, industrial) by ensuring that existing instruments (such as water pricing, trading, metering) are effectively implemented and are achieving their purpose; in particular, ensure that there is full payment of charges and cost recovery for service delivery;
- implement the Water Act's *minimum reserve flow requirements* in such a way that river habitats are restored and effectively protected;
- review and revise the *National Hydrological Plan*;
- complete the national plans concerning *sewerage, waste water treatment and sewage sludge*; further improve the operation of the pollution licensing system and promote effective and efficient management of *urban water services* (e.g. water supply, waste water collection and treatment) through rigorous monitoring of drinking water quality, adoption of formal quality assurance systems and strategic planning by utilities;
- carry out *modernisation of existing irrigation systems* to achieve the improvements in water use efficiency proposed in the National Irrigation Plan; firmly implement measures to reduce the *environmental impact of agriculture* on water quantity and quality;
- expand the mix of measures to halt over-exploitation of *groundwater* resources;
- improve recognition and understanding of the relationships between water and *economic variables* with: i) *better data* on expenditures, prices and financing; ii) systematic analysis of the *microeconomic conditions* facing key water users; and iii) a systematic *review of subsidies* for water supply and treatment infrastructure, aiming at cost-effectiveness and long-term financing of the maintenance and upgrading of facilities.

Nature and biodiversity

Pursuant to the Convention on Biological Diversity (CBD), a *national biodiversity strategy* was launched in 1998. This strategy establishes the basis for developing sectoral action plans. Biodiversity conservation is an integral part of forest planning (2002 Forest Plan and 2003 Forest Act), wetland management (1999 Strategic Plan for Wetlands, 2002 wetland restoration programme, 2004 national wetland inventory) and the forthcoming National Action Programme to Combat Desertification.

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Concerning *protected habitats*, virtually all parks and reserves are now subject to the Natural Resource Management Plan. The *Master Plan for the National Parks Network* supports co-ordinated planning and management by parks. Better tourism information is contributing to growth in the number of national park visitors. Transfer of responsibility for nature management to the autonomous regions has led to a marked increase in the total amount of protected area. Spain is making a considerable effort under *Natura 2000*; it has proposed that close to 25% of the territory of Europe and of Spain itself (mostly forest land belonging to municipalities) be protected. *Species* monitoring has been strengthened and a nature data bank has been created. Conservation strategies have been adopted for endangered species whose natural area of distribution lies in more than one autonomous region. Recovery plans for 44 threatened species have been launched. Efforts have been made to control invasive species. *Outside protected areas* efforts have been made to integrate nature conservation concerns in the *forestry sector*, particularly at the regional level where reforestation is supervised by regional nature conservation departments. Total wooded area has increased; forest fires and defoliation have decreased. *Organic farming* is being developed. Drovers' routes are being recovered. *Regional spatial planning laws* have been enacted in most autonomous regions and regional spatial planning strategies are being prepared. At the *international level* Spain actively participates in *major conventions on nature conservation*, notably the Barcelona, Bonn and Ramsar Conventions as well as the CBD and CITES. Over half its protected area is classified as of international importance. Under Natura 2000, 18 *marine reserves* have been established and over 600 000 hectares of protected marine areas have been proposed.

Despite this generally very positive picture, lack of *co-ordination between authorities in different regions* leads to discontinuities in the protected area network. There are strong contrasts between the amount of area protected in different autonomous regions; the *representativeness of protected ecosystems* needs to be improved, possibly in the context of Natura 2000. Less than 10% of Spain's territory is protected, compared with the OECD average of 14.6%. Little has been done to restore *ecological corridors* (a protection category not included in the 1989 Nature Law). Protection of *coastal ecosystems* remains limited overall, although actions are being taken to delineate the public marine-terrestrial domain. Sensitive coastal waters still need to be delineated under the EU Urban Waste Water Treatment Directive. The *share of threatened species* remains high, especially in the case of freshwater fish and mammals. Catalogues of endangered species have still not been compiled in four autonomous regions. Regional hunting legislation sometimes does not conform to the requirements of the EU

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Birds Directive. Nature conservation concerns are as yet poorly integrated in the *agriculture sector* as well as in spatial planning. Compared with other EU countries, Spain has been late in implementing agri-environmental measures. Only 4-5% of total EU support for Spanish agriculture consists of agri-environmental payments, and over three-quarters of these payments are coupled with extensive agricultural (cereal) production. These concerns are also poorly integrated in the *water sector* (e.g. it is unclear whether creation of a public hydrological domain will improve nature conservation along rivers). *Financing* of nature conservation essentially relies on budgetary transfers (some EUR 50 million per year) and little on economic instruments (e.g. entrance and hunting fees). Public funds available for coastal protection (EUR 150 million per year), forest management (EUR 200 million per year) and agri-environmental policy (EUR 300 million per year) have scarcely been used to enhance biodiversity conservation. The share of tourism receipts devoted to nature conservation remains insignificant. It is not clear whether subsidies available to populations living near national parks have been targeted to environmental outcomes.

Recommendations:

- extend the total size of *protected areas* and ensure that they are representative of the main habitat types, in the context of implementing the Natura 2000 network and as part of development of regional spatial planning strategies; prepare *management plans* for all parks and reserves and guidelines for the development of the Natura 2000 network;
- foster *co-ordination of nature management among the autonomous regions*, possibly through reinforcing the role of the National Nature Protection Commission; provide a legal basis for ecological corridors;
- enhance *nature conservation along rivers*, particularly in the context of the creation of a public hydrological domain;
- improve integration of nature conservation concerns in the *agriculture sector*, through a sectoral action plan under the national biodiversity strategy and greater reliance on (and more targeted use of) agri-environmental payments;
- set a target for protection of remaining natural *coastal areas* from urban development; accelerate implementation of the 100-metre dune and beach protection zone;
- ensure conformity of *regional hunting laws* with the EU Birds Directive.

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2. Towards Sustainable Development

Integration of environmental concerns in economic decisions

Spain continues to make progress in *decoupling* environmental pressures from economic growth (e.g. by reducing SO_x emissions and controlling the growth of NO_x emissions, nitrogen fertiliser use and water abstractions). *Integration* of environmental concerns in sectoral policies has also progressed, particularly in the *energy* sector. *EIA procedures* (e.g. for transport projects) have led to stricter conditions or project modifications. In some industries (e.g coal, fishery) a process of restructuring and *phasing-out of subsidies* has begun.

However, further efforts are needed to *decouple* CO_2 emissions and the generation of municipal waste from economic growth. Rapid expansion of passenger and freight transport is of particular concern. Concerning *institution-based integration*, much remains to be done at the strategic, planning, programming and possibly budgetary levels. A *national sustainable development strategy* is being developed in consultation with several ministries and autonomous regions, although there has not yet been significant civil society involvement. There is still considerable fragmentation or lack of integration among various sectoral or regional environmental plans and programmes. EU financial assistance has mainly contributed to infrastructure supply and there is a risk of oversupply (e.g. road infrastructure). It has also contributed to some extent to a bias against demand management in environmental policies. A clear vision of how to ensure future *financing* of environmental policies should be developed, given the expected decline in EU funding. *Strategic environmental assessment of plans and programmes* (e.g. for transport, tourism, irrigation) also needs to be developed. Concerning market-based integration, *fiscal instruments* have been used to some extent to internalise externalities but mostly to reward environmentally friendly behaviour and investments, impeding economic efficiency. These instruments should be used more widely to tax activities that have negative impacts on the environment, possibly within the context of a neutral *fiscal reform* (e.g. increased energy taxation might be balanced by decreased labour taxation). Energy, transport and water prices in general might be reviewed from the point of view of environmental and economic efficiency to obtain the benefits of win-win situations.

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Recommendations:

- further *decouple* environmental pressures from economic growth to reduce pollution intensity and improve the resource efficiency of the economy;
- finalise the *Spanish sustainable development strategy* with the involvement of civil society;
- further strengthen *policy co-ordination and integration* among all levels of government as an important component of achieving environmental objectives;
- develop *strategic environmental assessment* (SEA) of sectoral programmes and plans with appropriate public participation; in particular, *integrate* further environmental considerations in agricultural policies and physical planning;
- at project level, continue and further strengthen the use of *environmental impact assessment* (EIA);
- continue to phase out *environmentally harmful subsidies* (direct and indirect) in the coal, agriculture and fishery sectors;
- review existing *environmentally related taxes* (e.g. on energy and transport) with a view to restructuring them in a more environmentally friendly manner, possibly in the context of a fiscal reform better balancing energy and labour taxation;
- further promote *local development initiatives* (e.g. in the context of Local Agenda 21) integrating economic, social and environmental concerns in coastal, urban and rural development.

Integration of environmental and social concerns

Employment in the environmental sector increased more rapidly than GDP in the review period. About 250 000 people have environmentally related jobs; several environmental programmes are directly linked to employment creation. Positive steps have been taken to further develop formal *environmental education* at the primary, secondary and university level as well as in vocational training. *Environmental information* (e.g. data, reporting) is generally of high quality and easily accessible. Spain isworking on a new law on public access to environmental information that would transpose the 2003 EU Directive and has signed the 2003 PRTR Protocol to the Aarhus Convention. Some 700 municipalities have initiated a Local Agenda 21 programme. The general public is kept informed about key environmental issues through media coverage. *Environmental awareness* in Spain is quite high.

However, there has been lack of communication between NGOs and the national environmental administration despite attempts to improve matters

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(e.g. the Environmental Advisory Council, development of a sustainable development strategy). Though it is compulsory by law, *public participation* in national environmental decision making is generally weak; it is stronger at the territorial level (e.g. in EIA, municipal planning). Spain has not yet ratified the 1998 *Aarhus Convention* on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters. Access to the courts by NGOs and others remains limited due to high procedural fees, which partly explains why Spain is one of the EU countries with the greatest number of complaints with respect to presumed inadequate implementation of EU environmental Directives. Further development and use of *environmental indicators* (e.g. outcome indicators), at the national and regional levels, should be beneficial since Spain will gradually move away from investment programming towards more planning-oriented and strategic environmental management.

Recommendations:

- continue to consider *employment* implications in environmental decisions and policies;
- continue to promote *environmental education* nationally and regionally in formal and vocational education;
- renew and broaden communication between national and regional environmental authorities and civil society (e.g. NGOs, trade unions) and increase *public participation* (e.g. in the preparation of sustainability strategies, plans and programmes, EIA and SEA procedures);
- ratify and effectively implement the *Aarhus Convention*;
- further develop and use *environmental indicators* at national and regional levels, including to monitor progress towards meeting environmental objectives.

Sectoral integration: towards sustainable tourism

The *Integral Quality Plan for Spanish Tourism 2000-06* (PICTE), launched in 2000, has increased environmental awareness and enhanced mechanisms for co-operation among all public and private actors at the national, regional and local levels. At the local level the 200 projects that address sustainability issues in tourism municipalities, and the 100 plans aimed at improving the quality and sustainability of mature and emerging tourism destinations, deserve special

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recognition. Several autonomous regions have approved *tourism laws and action plans for environmental management of tourism*, notably in coastal areas. The Balearic Islands and Canary Islands have implemented strict regulatory measures (since 1999 and 2001, respectively) to control the growth of tourism and the number of visitors (quantitative tourism). Spain is actively developing and promoting rural accommodation and new tourism products to *diversify tourism activity*, even out seasonality and reduce some environmental pressures at destinations where very intensive tourism takes place. *Growth in the extent of protected areas* contributes to nature and biodiversity conservation in fragile ecosystems. Environmental tourism quality systems have been adopted by 26 parks. Numerous *voluntary efforts by the tourism industry* (particularly hotels) should produce significant water and energy savings in the near future. Further implementation of Spain's new *system of environmental tourism indicators* will be instrumental in measuring and analysing future progress in tourism sustainability.

Recommendations:

- strengthen efforts to improve the environment in coastal areas, protect it from pressures related to development of infrastructure, construction and tourism, and promote *integrated coastal management in tourism*;
- pursue efforts to integrate environmental concerns in the tourism sector by establishing a *national strategy for sustainable tourism development*; introduce quantitative and qualitative targets;
- *strengthen the leadership of the national tourism administration in regard to environmental management*, promote further inter-ministerial co-operation (transport, nature, construction) and increase allocated resources;
- further develop sustainable tourism management *information, guidance and training addressed to autonomous regions and municipalities*;
- implement the *Spanish system of environmental tourism indicators* and develop its analytical use to measure progress and performance with respect to sustainability;
- further promote voluntary *sustainable management initiatives by the tourism industry*;
- explore (with all the economic actors involved) the *use of economic instruments* to preserve and valorise environmental assets in tourism areas.

Despite the progress already made, most of these initiatives will need to be consolidated, strengthened and sometimes accelerated to respond to environmental pressures caused by continued tourism development. A *national*

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sustainable tourism development strategy would be very useful to further support environmental management by autonomous regions and municipalities in tourism areas. Implementing such a strategy would require allocation of *additional human resources* to address sustainability issues, including at the national level. In *coastal areas*, despite the existence of some strict regulatory measures concerning recovery of degraded areas, further efforts are needed to improve the state of the environment and preserve and/or recover coastal public domain. Minimising environmental pressures associated with the development of infrastructure, residential tourism and construction in coastal areas will be critical.

3. International Commitments

Spain has already ratified many agreements focused on *marine issues*. It has been particularly active in protecting the *Mediterranean Sea* (e.g. under the Barcelona Convention and the UNEP Mediterranean Action Plan). Concerning oil spills, progress has been made by Spain under the Convention on Oil Pollution Preparedness, Response and Co-operation. The National Plan for Special Services for Saving Human Life at Sea and Controlling Pollution was approved in July 2002. Co-operation with Portugal has been strengthened in the framework of the Albufeira Convention. Spanish *official development assistance* (ODA) has been reformed: a new Law on International Development Co-operation and a four-year Master Plan (with environmental protection as one of three main priorities) have been adopted. A Spanish Co-operation Strategy for the Environment is intended to guide objectives-setting by co-operation players and to link their actions with international environmental agreements. Although the *national Climate Change Strategy* has not yet been adopted, many plans with direct or indirect impacts on GHG emission reductions have been adopted (e.g. the Plan for Developing Renewable Energies for 2000-10, planning of development of the electricity and gas sectors for 2002-11, the Energy Efficiency Strategy for 2004-12, the Plan for Improving Transport Infrastructure for 2000-07). Concerning *ozone depleting substances*, methyl bromide consumption decreased by 75% between 1995 and 2003.

However, there is room for progress in these areas. Concerning *marine issues*, Spanish fishing vessels, together with vessels under other flags, exploit some species which are outside the safe biological limit. The 1990 *Lisbon Co-operation Agreement*, which provides a framework for close co-operation by the EU, France, Morocco, Portugal and Spain to protect the coasts and waters of the northeast Atlantic against pollution by oil and other hazardous substances, is not

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yet in force. Ratification of the 1989 International Convention on Salvage is pending. The Spanish fleet was on the "grey list" of the Paris MOU in 2000-02, indicating some problems with meeting MARPOL standards. *ODA* fell from 0.3 to 0.25% of GNI between 2001 and 2003. Concerning climate, *GHG emissions* increased by 38% between 1990 and 2002 and the outlook for the next few years is pessimistic. The national Climate Change Strategy has not yet been approved. Marginal abatement costs could differ significantly between sectors, leading to Spain meeting the overall abatement target at a higher cost than necessary. Although over 400 proposed climate change-related measures are under consideration, their cost-effectiveness has been analysed in only some cases. Concerning *NO_x emissions*, Spain has failed to meet the Sofia Declaration and Sofia Protocol reduction targets. Its ratification of the Aarhus and Gothenburg Protocols to the LRTAP Convention is pending.

Recommendations:

- adopt the *national Climate Change Strategy* and monitor its implementation; identify further possible needs for reinforcing it to meet the Kyoto target and the terms of the EU burden-sharing agreement; analyse the cost-effectiveness of its measures and amend it as necessary;
- further strengthen *protection of the marine environment* from oil spills, and improve the system of liability for damage related to transport of hazardous substances by sea; ratify the 1990 *Lisbon Agreement* on protection of the coasts and waters of the northeast Atlantic against pollution by oil and other hazardous substances; complete the ratification process for the *Protocol on (marine) Pollution Incidents by Hazardous and Noxious Substances* (HNS Protocol) and the new amendment to the emergency *Protocol to the Barcelona Convention*;
- increase total ODA, up to the UN objective of 0.7% of GNI, and *ODA devoted to environmental projects*;
- ratify and implement the *Aarhus and Gothenburg Protocols* to the LRTAP Convention.

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REFERENCES

I.A Selected environmental data

I.B Selected economic data

I.C Selected social data

II.A Selected multilateral agreements (worldwide)

II.B Selected multilateral agreements (regional)

III. Abbreviations

IV. Physical context

V. Selected environmental events (1997-2003)

VI. Selected environmental Web sites

I.A: SELECTED ENVIRONMENTAL DATA (1)

		CAN	MEX	USA	JPN	KOR	AUS	NZL	AUT	BEL	CZE	DNK	FIN
LAND													
Total area (1000 km^2)		9971	1958	9629	378	99	7713	270	84	31	79	43	338
Major protected areas (% of total area)	*2*	9.9	9.2	24.9	17.2	7.1	9.9	29.6	36.4	3.4	15.9	37.2	9.1
Nitrogenous fertiliser use (t/km^2 of arable land)		3.7	5.0	6.1	11.3	19.5	1.9	65.6	8.5	17.6	9.3	8.7	6.7
Pesticide use (t/km^2 of arable land)		0.10	0.14	0.18	1.52	1.44	0.06	0.82	0.21	1.10	0.14	0.12	0.07
FOREST													
Forest area (% of land area)		45.3	33.4	32.6	66.8	65.2	19.4	29.5	47.6	22.2	34.1	10.5	75.5
Use of forest resources (harvest/growth)		0.4	0.2	0.6	0.3	0.1	0.6	0.6	0.7	0.9	0.7	0.6	0.8
Tropical wood imports (USD/cap.)	*3*	1.6	0.2	2.2	10.7	6.1	4.0	3.4	0.4	24.2	0.3	3.8	1.4
THREATENED SPECIES													
Mammals (% of species known)		32.6	33.2	10.5	24.0	17.0	23.2	15.2	26.2	31.6	33.3	22.0	11.9
Birds (% of species known)		13.1	16.9	7.2	12.9	14.1	12.1	25.3	26.0	27.5	55.9	13.2	13.3
Fish (% of species known)		7.5	5.7	2.4	24.0	1.3	0.7	0.8	41.7	54.3	29.2	15.8	11.8
WATER													
Water withdrawal (% of gross annual availability)		1.5	15.5	19.0	20.3	33.9	6.2	..	4.2	45.1	11.9	4.4	2.1
Public waste water treatment (% of population served)		72	25	71	64	70	..	80	86	38	70	89	81
Fish catches (% of world catches)		1.0	1.4	5.0	5.3	1.9	0.2	0.6	-	-	-	1.6	0.2
AIR													
Emissions of sulphur oxides (kg/cap.)		80.0	12.2	62.7	6.9	24.8	95.7	11.5	5.0	20.1	25.8	5.2	14.6
(kg/1000 USD GDP)	*4*	2.9	1.6	2.0	0.3	2.1	4.1	0.7	0.2	0.9	2.0	0.2	0.6
% change (1990-late 1990s)		-22	..	-20	-3	-29	-4	20	-55	-37	-86	-85	-71
Emissions of nitrogen oxides (kg/cap.)		89.7	12.0	84.4	13.1	23.4	135.1	53.1	22.6	35.7	38.6	38.9	45.6
(kg/1000 USD GDP)	*4*	3.3	1.6	2.7	0.5	2.0	5.7	3.1	0.9	1.5	2.9	1.5	1.9
% change (1990-late 1990s)		-6	18	5	-	17	17	18	-9	16	-47	-25	-21
Emissions of carbon dioxide (t./cap.)	*5*	16.5	3.7	19.9	9.3	9.4	18.0	8.7	8.4	11.8	12.0	9.6	11.5
(t./1000 USD GDP)	*4*	0.61	0.45	0.63	0.37	0.66	0.74	0.46	0.34	0.47	0.88	0.37	0.49
% change (1990-2001)		22	24	17	13	88	34	45	17	14	-18	4	12
WASTE GENERATED													
Industrial waste (kg/1000 USD GDP)	*4, 6*	..	50	..	40	60	110	30	80	60	70	20	150
Municipal waste (kg/cap.)	*7*	350	310	760	410	360	690	380	560	550	330	660	460
Nuclear waste (t./Mtoe of TPES)	*8*	5.0	0.3	0.9	1.9	3.2	-	-	-	2.3	0.9	-	2.1

.. not available. - nil or negligible. x data included under Belgium.

1) Data refer to the latest available year. They include provisional figures and Secretariat estimates.
Partial totals are underlined. Varying definitions can limit comparability across countries.

2) IUCN management categories I-VI and protected areas without IUCN category assignment; national classifications may differ.

3) Total imports of cork and wood from non-OECD tropical countries.

4) GDP at 1995 prices and purchasing power parities.

Source: OECD Environmental Data Compendium.

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OECD EPR / SECOND CYCLE

FRA	DEU	GRC	HUN	ISL	IRL	ITA	LUX	NLD	NOR	POL	PRT	SLO	**ESP**	SWE	CHE	TUR	UKD*	OECD*
549	357	132	93	103	70	301	3	42	324	313	92	49	**506**	450	41	779	245	35042
13.3	35.7	5.2	8.9	9.5	2.4	12.1	17.1	25.3	6.5	23.6	7.3	22.4	**9.6**	8.0	28.7	4.1	10.9	14.6
12.8	14.9	6.6	4.2	9.8	38.6	7.6	x	29.5	11.2	6.0	4.0	5.1	**5.8**	7.1	10.4	4.2	19.1	6.3
0.44	0.24	0.30	0.15	-	0.24	0.70	0.63	0.89	0.09	0.07	0.53	0.25	**0.21**	0.06	0.33	0.09	*0.52*	*0.20*
31.4	30.1	22.8	18.9	1.3	8.8	23.3	34.4	9.2	39.2	29.7	37.9	42.2	**32.3**	73.5	31.7	26.9	10.5	33.9
0.7	0.4	0.6	0.6	-	0.6	0.3	0.5	0.6	0.5	0.6	0.8	0.5	**0.5**	0.7	0.5	0.4	0.7	0.5
6.8	1.8	2.8	0.1	2.8	11.2	7.1	-	15.6	3.6	0.3	17.6	0.1	**6.2**	2.2	0.6	0.5	2.7	4.0
19.7	36.7	37.9	71.1	-	6.5	40.7	51.6	15.6	3.4	14.6	17.3	22.2	**21.2**	22.4	34.2	22.2	*21.9*	..
14.3	29.2	13.0	18.8	34.7	21.8	18.4	50.0	27.1	7.7	14.7	13.7	14.4	**14.1**	19.1	42.6	6.7	*6.4*	..
7.5	68.2	24.3	32.1	-	33.3	31.8	27.9	82.1	-	9.6	18.6	23.8	**29.4**	16.4	44.7	9.9	*11.1*	..
16.2	20.2	14.7	4.7	0.1	..	32.1	3.7	9.9	0.7	18.6	15.1	1.4	**34.7**	1.5	4.8	17.0	*20.8*	*11.4*
77	93	56	32	33	73	63	95	98	73	55	42	53	**55**	86	96	17	*95*	*64*
0.6	0.2	0.1	-	2.1	0.3	0.3	-	0.5	2.9	0.2	0.2	-	**1.0**	0.4	-	0.5	0.8	27.4
14.3	10.1	51.4	57.6	33.4	42.2	16.0	7.1	5.7	6.4	39.1	37.0	33.2	**35.4**	6.8	3.9	33.0	19.9	32.6
0.7	0.4	3.7	5.7	1.3	1.7	0.8	0.2	0.2	0.2	4.3	2.4	3.2	**1.9**	0.3	0.1	5.3	1.0	1.5
-34	-84	7	-41	14	-14	-46	-79	-55	-46	-53	4	-67	**-35**	-43	-35	..	-68	-34
28.3	19.9	36.3	21.6	91.7	32.2	25.8	38.8	26.6	53.7	21.7	36.5	24.1	**34.5**	28.2	14.8	14.1	26.9	41.0
1.3	0.9	2.6	2.1	3.5	1.4	1.2	0.9	1.1	2.0	2.4	2.4	2.3	**1.9**	1.2	0.6	2.3	1.3	1.9
-12	-40	17	-7	-2	3	-24	-27	-27	6	-35	17	-43	**11**	-25	-32	48	-42	-4
6.3	10.5	8.2	5.5	7.4	11.0	7.3	19.0	11.0	7.8	7.7	5.7	7.5	**7.1**	5.4	6.3	2.8	9.3	11.1
0.27	0.45	0.53	0.48	0.27	0.38	0.33	0.44	0.44	0.28	0.85	0.35	0.67	**0.39**	0.22	0.23	0.49	0.43	0.51
2	-11	27	-17	5	31	7	-19	13	24	-16	48	-28	**35**	-	6	38	-2	13
80	30	50	20	1	60	20	130	30	30	160	80	80	**40**	100	10	30	40	70
510	540	430	450	700	560	500	640	610	620	290	440	320	**650**	450	650	390	560	540
4.3	1.2	-	1.5	-	-	-	-	0.2	-	-	-	3.1	**1.1**	4.4	2.2	-	3.5	1.5

UKD: pesticides and threatened species: Great Britain; water withdrawal and public waste water treatment plants: England and Wales.

5) CO_2 from energy use only; international marine and aviation bunkers are excluded.

6) Waste from manufacturing industries.

7) CAN, NZL: household waste only.

8) Waste from spent fuel arising in nuclear power plants, in tonnes of heavy metal, per million tonnes of oil equivalent of total primary energy supply.

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I.B: SELECTED ECONOMIC DATA (1)

		CAN	MEX	USA	JPN	KOR	AUS	NZL	AUT	BEL	CZE	DNK
GROSS DOMESTIC PRODUCT												
GDP, 2002 (billion USD at 1995 prices and PPPs)		845	808	9039	3159	675	475	73	199	256	140	139
% change (1990-2002)		38.8	41.3	40.7	16.3	99.2	49.3	40.9	29.0	25.6	6.4	29.7
per capita, 2002 (1000 USD/cap.)		27.8	8.0	32.1	24.9	15.1	25.0	19.5	24.7	25.1	14.0	26.3
Exports, 2002 (% of GDP)		41.2	27.2	9.7	11.1	40.0	20.6	34.0	52.1	81.5	65.2	44.2
INDUSTRY	*2*											
Value added in industry (% of GDP)		32	27	23	31	43	26	25	32	27	40	27
Industrial production: % change (1990-2002)		37.3	42.5	42.6	-7.7	152.4	30.3	24.4	46.6	14.1	-11.1	35.8
AGRICULTURE												
Value added in agriculture (% of GDP)	*3*	3	4	2	1	4	4	7	2	1	4	3
Agricultural production: % change (1990-2002)		9.7	34.7	18.5	-9.8	32.7	10.7	35.2	6.5	20.2	..	2.2
Livestock population, 2002 (million head of sheep eq.)		109	279	790	54	27	283	99	17	30	14	25
ENERGY												
Total supply, 2001 (Mtoe)		248	152	2281	521	195	116	18	31	59	41	20
% change (1990-2001)		18.7	22.8	18.4	19.3	110.4	32.1	30.5	22.7	21.2	-12.7	12.3
Energy intensity, 2001 (toe/1000 USD GDP)		0.29	0.19	0.25	0.16	0.29	0.24	0.25	0.15	0.23	0.30	0.14
% change (1990-2001)		-11.6	-12.3	-13.8	2.9	12.3	-8.4	-3.0	-3.9	-2.9	-16.3	-12.0
Structure of energy supply, 2001 (%)	*4*											
Solid fuels		12.3	5.1	23.9	19.2	22.1	47.9	7.0	12.2	13.2	49.9	21.2
Oil		35.5	60.8	39.6	49.2	51.9	28.7	34.3	42.8	41.7	19.9	44.0
Gas		28.6	22.4	22.7	12.4	9.6	17.6	29.1	22.6	22.6	19.0	23.3
Nuclear		8.0	1.5	9.2	16.0	15.0	-	-	-	20.7	9.1	-
Hydro, etc.		15.6	10.2	4.5	3.1	1.4	5.8	29.7	22.4	1.7	2.1	11.5
ROAD TRANSPORT	*5*											
Road traffic volumes per capita, 1999 (1000 veh.-km/cap.)		9.4	0.6	15.8	6.0	1.8	9.3	7.9	7.8	8.7	3.1	8.4
Road vehicle stock, 1999 (10 000 vehicles)		1784	1459	21533	7003	1116	1199	231	485	512	373	223
% change (1990-1999)		7.8	47.7	14.1	24.0	228.9	22.7	25.2	31.3	20.2	43.7	17.9
per capita (veh./100 inh.)		58	15	79	55	24	63	60	60	50	36	42

.. not available. - nil or negligible. x data included under Belgium.

1) Data may include provisional figures and Secretariat estimates. Partial totals are underlined.

2) Value added: includes mining and quarrying, manufacturing, gas, electricity and water and construction; production: excludes construction.

Source: OECD Environmental Data Compendium.

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FIN	FRA	DEU	GRC	HUN	ISL	IRL	ITA	LUX	NLD	NOR	POL	PRT	SLO	**ESP**	SWE	CHE	TUR	UKD	OECD
123	1401	1922	165	117	8	110	1292	19	399	125	352	168	59	**740**	216	199	390	1295	24908
25.1	24.1	21.9	36.2	15.8	32.1	125.2	19.8	70.8	35.4	47.7	46.3	34.6	23.0	**36.2**	25.0	10.0	41.7	30.8	33.0
24.0	23.8	23.3	16.1	11.9	26.4	30.0	22.3	43.5	24.9	27.8	9.2	16.2	11.5	**18.6**	24.7	27.4	6.0	21.9	22.1
38.1	27.3	35.5	20.5	54.9	39.7	93.7	26.9	146.6	61.7	41.8	29.6	30.1	72.8	**28.5**	43.3	42.7	28.8	25.8	21.4
32	25	30	23	31	27	42	29	20	26	38	30	29	32	**30**	28	27	31	26	29
68.5	18.0	12.7	14.6	67.8	..	284.4	12.6	30.1	20.3	40.7	66.6	22.3	8.1	**21.5**	36.2	19.1	52.6	6.2	24.0
4	3	1	7	4	9	3	3	1	3	2	3	4	5	**3**	2	1	12	1	3
-9.9	5.4	-5.9	13.6	-22.6	9.5	4.1	5.3	x	-4.9	-14.3	-14.3	0.7	..	**15.0**	-10.4	-6.0	12.9	-7.9	..
8	162	123	20	13	1	54	72	x	43	9	58	19	7	**99**	13	12	112	114	2667
34	266	351	29	25	3	15	172	4	77	27	91	25	19	**127**	51	28	72	235	5333
15.9	16.9	-1.4	29.4	-11.0	54.8	41.7	12.7	7.4	16.1	23.8	-9.3	44.1	-12.6	**39.7**	9.4	11.6	36.7	10.8	18.1
0.27	0.19	0.18	0.17	0.22	0.44	0.14	0.13	0.20	0.19	0.21	0.26	0.15	0.31	**0.17**	0.24	0.14	0.19	0.18	0.21
-5.8	-4.7	-19.0	-1.3	-20.6	16.4	-33.3	-5.6	-36.8	-14.0	-15.3	-37.2	7.6	-25.9	**4.6**	-10.8	1.5	4.0	-13.7	-9.6
18.5	4.7	24.2	32.7	14.4	2.7	17.5	8.0	3.3	11.0	3.6	61.1	12.9	23.3	**14.7**	5.4	0.5	28.4	17.0	20.8
28.6	34.5	38.3	56.7	26.4	24.4	56.9	51.6	74.2	38.9	30.7	22.5	64.2	16.4	**52.8**	27.3	48.0	40.1	34.8	40.8
11.2	13.5	21.5	5.9	42.7	-	23.9	34.6	20.7	46.9	20.6	11.4	9.1	32.4	**12.9**	1.5	8.8	18.5	37.1	21.3
18.0	40.4	12.7	-	14.7	-	-	-	-	1.4	-	-	-	23.7	**13.1**	36.5	24.2	-	10.0	11.2
23.6	6.8	3.1	4.8	1.7	72.9	1.7	5.9	1.8	1.8	45.0	5.0	13.7	4.3	**6.5**	29.2	18.5	13.0	1.2	5.9
8.9	8.4	7.4	7.3	3.4	6.5	8.3	8.0	8.9	7.0	7.2	4.5	5.6	2.2	**4.2**	8.4	7.2	0.8	7.8	8.0
240	3309	4503	389	271	17	148	3545	31	675	225	1104	461	141	**2048**	424	376	548	2909	57281
7.6	16.3	20.7	54.1	12.7	27.3	55.8	15.9	40.2	17.7	16.0	72.6	109.5	..	**41.8**	7.9	13.9	132.1	15.4	21.7
47	56	55	37	26	62	39	61	71	43	51	29	45	26	**52**	48	53	8	49	51

3) Agriculture, forestry, hunting, fishery, etc.

4) Breakdown excludes electricity trade.

5) Refers to motor vehicles with four or more wheels, except for Italy, which include three-wheeled goods vehicles.

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I.C: SELECTED SOCIAL DATA (1)

		CAN	MEX	USA	JPN	KOR	AUS	NZL	AUT	BEL	CZE	DNK
POPULATION												
Total population, 2002 (100 000 inh.)		311	1001	2855	1273	473	195	39	81	103	103	54
% change (1990-2002)		13.4	24.8	15.5	3.2	11.1	15.2	17.1	5.5	3.0	-1.6	4.5
Population density, 2002 (inh./km^2)		3.2	51.8	30.0	337.3	480.0	2.5	14.6	97.1	335.8	129.3	124.7
Ageing index, 2001 (over 64/under 15)		67.1	17.0	58.4	125.1	36.3	61.0	52.4	92.5	94.5	84.4	79.3
HEALTH												
Women life expectancy at birth, 2001 (years)		82.0	77.1	79.5	84.9	79.2	82.4	80.8	81.7	80.8	78.5	79.0
Infant mortality, 2001 (deaths /1 000 live births)		5.3	21.4	6.9	3.1	6.2	5.3	5.8	4.8	5.0	4.0	4.9
Expenditure, 2001 (% of GDP)		9.7	6.6	13.9	7.6	5.9	8.9	8.1	7.9	9.0	7.3	8.6
INCOME AND POVERTY												
GDP per capita, 2002 (1000 USD/cap.)		27.8	8.0	32.1	24.9	15.1	25.0	19.5	24.7	25.1	14.0	26.3
Poverty (% pop. < 50% median income)		10.3	21.9	17.0	8.1	..	9.3	..	7.4	7.8	..	5.0
Inequality (Gini levels)	*2*	28.5	52.6	34.4	26.0	..	30.5	25.6	26.1	27.2	..	21.7
Minimum to median wages, 2000	*3*	42.5	21.1	36.4	32.7	25.2	57.7	46.3	x	49.2	32.3	x
EMPLOYMENT												
Unemployment rate, 2002 (% of total labour force)		7.7	2.7	5.8	5.4	3.0	6.3	5.2	5.3	7.3	7.3	4.5
Labour force participation rate, 2002 (% 15-64 year-olds)		78.6	55.6	76.1	77.5	65.9	75.5	76.7	77.5	66.9	71.6	79.9
Employment in agriculture, 2001 (%)	*4*	2.9	17.6	2.4	4.9	10.3	4.9	9.1	5.7	2.2	4.8	3.3
EDUCATION												
Education, 2001 (% 25-64 year-olds)	*5*	81.9	21.6	87.7	83.1	68.0	58.9	75.7	77.0	59.5	86.2	80.2
Expenditure, 2000 (% of GDP)	*6*	6.4	5.5	7.0	4.6	7.1	6.0	5.8	5.7	5.5	4.6	6.7
OFFICIAL DEVELOPMENT ASSISTANCE	*7*											
ODA, 2002 (% of GNI)		0.28	..	0.13	0.23	..	0.26	0.22	0.26	0.43	..	0.96
ODA, 2002 (USD/cap.)		64	..	46	73	..	50	31	64	104	..	306

.. not available. - nil or negligible. x not applicable.

1) Data may include provisional figures and Secretariat estimates. Partial totals are underlined.

2) Ranging from 0 (equal) to 100 (inequal) income distribution; figures relate to total disposable income (including all incomes, taxes and benefits) for the entire population.

3) Minimum wage as a percentage of median earnings including overtime pay and bonuses.

Source: OECD.

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OECD EPR / SECOND CYCLE

FIN	FRA	DEU	GRC	HUN	ISL	IRL	ITA	LUX	NLD	NOR	POL	PRT	SLO	**ESP**	SWE	CHE	TUR	UKD	OECD
52	592	823	106	102	3	38	579	4	160	45	386	103	54	**403**	89	72	686	600	11386
4.3	4.9	3.9	5.6	-1.9	12.9	11.2	2.4	15.5	7.7	7.0	1.3	5.1	1.5	**4.4**	4.3	8.6	24.0	4.7	10.1
15.4	108.3	231.0	80.7	109.3	2.8	55.4	192.7	171.7	387.8	14.0	123.5	112.8	109.7	**80.1**	19.8	176.6	89.4	246.0	32.7
84.4	86.2	116.3	111.9	92.4	50.0	52.2	124.9	74.6	73.0	75.0	67.0	90.7	60.2	**116.3**	100.1	95.6	18.4	82.3	65.9
81.5	83.0	80.7	80.7	76.5	82.2	79.2	82.9	81.3	80.6	81.4	78.4	80.3	77.6	**82.9**	82.1	82.8	70.9	80.4	..
3.2	4.6	4.5	5.9	8.1	2.7	5.8	4.3	5.9	5.3	3.8	7.7	5.0	6.2	**3.9**	3.7	4.9	33.0	5.5	..
7.0	9.5	10.7	9.4	6.8	9.2	6.5	8.6	5.6	8.9	8.0	6.3	9.2	5.7	**7.5**	8.7	10.9	4.8	7.6	..
24.0	23.8	23.3	16.1	11.9	26.4	30.0	22.3	43.5	24.9	27.8	9.2	16.2	11.5	**18.6**	24.7	27.4	6.0	21.9	22.1
4.9	7.5	9.4	13.8	7.3	..	11.0	14.2	..	6.3	10.0	..	..	..	**..**	6.4	6.2	16.2	10.9	..
22.8	27.8	28.2	33.6	28.3	..	32.4	34.5	..	25.5	25.6	..	..	..	**..**	23.0	26.9	49.1	32.4	..
x	60.8	x	51.3	37.2	x	55.8	x	48.9	47.1	x	35.5	38.2	..	**31.8**	x	x	..	41.7	..
9.1	8.9	7.8	10.0	5.9	3.1	4.2	9.1	3.0	2.5	4.0	19.9	5.1	18.6	**11.4**	4.0	2.8	10.6	5.2	6.9
74.8	69.9	75.8	63.3	59.2	86.7	70.1	61.4	66.3	66.9	80.6	64.2	76.3	69.6	**67.6**	76.4	85.8	49.8	75.7	70.8
5.7	3.7	2.6	16.0	6.3	7.8	7.0	5.3	1.4	2.9	3.9	19.1	12.7	6.1	**6.4**	2.3	4.2	32.6	1.4	6.6
73.8	63.9	82.6	51.4	70.2	56.9	57.6	43.3	52.7	65.1	85.8	45.9	19.9	85.1	**40.0**	80.6	87.4	24.3	63.0	64.3
5.6	6.1	5.3	4.0	5.0	6.3	4.6	4.9	..	4.7	5.9	5.2	5.7	4.2	**4.9**	6.5	5.7	3.4	5.3	5.5
0.35	0.38	0.27	0.21	..	..	0.40	0.20	0.77	0.81	0.89	..	0.27	..	**0.26**	0.83	0.32	..	0.31	0.23
89	92	65	26	..	..	102	40	330	207	374	..	31	..	**42**	223	129	..	82	68

4) Civil employment in agriculture, forestry and fishing.

5) Upper secondary or higher education; OECD: average of rates.

6) Public and private expenditure on educational institutions; OECD: average of rates.

7) Official Development Assistance by Member countries of the OECD Development Assistance Committee.

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II.A: SELECTED MULTILATERAL AGREEMENTS (WORLDWIDE)

Y = in force S = signed R = ratified D = denounced

				CAN	MEX	USA	JPN
1946	Washington	Conv. - Regulation of whaling	Y	D	R	R	R
1956	Washington	Protocol	Y	R	R	R	R
1949	Geneva	Conv. - Road traffic	Y	R		R	R
1954	London	Conv. - Prevention of pollution of the sea by oil	Y	R	R	R	R
1971	London	Amendments to convention (protection of the Great Barrier Reef)		R			
1957	Brussels	Conv. - Limitation of the liability of owners of sea-going ships	Y	S			D
1979	Brussels	Protocol	Y				
1958	Geneva	Conv. - Fishing and conservation of the living resources of the high seas	Y	S	R	R	
1960	Geneva	Conv. - Protection of workers against ionising radiations (ILO 115)	Y		R		R
1962	Brussels	Conv. - Liability of operators of nuclear ships					
1963	Vienna	Conv. - Civil liability for nuclear damage	Y		R		
1988	Vienna	Joint protocol relating to the application of the Vienna Convention and the Paris Convention	Y				
1997	Vienna	Protocol to amend the Vienna convention	Y				
1963	Moscow	Treaty - Banning nuclear weapon tests in the atmosphere, in outer space and under water	Y	R	R	R	R
1964	Copenhagen	Conv. - International council for the exploration of the sea	Y	R		R	
1970	Copenhagen	Protocol	Y	R		R	
1969	Brussels	Conv. - Intervention on the high seas in cases of oil pollution casualties (INTERVENTION)	Y		R	R	R
1973	London	Protocol (pollution by substances other than oil)	Y		R	R	
1969	Brussels	Conv. - Civil liability for oil pollution damage (CLC)	Y	D	D	S	D
1976	London	Protocol	Y	R	R		R
1992	London	Protocol	Y	R	R		R
1970	Bern	Conv. - Transport of goods by rail (CIM)	Y				
1971	Brussels	Conv. - International fund for compensation for oil pollution damage (FUND)	Y	D	D	S	D
1976	London	Protocol	Y	R	R		R
1992	London	Protocol (replaces the 1971 Convention)	Y	R	R		R
2000	London	Amendment to protocol (limits of compensation)	Y	R	R		R
2003	London	Protocol (supplementary fund)					
1971	Brussels	Conv. - Civil liability in maritime carriage of nuclear material	Y				
1971	London, Moscow, Washington	Conv. - Prohib. emplacement of nuclear and mass destruct. weapons on sea-bed, ocean floor and subsoil	Y	R	R	R	R
1971	Ramsar	Conv. - Wetlands of international importance especially as waterfowl habitat	Y	R	R	R	R
1982	Paris	Protocol	Y	R	R	R	R
1987	Regina	Regina amendment	Y	R	R		R
1971	Geneva	Conv. - Protection against hazards of poisoning arising from benzene (ILO 136)	Y				
1972	London, Mexico, Moscow, Washington	Conv. - Prevention of marine pollution by dumping of wastes and other matter (LC)	Y	R	R	R	R
1996	London	Protocol to the Conv. - Prevention of marine poll. by dumping of wastes and other matter		R		S	

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OECD EPR / SECOND CYCLE

Y = in force S = signed R = ratified D = denounced

KOR	AUS	NZL	AUT	BEL	CZE	DNK	FIN	FRA	DEU	GRC	HUN	ISL	IRL	ITA	LUX	NLD	NOR	POL	PRT	SLO	**ESP**	SWE	CHE	TUR	UKD	EU
R	R	R	R			R	R	R	R			D	R	R		R	R				**R**	R	R		R	
R	R	R				R		R	R			R	R	R		R	R				**R**	R	R		R	
R	R	R	R	R	R	R	R	R		R	R	R	R	R	R	R	R	R	R	R	**R**	R	S	R	R	
R	R	R	R	R		R	R	R	R	R		R	R	R		R	R	R	R		**R**	R	R		R	
	R	R				R	R	R	R	R				R			R					R	R		R	
	D			D		D	D	D	D			R		S	R	D	D	R	R		**R**	D	R		D	
	R			R			S		S						R			R	R		**R**		R		D	
	R	S		R		R	R	R				S	S			R			R		**R**		R		R	
				R	R	R	R	R	R	R	R			R		R	R	R	R	R	**R**	R	R	R	R	
				S					S				S			R			R							
					R						R							R		R	**S**				S	
				S	R	R	R	S	S	S	R			R		R	R	R	S	R	**S**	R	S	S	S	
					S						S			S				S								
R	R	R	R	R	R	R	R		R	R	R	R	R	R	R	R	R	R	S	R	**R**	R	R	R	R	
				R		R	R	R	R			R	R			R	R	R	R		**R**	R			R	
				R		R	R	R	R			R	R			R	R	R	R		**R**	R			R	
S	R	R		R		R	R	R	R	S		R	R	R		R	R	R	R		**R**	R	R		R	
	R	S		R		R	R	R	R				R	R		R	R	R	R		**R**	R	R		R	
D	D	D		D		D	D	D	D	D		D	D	D	R	D	D	D	R		**D**	D	D		D	
R	R			R		R	R	R	R	R		R	D	R	R	R	R	R	R		**R**	R	R		D	
R	R	R		R		R	R	R	R	R		R	R	R		R	R	R	R		**R**	R	R	R	R	
			R	R	R	R	R	R	R	R	R		R	R	R	R	R	R	R	R	**R**	R	R	R	R	
D	D	D		D		D	D	D	D	D		D	D	D		D	D	D	R		**D**	D	D		D	
	R			R		R	R	R	R	R		R	D	R		R	R	R	R		**R**	R			D	
R	R	R		R		R	R	R	R	R		R	R	R		R	R	R	R		**R**	R		R	R	
R	R	R		R		R	R	R	R	R		R	R	R		R	R	R	R		**R**	R		R	R	
				R		R	R	R	R					R		R	R		S		**R**	R			S	
R	R	R	R	R	R	R	R		R	R	R	R	R	R	R	R	R	R	R	R	**R**	R	R	R	R	
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	**R**	R	R	R	R	
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	**R**	R	R	R	R	
R	R	R	R	R		R	R	R	R	R	R	R	R		R	R	R	R				R	R	R	R	
					R		R	R	R	R	R			R						R	**R**		R			
R	R	R		R		R	R	R	R	R	R	R	R	R	R	R	R	R	R		**R**	R	R		R	
	R	R		S		R	S	R	R			R	R			S	R				**R**	R	R		R	

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II.A: SELECTED MULTILATERAL AGREEMENTS (WORLDWIDE) (cont.)

Y = in force S = signed R = ratified D = denounced

				CAN	MEX	USA	JPN
1972	Geneva	Conv. - Protection of new varieties of plants (revised)	Y	R	R	R	R
1978	Geneva	Amendments	Y	R	R	R	R
1991	Geneva	Amendments	Y			R	R
1972	Geneva	Conv. - Safe container (CSC)	Y	R	R	R	R
1972	London, Moscow, Washington	Conv. - International liability for damage caused by space objects	Y	R	R	R	R
1972	Paris	Conv. - Protection of the world cultural and natural heritage	Y	R	R	R	R
1973	Washington	Conv. - International trade in endangered species of wild fauna and flora (CITES)	Y	R	R	R	R
1974	Geneva	Conv. - Prev. and control of occup. hazards caused by carcinog. subst. and agents (ILO 139)	Y				R
1976	London	Conv. - Limitation of liability for maritime claims (LLMC)	Y		R		R
1996	London	Amendment to convention	Y	S			
1977	Geneva	Conv. - Protection of workers against occupational hazards in the working environment due to air pollution, noise and vibration (ILO 148)	Y				
1978	London	Protocol - Prevention of pollution from ships (MARPOL PROT)	Y	R	R	R	R
1978	London	Annex III	Y			R	R
1978	London	Annex IV	Y				R
1978	London	Annex V	Y		R	R	R
1997	London	Annex VI	Y				
1979	Bonn	Conv. - Conservation of migratory species of wild animals	Y				
1991	London	Agreem. - Conservation of bats in Europe	Y				
1992	New York	Agreem. - Conservation of small cetaceans of the Baltic and the North Seas (ASCOBANS)	Y				
1996	Monaco	Agreem. - Conservation of cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area	Y				
1996	The Hague	Agreem. - Conservation of African-Eurasian migratory waterbirds	Y				
1982	Montego Bay	Conv. - Law of the sea	Y	R	R		R
1994	New York	Agreem. - relating to the implementation of part XI of the convention	Y	R		S	R
1995	New York	Agreem. - Implementation of the provisions of the convention relating to the conservation and management of straddling fish stocks and highly migratory fish stocks	Y	R		R	S
1983	Geneva	Agreem. - Tropical timber	Y	R		R	R
1994	New York	Revised agreem. - Tropical timber	Y	R		R	R
1985	Vienna	Conv. - Protection of the ozone layer	Y	R	R	R	R
1987	Montreal	Protocol (substances that deplete the ozone layer)	Y	R	R	R	R
1990	London	Amendment to protocol	Y	R	R	R	R
1992	Copenhagen	Amendment to protocol	Y	R	R	R	R
1997	Montreal	Amendment to protocol	Y	R		R	R
1999	Beijing	Amendment to protocol	Y	R		R	R

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OECD EPR / SECOND CYCLE

Y = in force S = signed R = ratified D = denounced

KOR	AUS	NZL	AUT	BEL	CZE	DNK	FIN	FRA	DEU	GRC	HUN	ISL	IRL	ITA	LUX	NLD	NOR	POL	PRT	SLO	**ESP**	SWE	CHE	TUR	UKD	EU
R	R	R	R	R	R	R	R	R	R		R		R	R		R	R	R	R	R	**R**	R	R		R	
R	R	R	R		R	R	R	R	R		R		R	R		R	R	R	R	R		R	R		R	
R	R				R	R	R		R		R					R		R			**R**	R			R	
R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	R	R	R	R	R	**R**	R	S	S	R	
R	R	R	R	R	R	R	R	R	R	R	R	S	R	R	R	R	S	R		R	**R**	R	R		R	
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	**R**	R	R	R	R	
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	**R**	R	R	R	R	
				R	R	R	R	R	R		R	R	R	R			R		R	R		R	R			
	R	R		R		R	R	R	R	R			R			R	R	R			**R**	R	R	R	R	
	R					R	R	S	R							S	R					R			R	
				R	R	R	R	R	R		R			R			R		R	R	**R**	R			R	
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	**R**	R	R	R	R	
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	**R**	R	R		R	
R			R	R	R	R	R	R	R	R	R			R	R		R	R	R	R	**R**	R	R		R	
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	**R**	R	R	R	R	
						R			R	R							R				**R**	R				
	R	R		R	R	R	R	R	R	R	R		R	R	R	R	R	R	R	R	**R**	R	R		R	R
				S	R	R	R	R	R		R		R		R	R	R	R	R	R		R			R	
				R		R	R		R							R		R				R			R	S
								S		S				S					S		**R**					
				S		R	R	R	R	S	R		S		R	R				R	**R**	R	R		R	S
R	R	R	R	R	R	S	R	R	R	R	R	R	R	R	R	R	R	R	R	R	**R**	R	S		R	R
R	R	R	R	R	R	S	R	R	R	R	R	R	R	R	R	R	R	R	R	R	**R**	R	S		R	R
S	R	R	R	R		R	R	R	R	R		R	R	R	R	R	R		R		**R**	R			R	R
R	R	R	R	R		R	R	R	R	R			R	R	R	R	R		R		**R**	R	R		R	R
R	R	R	R	R		R	R	R	R	R			R	R	R	R	R		R		**R**	R	R		R	R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	**R**	R	R	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	**R**	R	R	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	**R**	R	R	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	**R**	R	R	R	R	R
R	R	R	R	S	R	R	R	R	R		R	R		R	R	R	R	R	R	R	**R**	R	R	R	R	R
R		R			R	R	R	R	R		R				R	R	R			R	**R**	R	R	R	R	R

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II.A: SELECTED MULTILATERAL AGREEMENTS (WORLDWIDE) (cont.)

Y = in force S = signed R = ratified D = denounced

				CAN	MEX	USA	JPN
1986	Vienna	Conv. - Early notification of a nuclear accident	Y	R	R	R	R
1986	Vienna	Conv. - Assistance in the case of a nuclear accident or radiological emergency	Y	R	R	R	R
1989	Basel	Conv. - Control of transboundary movements of hazardous wastes and their disposal	Y	R	R	S	R
1995	Geneva	Amendment					
1999	Basel	Prot. - Liability and compensation for damage					
1989	London	Conv. - Salvage	Y	R	R	R	
1990	Geneva	Conv. - Safety in the use of chemicals at work (ILO 170)	Y		R		
1990	London	Conv. - Oil pollution preparedness, response and co-operation (OPRC)	Y	R	R	R	R
2000	London	Protocol - Pollution incidents by hazardous and noxious substances (OPRC-HNS)					
1992	Rio de Janeiro	Conv. - Biological diversity	Y	R	R	S	R
2000	Montreal	Prot. - Biosafety (Cartagena)	Y	S	R		R
1992	New York	Conv. - Framework convention on climate change	Y	R	R	R	R
1997	Kyoto	Protocol		R	R	S	R
1993	Paris	Conv. - Prohibition of the development, production, stockpiling and use of chemical weapons and their destruction	Y	R	R	S	R
1993	Geneva	Conv. - Prevention of major industrial accidents (ILO 174)	Y				
1993		Agreem. - Promote compliance with international conservation and management measures by fishing vessels on the high seas	Y	R	R	R	R
1994	Vienna	Conv. - Nuclear safety	Y	R	R	R	R
1994	Paris	Conv. - Combat desertification in those countries experiencing serious drought and/or desertification, particularly in Africa	Y	R	R	R	R
1995	Rome	Code of conduct on responsible fishing					
1996	London	Conv. - Liability and compensation for damage in connection with the carriage of hazardous and noxious substances by sea (HNS)		S			
2000	London	Protocol - Pollution incidents by hazardous and noxious substances (OPRC-HNS)					
1997	Vienna	Conv. - Supplementary compensation for nuclear damage				S	
1997	Vienna	Conv. - Joint convention on the safety of spent fuel management and on the safety of radioactive waste management	Y	R			R
1997	New York	Conv. - Law of the non-navigational uses of international watercourses					
1998	Rotterdam	Conv. - Prior informed consent procedure for hazardous chemicals and pesticides (PIC)	Y	R		S	S
2001	London	Conv. - Civil liability for bunker oil pollution damage					
2001	London	Conv. - Control of harmful anti-fouling systems on ships				S	R
2001	Stockholm	Conv. - Persistent organic pollutants	Y	R	R	S	R

Source: IUCN; OECD.

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OECD EPR / SECOND CYCLE

Y = in force S = signed R = ratified D = denounced

KOR	AUS	NZL	AUT	BEL	CZE	DNK	FIN	FRA	DEU	GRC	HUN	ISL	IRL	ITA	LUX	NLD	NOR	POL	PRT	SLO	**ESP**	SWE	CHE	TUR	UKD	EU
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	**R**	R	R	R	R	
R	R	R	R	R	R	S	R	R	R	R	R	S	R	R	R	R	S	R	R	R	**R**	R	R	R	R	
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	**R**	R	R	R	R	R
			R	R	R	R	R	R	R						R	R	R	R	R	R	**R**	R	R	R	R	R
						S	S	S			S				S							S	S		S	
	R	R				R	S	R	R	R		R	R	R		R	R	S			**S**	R	R		R	
R														R			R					R				
R	R	R				R	R	R	R	R		R	R	R		R	R	R			**R**	R	R		R	
						S	S	S	S	R						R		R				R				
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	**R**	R	R	R	R	R
S		S	R	S	R	R	S	R	S	S	R	S	R	S	R	R	R	R	S	R	**R**	R	R	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	**R**	R	R		R	R
R	S	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	**R**	R	R		R	R
S	R	R	R	R	R	R	R	R	R	R	R	S	R	R	S	R	R	R	R	S	**R**	R	R	S	S	
				S												R						R				
R																	R					R				R
R	R		R	R	R	R	R	R	R	R	R	S	R	R	R	R	R	R	R	R	**R**	R	R	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	**R**	R	R	R	R	R
						S	S		S							S	S					S			S	
						S	S	S	S	R						R		R				R				
	S				S									S												
R	R		R	R	R	R	R	R	R	R	R		R	S	R	R	R	R		R	**R**	R	R		R	
							R		S		R				S	R	R		S			R				
R	S	R	R	R	R	R	S	R	R	R	R			R	R	R	R		S		**R**	R	R	S	S	R
														S							**R**	S				
	S					R	S										R					R				
S	S	S	R	S	R	R	R	R	R	S	S	R	S	S	R	R	R	S	S	R	**S**	R	R	S	S	S

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II.B: SELECTED MULTILATERAL AGREEMENTS (REGIONAL)

Y = in force S = signed R = ratified D = denounced

				CAN	MEX	USA	JPN
1933	London	Conv. - Preservation of fauna and flora in their natural state	Y				
1946	London	Conv. - Regulation of the meshes of fishing nets and the size limits of fish	Y				
1958	Dublin	Amendments	Y				
1960	London	Amendments	Y				
1961	Copenhagen	Amendments	Y				
1962	Hamburg	Amendments	Y				
1963	London	Amendments	Y				
1950	Paris	Conv. - Protection of birds	Y				
1957	Geneva	Agreem. - International carriage of dangerous goods by road (ADR)	Y				
1975	New York	Protocol	Y				
1958	Geneva	Agreem. - Adoption of uniform conditions of approval and reciprocal recognition of approval for motor vehicle equipments and parts	Y				
1959	Washington	Treaty - Antarctic	Y	R		R	R
1991	Madrid	Protocol to the Antarctic treaty (environmental protection)	Y	R		R	R
1960	Paris	Conv. - Third party liability in the field of nuclear energy	Y				
1963	Brussels	Supplementary convention	Y				
1964	Paris	Additional protocol to the convention	Y				
1964	Paris	Additional protocol to the supplementary convention	Y				
1982	Brussels	Protocol amending the convention	Y				
1982	Brussels	Protocol amending the supplementary convention	Y				
1988	Vienna	Joint protocol relating to the application of the Vienna Convention and the Paris Convention	Y				
1964	London	Conv. - Fisheries	Y				
1966	Rio de Janeiro	Conv. - International convention for the conservation of Atlantic tunas (ICCAT)	Y	R	R	R	R
1967	London	Conv. - Conduct of fishing operations in the North Atlantic	Y	S		S	
1968	Strasbourg	Agreem. - Restriction of the use of certain detergents in washing and cleaning products	Y				
1983	Strasbourg	Protocol	Y				
1968	Paris	Conv. - Protection of animals during international transport	Y				
1979	Strasbourg	Protocol	Y				
1969	London	Conv. - Protection of the archaeological heritage	Y				
1969	Rome	Conv. - Conservation of the living resources of the Southeast Atlantic	Y				D
1972	Oslo	Conv. - Prevention of marine pollution by dumping from ships and aircraft	Y				
1983		Protocol	Y				
1974	Paris	Conv. - Prevention of marine pollution from land-based sources	Y				
1986	Paris	Protocol	Y				
1992	Paris	Conv. - Protection of North-East Atlantic marine env. (replace Oslo-1972 and Paris-1974)	Y				
1976	Barcelona	Conv. - Protection of the Mediterranean Sea against pollution	Y				
1976	Barcelona	Protocol (dumping from ships and aircraft)	Y				
1995	Barcelona	Protocol (dumping from ships and aircraft or incineration at sea)					
1976	Barcelona	Protocol (pollution by oil and other harmful substances in cases of emergency)	Y				
2002	Valletta	Protocol (preventing pollution from ships and, in cases of emergency, combating pollution)					
1980	Athens	Protocol (pollution from land-based sources)	Y				
1996	Syracuse	Protocol (pollution from land-based sources and activities)					
1982	Geneva	Protocol (specially protected areas)	Y				
1996	Monaco	Protocol (specially protected areas and biological diversity)	Y				
1994	Madrid	Protocol (pollution from exploitation of continental shelf, seabed and subsoil)					
1996	Izmir	Protocol (pollution by transboundary movements of hazardous wastes and their disposal)					
1995	Barcelona	Amendment to convention					

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OECD EPR / SECOND CYCLE

Y = in force S = signed R = ratified D = denounced

KOR	AUS	NZL	AUT	BEL	CZE	DNK	FIN	FRA	DEU	GRC	HUN	ISL	IRL	ITA	LUX	NLD	NOR	POL	PRT	SLO	**ESP**	SWE	CHE	TUR	UKD	EU
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II.B: SELECTED MULTILATERAL AGREEMENTS (REGIONAL) (cont.)

Y = in force S = signed R = ratified D = denounced

				CAN	MEX	USA	JPN
1978	Ottawa	Conv. - Future multilateral co-operation in the Northwest Atlantic fisheries (NAFO)	Y	R		R	R
1979	Bern	Conv. - Conservation of European wildlife and natural habitats	Y				
1979	Geneva	Conv. - Long-range transboundary air pollution	Y	R		R	
1984	Geneva	Protocol (financing of EMEP)	Y	R		R	
1985	Helsinki	Protocol (reduction of sulphur emissions or their transboundary fluxes by at least 30%)	Y	R			
1988	Sofia	Protocol (control of emissions of nitrogen oxides or their transboundary fluxes)	Y	R		R	
1991	Geneva	Protocol (control of emissions of volatile organic compounds or their transboundary fluxes)	Y	S		S	
1994	Oslo	Protocol (further reduction of sulphur emissions)	Y	R			
1998	Aarhus	Protocol (heavy metals)	Y	R		R	
1998	Aarhus	Protocol (persistent organic pollutants)	Y	R		S	
1999	Gothenburg	Protocol (abate acidification, eutrophication and ground-level ozone)		S		S	
1980	Madrid	Conv. - Transfrontier co-operation between territorial communities or authorities	Y				
1995	Strasbourg	Additional protocol	Y				
1998	Strasbourg	Second protocol	Y				
1980	Canberra	Conv. - Conservation of Antarctic marine living resources	Y	R		R	R
1982	Paris	Memorandum of understanding on port state control	Y	R			
1990	Lisbon	Agreem. - Co-op. for the protection of the coasts and waters of the North-East Atlantic					
1991	Espoo	Conv. - Environmental impact assessment in a transboundary context	Y	R		S	
2001	Sofia	Amendment					
2003	Kiev	Prot. - Strategic Environmental Assessment					
1992	Helsinki	Conv. - Transboundary effects of industrial accidents	Y	S		S	
2003	Kiev	Prot. - Civil liability and compensation for damage caused by the transboundary effects of industrial accidents on transboundary waters					
1992	Helsinki	Conv. - Protection and use of transboundary water courses and international lakes	Y				
1999	London	Prot. - Water and health					
2003	Kiev	Prot. - Civil liability and compensation for damage caused by the transboundary effects of industrial accidents on transboundary waters					
1992	La Valette	European Conv. - Protection of the archaeological heritage (revised)	Y				
1993	Lugano	Conv. - Civil liability for damage resulting from activities dangerous to the environment					
1994	Lisbon	Treaty - Energy Charter	Y				R
1994	Lisbon	Protocol (energy efficiency and related environmental aspects)	Y				R
1998	Aarhus	Conv. - Access to env. information and public participation in env. decision-making	Y				
2003	Kiev	Prot. - Pollutant Release and Transfer Registers (PRTR)					
1998	Strasbourg	Conv. - Protection of the environment through criminal law					
2000	Florence	Conv. - European lanscape convention	Y				
2000	Geneva	Agreem. - International carriage of dangerous goods by inland waterways (AND)					

Source: IUCN; OECD.

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Y = in force S = signed R = ratified D = denounced

KOR	AUS	NZL	AUT	BEL	CZE	DNK	FIN	FRA	DEU	GRC	HUN	ISL	IRL	ITA	LUX	NLD	NOR	POL	PRT	SLO	**ESP**	SWE	CHE	TUR	UKD	EU
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Reference III

ABBREVIATIONS

AAU	Agricultural Area in Use
ACCOBAMS	Agreement on the Conservation of Cetaceans in the Black Sea, Mediterranean Sea and Contiguous Atlantic area
AEWA	African-Eurasian Migratory Water Bird Agreement
ATYCA	Initiative to Support Industrial Technology, Safety and Quality
BAT	Best available technology
CAP	Common Agricultural Policy (EU)
CFP	Common Fisheries Policy (EU)
CH_4	Methane
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CNPN	National Nature Protection Commission
CO	Carbon monoxide
CO_2	Carbon dioxide
EAGGF	European Agricultural Guidance and Guarantee Fund
EIA	Environmental impact assessment
EMAS	Eco-Management and Audit Scheme (EU)
EMEP	Environmental Monitoring and Evaluation Programme
ERDF	European Regional Development Fund
EUR	Euro (EU)
FAO	Food and Agriculture Organisation of the UN
GHG	Greenhouse gas(es)
Gj	Gigajoule
GNI	Gross national income
HFC	Hydrofluorocarbon
IEA	International Energy Agency
IPPC	Integrated Pollution Prevention and Control
ISO	International Organisation for Standardisation
ITOPF	International Tanker Owners Pollution Federation Limited
Kcal	Kilocalorie
kWh	Kilowatt hour
LCP	Large combustion plant
LPG	Liquid petroleum gas
MARPOL	International Convention for the Prevention of Pollution from Ships
MW	Megawatt (a million watts)
MWth	Megawatt thermal

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NGO	Non-governmental organisation
NH_3	Ammonia
NO_x	Nitrogen oxides
NMVOC	Non-methane volatile organic compound
O_3	Ozone
ODA	Official development assistance
OPRC	Convention on Oil Pollution Preparedness, Response and Co-operation
PAC	Pollution abatement and control
PAEE	Energy Saving and Efficiency Plan
PAH	Polycyclic aromatic hydrocarbon
PCB	Polychlorinated biphenyl
PCT	Polychlorinated terphenyl
PFC	Perfluorocarbon
PGOU	General urban plan prepared by municipalities
PHN	National Hydrological Plan
PM	Particulate matter less than 10 microns in diameter
PNR	National Irrigation Plan
POP	Persistent organic pollutant
PORN	Natural Resource Management Plan
PPPs	Purchasing power parities
PREVER	Programme to encourage purchase of cleaner vehicles
PROFIT	Programme to encourage technical research
PRUG	Rector Plan for Use and Management
RBA	River Basin Authority
SF_6	Sulphur hexafluoride
SASEMAR	Spanish Marine Rescue and Safety State Agency
SCI	Site of Community Interest (EU)
SEA	Strategic environmental assessment
SEIA	Strategic environmental impact assessment
SEPRONA	Nature Protection Service of the Civil Guard
SO_x	Sulphur oxides
SO_2	Sulphur dioxide
SPA	Specially Protected Area
SPAMI	Specially Protected Area of Mediterranean Importance
Toe	Tonne(s) of oil equivalent
UN-ECE	UN Economic Commission for Europe
UNFCCC	UN Framework Convention on Climate Change
USD	US dollar
VOC	Volatile organic compound

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Reference IV
PHYSICAL CONTEXT

With an area of 506 000 km^2 and a coastline of some 8 000 kilometres, Spain is *one of Europe's largest countries*. It occupies about 85% of the Iberian peninsula. The national territory includes the Balearic Islands in the Mediterranean, the Canary Islands in the Atlantic, and the enclaves of Ceuta and Melilla in northern Africa.

Spain is characterised by *great geographical and climatic contrasts*. Highlands, mountains and plateaus predominate on the mainland; 58% of the country is over 600 metres in altitude, making it the second highest country in Europe after Switzerland. The main rivers (the Duero, Tagus, Ebro, Guadiana and Gualdalquivir) have a relatively modest flow. However, there are rapidly flowing rivers in the north which have only a short distance to run to the sea. About one-third of Spain has an oceanic climate with frequent rainfall (e.g. Galicia). On the whole, the other two-thirds of the country receives less rainfall. Some areas (e.g. Andalucia) regularly face serious drought; one-third of the country is affected by erosion and desertification.

Spain's *high biodiversity* reflects geographic and climatic variations. Forest and sparse woodland cover 32% of the territory. Arable and permanent crop land covers 38%, of which 20% (3.6 million hectares) is under irrigation.

The many *minerals* found in Spain (including iron, copper, lead, tin, quartz and salts) have long been an important resource. The economic development of the Basque Country and Asturias, for example, was based on their mineral wealth. Mining still occurs in many areas of the peninsula, but its economic importance has diminished. Spain is not endowed with large energy resources, although it has important coal deposits (meeting 15% of its energy supply).

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Reference V

SELECTED ENVIRONMENTAL EVENTS (1997-2003)

1997

- Spain ratifies Geneva Protocol to Convention on Long-range Transboundary Air Pollution (control of volatile organic compounds).
- Ministry of the Environment establishes environmental criteria for bidding procedures.
- Law 7/1997 on noise pollution in Galicia.
- Law 9/1997 on sewerage and waste water treatment in Aragon.
- Decree 42/1997 on water supply and waste water charges in La Rioja.
- First National Cetacean Inventory presented by Ministry of the Environment.

1998

- Spain ratifies Oslo Protocol to Convention on Long-range Transboundary Air Pollution (additional reductions of sulphur emissions).
- Spain signs UN-ECE Aarhus Convention.
- Signing in Albufeira of Co-operation Convention for Protection and Sustainable Use of Waters of Hispano-Portuguese Hydrographic Basins.
- Spanish Biological Diversity Strategy endorsed by Sectoral Conference on the Environment.
- Spain ratifies Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean under the Barcelona Convention.
- Agreement between Ministry of the Economy and Ministry of the Environment to develop Sustainable Tourism Plan.
- White Paper on Water in Spain endorsed.
- Royal Decree 1664/1998 adopts Drainage Basin Hydrological Plans.

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- Delineation of sensitive zones in intercommunity hydrographic basins.

1999

- Spain adopts Annex V to OSPAR Convention on Protection and Conservation of Maritime Ecosystems and Biological Diversity.
- Spain ratifies Agreement on Conservation of Cetaceans of Black Sea, Mediterranean Sea and Contiguous Atlantic Area (ACCOBAMS).
- Spain adopts Plan to Foster Renewable Energy Sources (Council of Ministers) (2000-10).
- Spanish Forest Strategy endorsed by Sectoral Conference on the Environment.
- Decree 81/1999 on Fuerteventura Island Water Plan.
- Decree 82/1999 on Gran Canaria Island Water Plan.
- Accident in which Aznalcóllar mining reservoir releases tonnes of contaminants to Amargo River through Doñana National Park.
- Strategy for Conservation of Iberian lynx adopted by National Nature Protection Commission.
- Strategic Plan for Conservation and Wise Use of Wetlands, and Strategy for Conservation of the Cantabrian Brown Bear adopted by National Nature Protection Commission.

2000

- Strategy for Conservation of Bearded Vulture adopted by National Nature Protection Commission.

2001

- Conference of Parties to Barcelona Convention endorses seven Specially Protected Areas of Mediterranean Importance in Spain.
- Macaronesian Region (Spain and Portugal) added to list of Sites of Community Importance (SCI), Natura 2000 Network.
- Spain hosts first Ibero-American Forum of Environment Ministers (to meet every year).

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- Royal Legislative Decree 1/2001 amends Water Act.
- Law 10/2001 on National Water Plan.
- Decree 166/2001 on La Palma Island Water Plan.
- Royal Decree 378/2001 adopts Balearic Islands Water Plan.
- Decree 103/2001 creates Water Institute and Inter-Departmental Water Commission in Andalucia.
- Sensitive zones delineated on coasts of Galicia.
- Law 8/2001 protects water quality of Galician estuaries and plans public urban waste water treatment.
- Strategy for Conservation of Spanish Imperial Eagle endorsed by National Commission for Nature Protection.

2002

- Spain accepts Beijing Amendment to Montreal Protocol.
- Valencia hosts eighth meeting of Conference of Parties to Ramsar Convention. Aznalcóllar accident restoration projects ("Doñana 2005" and "Guadiamar Green Corridor") presented.
- Alicante hosts first European Forum on Common Strategies for Integral Coastal Zones Management.
- FAO's European Forestry Commission meets in Barcelona with Spain presiding.
- Act 16/2002 on Integrated Pollution Prevention and Control (IPPC).
- Spain adopts Planning of the Electricity and Gas Sectors (2002-11), which affects distribution networks (including for renewable energies).
- Act 8/2002 on protection of atmospheric environment in Galicia.
- Act 7/2002 on protection against noise pollution in Valencia.
- Royal Decree 329/2002 adopts national irrigation plan.
- Decree 22/2002 on water resource management in Catalonia.
- Law 12/2002 regulating water management in Castilla-La Mancha.
- Law 5/2002 on disposal of industrial waste water to public sewerage in Asturias.

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- Release of Strategic Action Plan for Conservation of Biological Diversity in the Mediterranean Region (SAP BIO).
- Publication of list of Sites of Common Interest in Macaronesian region.
- Identification of areas of special interest for conservation of cetaceans in Spanish Mediterranean.
- Creation of National Forest Council.
- Spanish Forest Plan approved by Council of Ministers.
- 2 800 MW in natural gas combined cycle and 1 400 MW in additional wind power installed.

2003

- Spain adopts National Energy Efficiency Strategy (2004-12).
- Spain adopts National Emission Ceilings Reduction Programme (SO_x, NO_x, VOCs, NH_3).
- Publication of environmental awareness guide and good environmental practice occupational training manuals.
- 336 companies participating in EU's EMAS scheme; 3 960 ISO 14001 certificates have been issued.
- 13 Spanish companies participating in voluntary eco-labelling scheme (19 products).
- Royal Decree 140/2003 establishes health criteria for quality of water for human consumption.
- Decree 33/2003 creates Basque Country Water Board and regulates preparation of water plans for regional water basins.
- First High Level Meeting on Integrated Coastal Management with regional governments.
- Royal Decree 103/2003 adopts Coastal Water Plan in Galicia.
- Four new wetlands included on Ramsar list, bringing total to 49.
- Act 9/2003 regulates contained use, intentional release and commercialisation of GMOs.
- 1 600 MW in natural gas combined cycle installed.

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Reference VI
SELECTED ENVIRONMENTAL WEB SITES

Web site	Host institution
www.la-moncloa.es	State Secretariat for Communication
www.mpr.es	Ministry of the Presidency
www.mma.es	Ministry of the Environment
www.mae.es	Ministry of Foreign Affairs
www.mapya.es	Ministry of Agriculture, Fisheries and Food
www.mineco.es	Ministry of the Economy
www.ine.es	National Statistics Institute

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TABLE OF CONTENTS

1. CONCLUSIONS AND RECOMMENDATIONS 15

1. Environmental Management 16
   Implementing more efficient environmental policies 16
   Air 18
   Water 19
   Nature and biodiversity 21
2. Towards Sustainable Development 24
   Integration of environmental concerns in economic decisions 24
   Integration of environmental and social concerns 25
   Sectoral integration: towards sustainable tourism 26
3. International Commitments 28

Part I
ENVIRONMENTAL MANAGEMENT

2. AIR MANAGEMENT 31

Recommendations 32
Conclusions 32
1. Policy Objectives 34
2. Air Quality and Air Emissions Trends 35
3. Air Quality Management 40
   3.1 Air quality management in the transport sector 41
   3.2 Air quality management in the energy sector 44

3. WATER MANAGEMENT 51

Recommendations 52
Conclusions 52
1. Policy Objectives 53
   1.1 Central government objectives 54
2. Performance on Water Quantity and Use 58
   2.1 From demand forecasting to demand management 58
   2.2 Maintaining river flows in summer 59
   2.3 Trends in water abstraction and use 59

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3. Performance on Ambient Water Quality 62
3.1 Water quality trends in rivers and reservoirs 62
3.2 Groundwater quality trends 64
3.3 Coastal water quality 65
4. Improving the Quality of Urban Water Services 65
4.1 Delivery of drinking water services 65
4.2 The challenge of the EU Urban Waste Water Treatment Directive 66
4.3 Industrial waste water 68
5. Integrating Agricultural and Water Policies 69
6. Expenditure and Financing 70
6.1 Expenditure 70
6.2 Water charges and financing 71
6.3 Strengthening water economics 72

4. NATURE AND BIODIVERSITY MANAGEMENT 75

Recommendations 76
Conclusions 76
1. Policy Objectives 78
2. Wildlife Conservation 80
3. Ecosystems Conservation 84
3.1 Terrestrial ecosystems 84
3.2 Aquatic ecosystems 89
4. Sectoral Integration 92
4.1 Forestry 92
4.2 Agriculture 93
4.3 Physical planning 94
4.4 Tourism 96
5. International Commitments 97

Part II
SUSTAINABLE DEVELOPMENT

5. ENVIRONMENTAL-ECONOMIC INTERFACE 99

Recommendations 100
Conclusions 100
Integration of environmental concerns in economic decisions 100
Implementing more efficient environmental policies 101
1. Towards Sustainable Development 102
1.1 Decoupling environmental pressures from economic growth 102
1.2 Sustainable development and institutional integration 106

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1.3 Sustainable development and market-based integration 115
2. Environmental Policy Implementation..... 120
2.1 Environmental policy objectives 120
2.2 Implementation and enforcement of legislation 122
2.3 Use of economic instruments 125
2.4 Voluntary approaches 127
2.5 Environmental assessment..... 128
2.6 Environmental expenditure and its financing..... 128

6. THE ENVIRONMENTAL-SOCIAL INTERFACE 131

Recommendations..... 132
Conclusions 132
1. Environmental Employment 133
1.1 Direct environmental jobs 133
1.2 Active environmental employment policy 137
2. Environmental Health 137
3. Environmental Democracy..... 138
3.1 Environmental information and indicators..... 138
3.2 Public access to environmental information..... 140
3.3 Appeal procedures and access to the courts 140
3.4 Public participation..... 141
4. Environmental Education..... 144

7. SECTORAL INTEGRATION: TOURISM 147

Recommendations..... 148
Conclusions 148
1. The Economic Weight and Structure of Tourism in Spain..... 149
2. Sustainable Tourism Policy Objectives..... 152
3. Towards Sustainable Tourism 153
3.1 Strategic vision, planning and programming of sustainable tourism . 153
3.2 Tourism and territorial development 156
3.3 Efforts accomplished by the industry 156
4. Decoupling Environmental Pressures from Tourism Growth 157
4.1 Coastal areas and construction 157
4.2 Water and energy resources 159
4.3 Nature and biodiversity 162

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Part III
INTERNATIONAL COMMITMENTS

8. INTERNATIONAL CO-OPERATION 163

Recommendations 164
Conclusions 164
1. Climate Change 165
   1.1 Trends in GHG emissions in recent years 165
   1.2 Outlook 169
   1.3 Strategy 170
2. Marine Issues 171
   2.1 Marine pollution 171
   2.2 Fisheries 177
3. Trade and Environment 180
4. Official Development Assistance and the Environment 181
5. Regional and Bilateral Co-operation 183

REFERENCES

I.A Selected environmental data 188
I.B Selected economic data 190
I.C Selected social data 192
II.A Selected multilateral agreements (worldwide) 194
II.B Selected multilateral agreements (regional) 200
III. Abbreviations 204
IV. Physical Context 206
V. Selected environmental events (1997-2003) 207
VI. Selected environmental Web sites 211

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LIST OF FIGURES, TABLES AND BOXES

Figures

Map of Spain 13
2.1 Air pollutant emissions 38
2.2 Trends in the transport sector 43
2.3 Energy structure and intensity 47
3.1 Freshwater use 60
3.2 Decoupling total freshwater abstraction from GDP 61
3.3 Decoupling agricultural water abstraction from agricultural output 61
3.4 Water quality in rivers 63
3.5 Population connected to public waste water treatment plant 68
3.6 Intensity of use of nitrogenous fertilisers 70
4.1 Fauna and flora 82
4.2 Protected areas 85
5.1 Economic structure and trends 104
5.2 Agriculture 114
5.3 Road fuel prices and taxes 118
6.1 Social indicators 135
7.1 Tourism trends 150
7.2 Share of international tourist arrivals 151
8.1 Official development assistance 182

Tables

2.1 Air quality standards for ozone 36
2.2 Atmospheric emissions by source 37
4.1 Trends in populations of several endangered species 81
4.2 Inventories of species and habitats 81
4.3 Legislative framework for nature conservation 83
4.4 Trends in protected areas 86
4.5 Types of protected areas 88
4.6 Designation of biosphere reserves and wetlands 88
4.7 Agri-environmental payments 94
5.1 EU transfers 105
5.2 Economic trends and environmental pressures 105
5.3 Use of EU Structural Funds for environmental protection in Spain 108
5.4 Evolution of fuel tax rates 117
5.5 Environmental data on Spain's autonomous regions 121
5.6 Selected national environmental legislation 124
5.7 Enforcement activities by SEPRONA 124
6.1 Environmental employment 136
6.2 Basic data on the autonomous regions 136

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7.1 Tourism's contribution to the Spanish economy 149
7.2 International tourist arrivals 151
7.3 Selected environmental tourism indicators 155
7.4 Electricity consumption attributable to tourism 161
8.1 GHG emissions..... 166
8.2 GHG emissions by sector 167
8.3 Final energy consumption by sector and by type 167
8.4 Energy prices in selected OECD countries 168
8.5 CO_2 emissions outlook 170
8.6 Biological status of selected species in Spanish fisheries 179
8.7 Selected Spanish fish catches in the Mediterranean Sea 179
8.8 Performance in meeting international targets on air pollutant emissions..... 185
I.A Selected environmental data..... 188
I.B Selected economic data 190
I.C Selected social data 192
II.A Selected multilateral agreements (worldwide) 194
II.B Selected multilateral agreements (regional) 200

Boxes

2.1 Key features of the transport sector..... 42
2.2 Key features of the energy sector 46
2.3 Energy outlook 48
2.4 Wind energy in Navarre 49
3.1 The National Hydrological Plan (2001-08)..... 56
3.2 Irrigation and wise use of water 57
4.1 Institutional framework and public participation in nature management..... 79
4.2 Toxic spill in the Doñana National Park 91
4.3 Curbing soil erosion and combating desertification..... 98
5.1 The socio-economic context..... 103
5.2 Institutional context for implementing environmental policy 110
5.3 Selected Recommendations of the 1997 OECD Environmental Performance Review of Spain 112
5.4 Transport management in the Madrid autonomous region 120
6.1 Social context 134
6.2 Towards a Spanish strategy for sustainable development and public participation 139
6.3 Implementation of Local Agenda 21 143
7.1 Spain's system of environmental indicators of tourism 155
7.2 Restoring the coastal zone..... 159
7.3 Tourism development in the Balearic Islands 160
8.1 Selected Recommendations of the 1997 OECD Environmental Performance Review of Spain 173
8.2 The Prestige oil spill..... 177

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Signs

The following signs are used in Figures and Tables:
.. : not available
– : nil or negligible
. : decimal point

Country Aggregates

OECD Europe: All European member countries of the OECD, i.e. countries of the European Union plus the Czech Republic, Hungary, Iceland, Norway, Poland, the Slovak Republic, Switzerland and Turkey.

OECD: The countries of OECD Europe plus Australia, Canada, Japan, the Republic of Korea, Mexico, New Zealand and the United States.

Country aggregates may include Secretariat estimates.

The sign * indicates that not all countries are included.

Currency

Monetary unit: Euro (EUR)
In 2003, EUR 0.935 = USD 1.

Cut-off Date

This report is based on information and data available up to May 2004.

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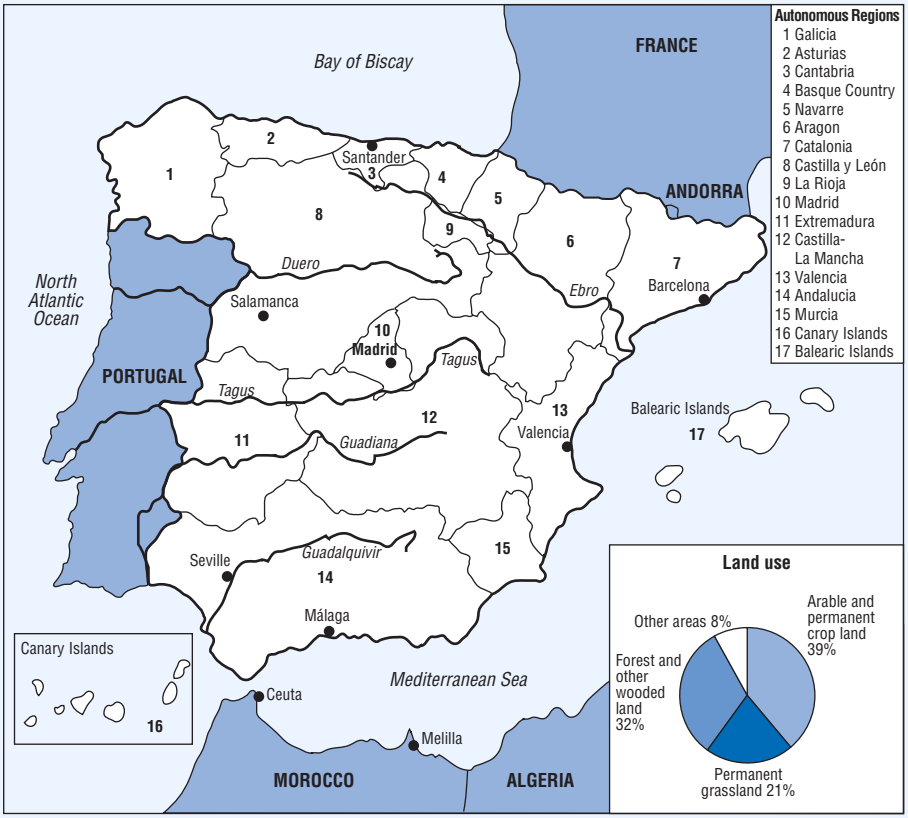
Map of Spain



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