

Environmental profile of Spain 2011

Indicator-based Report



GOBIERNO
DE ESPAÑA

MINISTERIO
DE AGRICULTURA, ALIMENTACIÓN
Y MEDIO AMBIENTE

2012

Environmental profile of Spain 2011 is a document drawn up by the Directorate-general for Quality and Environmental Assessment and Natural Environment of the Secretariat of State for the Environment of the Ministry of Agriculture, Food and Environment.

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Ministry of Agriculture, Food and Environment

Published by:

© Ministry of Agriculture, Food and Environment
Technical Secretariat
Publications Centre

Distribution and sale:

Pº de la Infanta Isabel, 1
Teléfono: 91 347 55 41
Fax: 91 347 57 22

Design and layout:

Tragsatec, S.A.

Plaza de San Juan de la Cruz, s/n
Teléfono: 91 597 61 87
Fax: 91 597 61 86

Cover design:

Tragsatec, S.A.

Virtual store: www.magrama.es
centropublicaciones@magrama.es

Photographs:

Juan Carlos Blanco, Ricardo Gómez Calmaestra, Marta Muñoz Cuesta

Printing and binding:

Monterreina

NIPO: 280-13-033-6

Legal Deposit: M-7086-2013


General catalogue of official publications






<http://www.060.es> (On-line services/virtual office/Publications)






Technical data: Gothic Light body texts 10 and 13. Paper: Interior couche coated paper 115 g with FSC® certification. Cover in FSC® certified Trucard 300 g. Inks: 4/4. Binding: wire-o.





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It is with great pleasure that I present the eighth Environmental Profile of Spain report, continuing with the practice that began with the first publication in the year 2004. Since then, year after year, the reference report in the field of the environment has described the true state of our natural heritage and enabled us to see the progress made in terms of its protection, conservation and improvement. It also alerts us to the environmental hazards we face, and helps identify the processes that affect the way we maintain our natural resources in a suitable condition.

The “Environmental Profile of Spain 2011” is a report based on indicators. It is an information tool, used by a large number of institutions as a basis for the dissemination of information and monitoring of environmental policies.

Its aim is to present the environmental situation of Spain and offer this valuable information to all citizens. It includes data disaggregated by Autonomous Communities and references to the European Union. In this way, we ensure fulfilment of the obligations of information under the Aarhus Convention regarding access to information, public participation in decision-making and access to justice in environmental matters. Furthermore, it allows us to suitably monitor the sectoral and integration policies of the various environmental parameters on these policies.

In short, this report reflects the hallmarks of our environmental policy, such as the fulfilment of our commitments to the European Union, dialogue with administrations and actors involved in preserving the environment, the efficient use of resources, simplification and rationalisation of the legal framework or streamlining the environmental control on initiatives by our citizens and businesses.

This edition contains 78 indicators distributed in 16 chapters, most of them environmental along with others on productive sectors. Each indicator is accompanied by its corresponding chart, an explanatory text and set of explanatory notes, with an indication of the source of the data and web links where more information can be found. It also contains an introductory chapter called “Background”, which supplements the environmental information with socio-economic aspects of the productive sectors and describes the progress made in the dissemination of environmental information. This information is essential if we are to put the evolution of the environment into context.

The report is preceded by a synthesis of key messages, which summarises the main relevant aspects described in the profile and adds a specific chapter of information by Autonomous Communities. This item completes the information provided by the indicators, which do not always attain this level of disaggregation.

The availability of truthful, complete information is the basis for the adoption of effective policies which contribute to achieving sustainable development. Inclusive green economic growth can only be guaranteed with proper conservation of our ecosystems, which is essential if they are to continue to provide their indispensable services. In this context, the proper management of natural assets and resources, rather than hampering any growth strategy, are an essential factor of it. To this end, the first step is to understand and acknowledge their value and then proceed towards their necessary integration into political and economic decisions.

In addition, the transition towards a sustainable economy with resources for the creation of employment is impossible without the participation and commitment of all states. Public Administrations provide the environmental information available as an indispensable prerequisite for enabling citizens to participate actively in the development and management of public policies. The dissemination of information was recognised as an essential element of our democracies in 1992, at the Earth Summit in Rio de Janeiro. 20 years after this appointment, Rio+20, the Summit on Sustainable Development which was held recently, ratified the fundamental role of information for the construction of an inclusive society which involves its human capital and business and industrial fabric in the resolution of the great challenges before us.

And this is where this publication by the Ministry of Agriculture, Food and Environment plays an essential role. Heads of the General State Administration and the Autonomous Communities take part in its preparation, as well as technicians and experts who enable us to make progress with the environmental information dissemination model. I believe that this publication is a benchmark of environmental information and that it guarantees every citizen knowledge of our environment. I am therefore grateful to all those who take part in preparing it for their work, and hope that it will be used as a work tool that contributes to adopting suitable positions and making the right decisions in order to make progress towards achieving sustainable development.

Miguel Arias Cañete

Minister of Agriculture, Food and Environment

FOREWORD

The Environmental Profile of Spain has become a reference publication for awareness of the state of our environment as a result of its quality and continuity. The first volume in this series, published in the year 2004, undoubtedly marked a new beginning in the dissemination of environmental information. The best guarantee of the success of this new publication is precisely this continuity and the fact that it is drawn up using the best information available and by the best team of professionals.

The report is a new window of environmental information, open to all, that we are certain will be well received by political leaders, by the scientific and technical community linked to the environment, by non-governmental organizations and by the whole of society. We believe that its added value is to be found precisely in its proximity to a broad public who, without necessarily being experts, appreciate all the contents presented.

Both the format of the publication and the structure of its content make it easy to use as a work tool. This year, by way of a novelty, we have included “key messages” of each chapter. In this way, the progress made in the area and also the challenges still to be met are highlighted for readers. The summary, included at the beginning of the document, acts as an abstract of the general environmental situation and frames all of the many aspects on which this country needs to develop and for which government action is becoming increasingly necessary.

The environmental profile is a progress report, in which one can appraise the state and evolution of the most significant environmental aspects over recent years. It contains 16 chapters covering the main environmental fields and economic sectors, as described by a total of 78 indicators. This analysis is a faithful reflection of how the joint work of the public and private sectors must be integrated into the achievement of the objectives of sustainable development. The private sector and civil society as a whole play a key role in preserving the environment and therefore have much to contribute.

The Environmental Profile of Spain which we now publish shows encouraging values in many of the indicators dealt with, but also brings

up pending challenges that have not yet been solved or on which it has not yet been possible to begin work. We are making progress in many fields, for example in reducing greenhouse gas emissions, particularly those caused by energy use, bringing us closer to achieving the international commitments made. For this purpose, it is vital to have quality environmental information available, as it is fundamental for estimating future emissions and, consequently, for the development of efficient complementary environmental and economic policies based on clean, low-carbon activities. This essential reduction in emissions must be combined with the necessary boosting of the economy and, in particular, with vital job creation.

As we have said, collaboration between the private and public sector is fundamental if we intend to guarantee an effective transition towards a low-carbon economy. To this end, it is essential to promote corporate social responsibility and transparency policies. Investment in innovation and research is also a fundamental pillar of this transition. In this regard, we should highlight the fact that Spain was the sixth-largest world generator of renewable energy patents in 2010, signifying a great leap forward towards a green economy.

Along these lines of cooperation, it is necessary to promote voluntary agreements between authorities, companies and industry on environmental matters as additional instruments which provide incentives for environmentally-friendly actions.

In relation to energy sources, primary energy consumption from renewable sources is still rising, while our energy intensity is decreasing, nearing the average values of the EU-27. In terms of electricity generation from renewable sources in proportion to total electricity generation, we are only exceeded by 8 countries.

With regard to water, a decline can be seen in the figures for consumption per inhabitant, particularly in households. In this area, we hope that an effective drive towards utilisation of re-used water will enable us to redirect the higher-quality resource towards other purposes, thereby partly offsetting its increased usage in agriculture over recent years. The target is to achieve full purification of the pollution load of water in Spain, starting with the large towns and villages which, irrespective of size, are located in environmentally-sensitive areas.

Spain is one of the European countries with the lowest percentage of artificial soil, although it is true that it has been rising sharply over recent years. The concentration of uses of land on the coast calls for the implementation of effective policies to ensure its protection. Use of such land must be compatible with the development of the

economic activities essential for economic growth, job creation and social welfare, whilst at the same time guaranteeing conservation of the public terrestrial and marine domain and the recovery of degraded areas, particularly coastal wetlands.

The area of demarcated coastline is still increasing and is currently nearly 96% of the total length. The tourism sector, concentrated mainly along the coast, profits from the generally good condition of sea water, which is considered excellent in 87% of cases. Appropriate awareness of citizens through information campaigns designed to showcase beaches also contributes to the protection of these valuable spaces.

In-depth work must be carried out on recognising the key role that biodiversity and the services provided by ecosystems play in economic development and social well-being. In particular by integrating the objectives of conservation and sustainable use of biodiversity, above and beyond the scope of the current protected areas. The latter represent almost 28% of land area. With over 18 million hectares of forest, the increasing improvement in terms of the quantity and quality of our forest heritage as well as the habitats and species associated to it and the landscapes it is made up of represent an opportunity that must necessarily contribute to the economic diversification of activities in the rural environment.

In this respect, maintaining a competitive, high-quality agricultural activity is seen as essential in economic terms, due to the prominent role it plays in generating employment and wealth. If properly managed this activity may also provide effective input towards the contribution of public environmental assets such as the preservation of habitats, the conservation of biological diversity or the generation of attractive countryside. For the third consecutive year Spain is in first place in the European Union in terms of surface area devoted to organic farming and organic livestock farms.

As we can see, there are many reflections we could make on the basis of this publication and many challenges that we should take up. Putting them on the table and learning from past mistakes is a first step, and one that we should not shirk.

I cannot close without thanking the personnel and executive centres who have drawn up this report for their efforts, and also those who have contributed to its preparation, both from the General State Administration and the Autonomous Administrations. I should also like to thank the members of the Spanish EIONET Network of the European Environment Agency, who have remained faithful to their spirit and contributed to the functioning of the network with their dedication and stimulation. Far from reaching the end of a page, we have begun another, perhaps more extensive one, which we hope will reflect the overcoming of the many challenges that lie ahead in the next edition.

Federico Ramos

Secretary of State for the Environment





Summary of key messages

AIR

In 2010 GHG emissions continued to fall, albeit to a lesser extent than in previous years. In 2010 the Spanish contribution to the GHG emissions of the EU was 7.54% of the total. GHG emissions per capita and per unit of GDP in Spain are lower than the EU average.

In the period 1990-2010, emissions of acidifying and eutrophying substances were reduced by 48.6%. By type of gas, SO₂ has decreased 77.5% and NO_x 22.8%. In contrast, NH₃ emissions have risen by 17.6%. Tropospheric ozone precursor emissions have decreased by 24.7%; methane is the only gas that has increased its emissions.

Emissions of particulate matter have a decreasing trend which was especially sharp in 2008 and 2009. Non-industrial combustion plants, road transport and agriculture are the sectors that emit the most particulates in Spain.

WATER

Consumption of the public water supply has maintained a downward trend since the year 2004, which, at 4,042 hm³, was the highest consumption of recent years. The daily consumption of water per capita was 149 litres in 2009, down from 2004, when it was 171 litres.

The relationship between water reserves and reservoir capacity decreased slightly from 74.5% in 2010 to 62.5% in 2011. However, these values were higher than the average for the last 10 years, which was 56.5%.

The 2011 bathing season was the first during which the criteria of the new legislation on bathing water was implemented, with the following result: 54.2% of the sampling points of continental waters were "excellent", 23.8% were "good", 7.9% were "sufficient" and 14% were "poor" for bathing.

LAND

Spain is one of the countries of Europe with the lowest percentage of artificial surface, area at just 2%. However, it is the country in which this surface area has increased the most over the period 2000 to 2006.

There has been a medium level of landscape fragmentation in Spain in relation to the rest of Europe, although it is increasing in coastal areas.

NATURE AND BIODIVERSITY

The total protected surface area in Spain, which includes Protected Natural Areas and the Natura 2000 Network, represented 27.83% of the total land area in 2011. It consisted of 14,088,044 terrestrial hectares and also 1,085,314 marine hectares.

In 2011, forest area in Spain occupied just over 27.5 million hectares (55% of the total surface area of the country). Of this, woodland surface was in excess of 18 million hectares. The general condition of the woodland was still in a recovery process in 2011: 88.2% of the trees studied had a healthy appearance, and only 10.2% of bases had more than 25% defoliation.

Bird trend populations in forest environments underwent a moderate increase in 2011, whilst those in the agricultural environment continued to decline.

COASTS AND MARINE ENVIRONMENT

Describing the type of coast reveals the differences in coastal areas for each of the geographical areas and provinces of Spain. The Spanish coast is made up of 18% of beaches, 20% of cliffs, 21% of low rocky coast, 28% of floodplain and 13% of coastline marked by humans.

Sea bathing water was generally very health in 2011 and excellent quality in 86.6% of cases, while poor at only 2.7% of sampling points.

Planning the protection of the marine environment, within the framework of European legislation and Law 41/2010, calls for the adoption of marine strategies for each of the five marine regions.

GREEN ECONOMY

The green economy is facing a triple challenge: to achieve economic development using resources effectively and minimising environmental impacts. It also aims to preserve our natural capital (ensuring the resilience of ecosystems) and promote social inclusion.

The energy intensity of the economy is falling in Spain, and is approaching the values of the EU. In 2008, domestic consumption of materials decreased by 12.8%, breaking the existing growth trend.

In 2010 Spain was the sixth-largest worldwide generator of renewable energy patents. Wind power is the renewable energy with most patents (156 representing 49% of the total). It is followed by solar power (118 patents which amount to 37%) and ocean energy (20 patents representing 6%).

WASTE

According to Eurostat figures, in 2010 Spain continued to reduce the production of urban waste per inhabitant, which stood at 18.2% between 2001 and 2010. With regard to waste treatment, landfill maintains virtually the same proportion as in 1995, whilst incineration has increased by 104.2%.

In the period 1990-2010, the rate of collection of paper and cardboard rose by 32.9 percentage points, although it underwent a slight drop in 2010. The rate of recycling also rose, increasing by 28.2 points.

Spain has been surpassing the global targets for the recovery and recycling of packaging waste of Directive 2004/12/EC since 2006 and 2007 respectively, both sets of objectives being applicable since 2009.

AGRICULTURE

In 2010 consumption of fertilizer per hectare increased by 35.6%, and plant protection products (expressed in kg of active ingredient per hectare), grew by 12%.

For the third consecutive year Spain holds first place in the European Union in number of hectares set aside for organic farming, which increased by 3% in 2010. The number of organic livestock farms also increased by 12%.

Irrigated land recorded an increase of 1.9% in 2011, standing at 3,473,474 hectares, representing 13.8% of the total agricultural area.

ENERGY

Spain is reducing its primary energy intensity. This decrease is clear from 2004 to 2009. However, for 2010, provisional data are predicting a slight increase.

The intensity of greenhouse gas emissions caused by energy continued to decrease, and by 2010 was 42.4% less than in 1990. This reduction became particularly significant from 2005 on.

Primary energy from renewable sources increased. Spain is one of the EU-27 countries that contribute the most renewable sources of energy to electricity generation, representing 32.4% of total electricity consumption in 2010.

INDUSTRY

Emissions of pollutants from the industrial sector rose in 2010, in contrast to the decreases experienced the previous year. Almost 53% of the total emissions of sulphur dioxide were of industrial origin. Industrial energy consumption rose in 2010 following the sharp drop in 2009, breaking the downward trend of the previous two years.

In 2009 the generation of waste in industry decreased once again. Company expenditure on environmental protection also dropped.

Spain is still the second EU country in terms of the number of companies registered in the Community Environmental Management and Audit Scheme (EMAS).

FISHING

The Spanish fishing fleet has been diminishing since 1998, both in number of vessels (37.2%) and in fishing capacity (26.3% in tonnage and 28.7% in power). In 2010, the number of vessels was reduced by 2.9% in comparison to 2009. 10,847 vessels were operating in 2010, and 10,404 of them in national fishing grounds.

In general, the catches of the Spanish fishing fleet (relating to live weight) have also reduced since 1998, albeit with annual oscillations. However, in 2010 they increased by 5.6% as compared to 2009, reaching 768,691 tonnes. As regards the catches themselves, those made in coastal waters were up by 12.5%.

Total aquaculture production in the year 2010 dropped by 5.1%: fish production decreased by 6.87% and mussel production by 5.2%. Since 2003, total aquaculture production has dropped by 10.24%. Whilst fish production has grown by 3% in total (marine production by 69.4% and continental by -47.0%), the production of mussels, which is a very important part of aquaculture production, has fallen by 12.9%.

TOURISM

In 2011 Spain received a total of 56.7 million foreign tourists (1.2 foreign tourists per capita). Most of these were concentrated mainly on the coastline, with a total of 50.1 million foreign tourists visiting the Spanish coast (6,365 tourists per km of coast).

In the 10 destinations with the largest number of overnight stays in hotels, these stays increased by 10% in 2011, reaching the figure of 165.2 million overnight stays. Expressed in Equivalent Tourist Population, this would be equal to 452,805 people residing permanently in these destinations.

In 2011 the flow of visitors to the National Parks rose by 7% compared with the previous year, standing at 10.2 million visitors.

TRANSPORT

Freight transport declined (21.6% between 2007 and 2010), to return to 1999 levels. Passenger transport decreased by just 3.6%, reaching values close to 2005. In 2011, air passenger transport recorded the second-best year in their history, with just over 204 million passengers.

Acidifying emissions and tropospheric ozone precursors from transport continue to decline: 24.8% and 52.9% respectively between 1990 and 2010. Although between 2007 and 2010, GHG emissions of transport decreased by 14.4%, between 1990 and 2010 they increased by 66.3%, a significantly higher increase than that of the total emissions.

The consumption of motor fuels declined. However, the proportion of diesel use increased. The share of biofuels in the total of petrol and diesel also increased.

HOUSEHOLDS

The year 2009 was the first, since 2000, in which the gross income of households stopped growing, dropping nearly 670 € per household in 2009.

Energy consumption has remained relatively stable since 2000, with a downward trend since 2006 although it did pick up slightly in 2010. Meanwhile, water consumption per household decreases every year. In 2009, it was 149 litres per person per day, representing a volume 3.2% lower than in 2008.

The number of cars per household increased in 2010, after dropping for several years. Even so, there are fewer cars per household than in the year 2000.

URBAN ENVIRONMENT

As in Europe, in Spain the population living in urban areas is on the increase, although growth rates have slowed down in recent years. Average population-weighted air quality values in all the municipalities with over 50,000 inhabitants do not exceed legislated values. However, there is a high percentage of the population, especially in large cities, with problems due to pollution by particulate matter and nitrogen oxides.

In 2011, urban transport of passengers increased by 0.6% in relation to the previous

year. By type, metropolitan rail transport increased 1.3%, whilst bus transport increased by 0.1%.

The Network of Local Development Networks is a vehicle for public participation in the environment and the development of Local Agenda 21. In 2011, this network included 2,801 municipalities and nearly 28.2 million inhabitants.

NATURAL AND TECHNOLOGICAL DISASTERS

In 2011 there were 41 deaths caused by natural disasters (7 less than in 2010). Nine of these deaths were the result of the earthquake in Lorca (Murcia).

According to provisional data in 2011 there were a total of 16,028 forest fires (including initial outbreaks), nearly 40% more than in 2010. The area affected by these fires was 84,490 hectares, higher than the average for the decade. We must bear in mind that 2011 was dry in most of Spain. The average rainfall level was 575.5 mm (13.5% below the normal average).

In 2010, the number of accidents with possible environmental damage caused by the transport of dangerous goods by road and rail was reduced by 46.5%. We should stress that in 2011, there were no accidents in industrial activities included within the scope of the Seveso legislation, or maritime accidents with significant oil spills.

