

Environmental Profile of SPAIN



2012



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DE AGRICULTURA, ALIMENTACIÓN
Y MEDIO AMBIENTE

Environmental profile of Spain 2012

Indicator-based report



Madrid, November 2013



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The purpose of this publication is to provide an overview of the environmental situation in Spain, with information broken out by Autonomous Community and with European Union references. The 2012 edition contains 85 indicators, arranged in 17 chapters, plus a specific section with information from the Autonomous Communities. Each chapter contains an introduction and various key messages, while each indicator has a corresponding chart, explanatory text and notes, together with the source of the data and links to websites where more information can be found. There is also a 'Background' chapter, which complements the environmental information with social and economic data.

Director:

Guillermina Yanguas Montero

Co-ordinator:

Elisa Rivera Mendoza

Photographs:

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INTRODUCTION

Since 2004, the *Environmental Profile of Spain* has been published annually and has become a work of reference for all those organisations, institutions and citizens who require a rigorous diagnosis of the environmental situation in our country.

Designed as a publication of general information on the state of the environment, it aims to offer an environmental radiography of the whole of Spain.

With this aim in mind, and being aware of the importance that environmental awareness has attained over recent decades, the Ministry of Agriculture, Food and Environment (MAGRAMA), prepares this report with the highest scientific precision, so that the information it contains is precise and relevant, as well as being useful for both those who are responsible for environmental management as well as citizens.

Nowadays, the publication of this environmental information is, in addition to being much needed, a legal requirement. Thus, the publication of the *Environmental Profile of Spain* satisfies current European, national and autonomic legislation in this area, regulating the right of access to information.

A notable new feature of this year's edition, in terms of its format, is the integral design of its contents in order to facilitate its visualisation by electronic means. This enhances the accessibility of the information for all users, enabling an interactive *Environmental Profile of Spain 2012*.

The report can therefore be consulted using mobile devices, which will no doubt lead to wider dissemination of the information due to greater ease of use. Likewise, this will promote education and awareness of environmental values, fostering the participation not only of managers and specialists but of the whole of society. The environment is a heritage we all share.

This, in short, is a declaration of principles: the firm conviction that the protection of the environment can be, and must be, considered as an ally in the economic and social progress of Spain. The environment is valuable in and of itself, but it can also be a source of wealth and employment, if we are able to manage it properly.

The indicators, set out in themes and sectors, and the basic data included in this report, contribute to this objective; and reflect the effort made by the Ministry of Agriculture, Food and Environment to strengthen the conservation of the natural environment, achieving a balance between the well-being of society and respect for the environment in which it carries out its activities.

This edition is divided into 17 chapters, together with an additional one containing the basic data of the Autonomous Communities, and is based on 85 environmental and socioeconomic indicators.

An analysis of the content shows, on the one hand, the positive results of the conservation of the environment in our country, and, on other, the challenges that lie ahead in this area. The environmental sector has enormous potential, both to face up to these and to respond to the demands of our society's economic activity. In this regard, it is worth mentioning the existence of leading international Spanish companies, as well as technology centres and universities with wide experience and professional training. The geographical situation, climatic conditions and cultural heritage also give our country a privileged, highly competitive position for a number of technologies.

Several ministerial and autonomic departments have participated in the preparation of the *Environmental Profile of Spain 2012*, as well as experts and technicians in the different areas. My sincere thanks for their work that allows us to know with precision the environmental parameters and factors that we need to manage to follow the path of sustainable development.

Miguel Arias Cañete

Minister of Agriculture, Food and Environment

FOREWORD

The increasing importance of environmental information is directly related to a society's development. The truth of this has been consistently confirmed since the end of the last century and now, well into the 21st century, it has only become clearer.

Responding to this need, arising from the evermore global and sophisticated information society, is a challenge that we cannot neglect in environmental matters.

As evidence thereof, the *Environmental Profile of Spain 2012* gives continuity to a series of reports that intend to offer exactly that: an environmental portrait of Spain to political managers, experts, scientists, technicians, organisations, associations and citizens in general.

This publication reflects the effort that this Ministry is making to improve the conservation of the natural environment, seeking harmony and balance between the well being of society and the environment in which it carries out its activities. The data included in the profile show that economic development and the creation of employment are compatible with the conservation of the environment, provided that the limits imposed by nature are respected under the inalienable principle of civic responsibility.

This is because, as we all know, in environmental matters there is no turning back. We are moving towards a model of society that has less impact on our environment and a more rational and efficient management of natural resources.

Overall, the Profile depicts an environmental strategy that is structured around an improvement in air quality, the adoption of measures that encourage the adaptation to climate change of all sectors of our society and the development of effective policies for the reduction of greenhouse gases emissions. It also emphasises the importance of a realistic rationalisation of the use and management of water in the medium and long term, of the protection of natural areas and biodiversity, of the preservation of our coastal heritage and of the protection of the marine environment as a world leader in the field, strengthening and expanding the 'Natura 2000 Network' in this area. It does all of this without detracting from the progress achieved in environmental quality and assessment and the integration of the environment into productive economic sectors.

Concerning **air quality**, the 2012 data show that average air quality did not exceed the legislative limits for the various pollutants, calculated as weighted average values for the population. This analysis does need to be interpreted with caution, because at certain times and in specific city locations, the established limits and targets may be exceeded.

With the aim of improving air quality, the Ministry has recently adopted the **National Plan on Air Quality and Protection** ('AIRE Plan') 2013-2016; in this area it is also necessary to highlight the bringing into force, at the start of this year, of the new **Plan for the Promotion of the Environment ('PIMA Air')**, a pioneering initiative in Europe, focused on the improvement of air quality through the renewal of the commercial vehicle fleet and its substitution by other more efficient models with lower environmental impact.

Furthermore, in this edition we have included an additional indicator that shows the efforts made by the Ministry in the fight against **climate change**: the '**Clima Projects**', which are aimed at mitigating the effects of climate change. These projects aim to promote economic development and job creation. At the end of November 2012 the results of the first round of invitations were published, in which 37 projects were selected, all of which reduce emissions in sectors such as agriculture, transport, waste or in relation to residential properties.

In relation to **water**, the urban water consumption indicator has noticeably decreased for all sectors as a result of campaigns backed by the administration, especially by the Ministry of Agriculture, Food and Environment, aimed at raising awareness of sensible water resource use. The Rivers Volunteering Program (included in the National Strategy for the Restoration of Rivers) is an example of the actions taken by the Ministry and of society's commitment: in 2012 more than 33.400 volunteers participated in the programme.

There has also been progress on **water planning demarcation** in all the river basin areas, promoting the coordination of territorial interests, with the objective of consolidating the important role Spain has in Europe in water management, with the country being a leader in the implantation of river basin management.

In relation to the **natural environment**, it is worth pointing out that Spain is the leading EU country in terms of its contribution of protected areas to the **Natura 2000 Network**, with almost 28% of the country's protected areas included.

The richness of these habitats gives Spain a great abundance of different species of **fauna. Birds**, for instance, due both to their singularity and abundance, are some of the best ambassadors for our biodiversity and a great attraction for nature lovers, whether natives or visitors to Spain. With 569 species of registered birds, including nesting birds, migratory, wintering, wild or rare, 595 Special Bird Protection Areas, occupying more than 10 million of hectares, have been declared (almost 20% of our land area). This has immense tourism potential, attracting environmentally aware visitors, who are conscious of the importance of preserving natural heritage. Thus, our country has become a first class destination for ornithological tourism, with ample capacity to further strengthen its position in the international market, and a good example that a sustainable socioeconomic activity can be a source of employment and wealth.

Our **coasts**, in terms of water quality, have improved upon their already high standards, mainly because we have put a great deal of effort into the protection of the marine environment. The progress made on the development of the Network of Marine Protected Areas and the approval of Law 2/2013, of May 29, on Protection and Sustainable Use of the Coast, that modifies Law 22/1988, of July 28, the Coastal Law, are essential steps to continue along the path of the conservation of our natural environment and boost sustainable economic development in coastal areas.

As an indicator of a more green economy, Spain is the second country, after Germany, in terms of the implementation of the voluntary system of environmental management, EMAS, in its institutions.

In conclusion, the indicator information in the environmental profile allows us to understand the challenges that remain, as well as showing us the path to follow during the coming years.

Finally, I would like to thank every person and institution involved in producing this report, whether from the general state administration or the autonomic administrations, for their participation.

I am convinced that the results of this work will be positive and useful, both for citizens and managers, in order to achieve better environmental conservation. For the task I hope I can continue to count on the cooperation of all of you, who now hold in your hands the *Environmental Profile of Spain 2012*.

Federico Ramos de Armas
Secretary of State for the Environment





SUMMARY OF KEY MESSAGES

AIR QUALITY AND EMISSIONS



The increase of 0.5% in Green House Gas (GHG) emissions produced in 2011 breaks the trend of the previous years and puts emissions at 21% over the base year established in the Kyoto Protocol. In 2011 Spanish contributions to EU GHG emissions were 7.7%, with emissions per capita and per unit of Gross Domestic Product (GDP) below the EU average.

Tropospheric ozone precursor emissions increased in 2011 by 1.4%, although during the period 1990-2011 they decreased by 25.3%. SO_2 , NO_2 and PM_{10} concentration averages of the previous years have been lower than the legal emission limit values.

Emissions of particulate matter maintain the decreasing trend of recent years. The emissions of particulates smaller than 10 μm have fallen by 23.8% since 2000, while emissions of particulates smaller than 2.5 μm , the most harmful to human health, have been reduced by 22.5%. Non-industrial combustion plants and road transport are the sectors that emit most particulates in Spain.

In 2011, the population-weighted average air quality, in municipalities over 50,000 inhabitants, does not exceed the legal emission limit values (limits for NO_2 and PM_{10}). Likewise, the average values for background contamination also comply with legal emission limit values.

WATER



Consumption from the public water supply has decreased, being closer to the consumption levels of 1998. The consumption per capita has also been reduced, standing at 144 litres in 2010, compared to 171 litres in 2004.

Both the reservoirs of water in the form of snow and the contributions accumulated during the hydrological year 2011-2012 are lower than they were in the previous hydrological year and in the average of the last five years.

In general, a significant improvement has been seen in the organic contamination of the water of our rivers, with an increase in the number of stations registering lower contamination, measured as BOD_5 .

In 2012 more than half of the sampling points for fresh water bathing zones had excellent quality. In addition, a reduction in the percentage of zones classified as 'poor quality' and an increase in those registered as 'good quality' was noted.

LAND

According to cadastral data, the area occupied by urban plots in Spain has increased by nearly 19% between 2006 and 2012.

Almost 50% of the land surface in Spain that has been transformed into artificial surface during the period of 2000-2005, comes from agricultural areas with good quality soils.

During the year 2012 the works of the National Soils Erosion Inventory in relation to the provinces of Palencia and Salamanca, within the autonomous community of Castile-Leon, were completed.

NATURE

In 2012, Protected Natural Areas represented 12.38% of the total land area, while those areas included in the Natura 2000 Network represented 27.19%. Overall, taking into account the overlaps between these two categories, protected areas accounted for almost 27.85% of the total land area.

In 2012 total forest area in Spain covered more than 27.5 million hectares (55% of the total surface area of the country). The total woodland area is over 18 millions of hectares, representing 0.39 hectares/inhabitant.

Bird population trends have evolved positively in forest environments. However, conservation issues have shown up in agricultural and urban environments.

COASTS AND MARINE ENVIRONMENT

The first phase of the elaboration of Spain's Marine Strategies was completed in 2012, during which an initial assessment of the state of the marine environment was made, together with the definition of what would be a good environmental condition and the establishment of environmental objectives.

In total 95.85% of the length of the Spanish coastline is demarcated.

In 2012 the amount of coastal bathing water sampling points obtaining an excellent rating was nearly 90%. Only 2.9% of the sampling points received a poor rating.

GREEN ECONOMY



The energy intensity of the Spanish economy is below the average of the European Union, consuming less energy per unit of generated GDP. After a period of stability, from 2004, the energy intensity in Spain has reduced at a faster rate than in the EU.

Spain remains the second leading country in terms of EMAS registered organisations within the EU, representing around 28% of the total (June 2012). In 2012 the number of registered organisations has increased slightly.

Spain has designed a strategy for the reduction of GHG emissions through projects in a wide range of sectors. In the first round of invitation for the Clima Projects, promoted by the Ministry of Agriculture, Food and Environment, 194 projects were presented, with 37 of them being selected. It is estimated that these projects will allow for a reduction in emissions of up to 800.000 tonnes of CO₂-equivalent.

In 2010 Spain contributed around 6% of the environmental taxes of the EU (the sixth largest country in terms of contribution). As a percentage of GDP, the Spanish contribution was the lowest of the EU-27 countries with environmental taxes representing only 1.65% of GDP, while the European average was 2.37%.

ENVIRONMENTAL RESEARCH, DEVELOPMENT AND INNOVATION



Spain is ninth in the world in terms of scientific output in the environmental sciences.

During the period 2008-2011, Spain carried out 2,094 research, development and innovation projects, with total grants amounting to 192.1 million euros.

These environmental programmes represent 4% of the total General State Budget in 2013.

WASTE



Total municipal waste production has decreased over recent years, coupled with a reduction in waste production per inhabitant, which reached its maximum level in 2000.

Between 2000 and 2011 the decrease was 19.3%, going from 658 kg/inhabitant to 531 kg/ inhabitant.

The overall rates for packaging waste recycling and recovery have increased nearly constantly, going beyond the objectives established by legislation.

Spain, with a paper and cardboard recycling rate close to 80% in 2011, is one of 13 EU countries exceeding a recycling rate of 70%.

AGRICULTURE



In 2011 the consumption of fertiliser per hectare (expressed as nutrients) decreased 7%, standing at 102 kg/inhabitant.

The consumption of plant protection products, expressed in kg of active ingredient per hectare, has also decreased 5.4%.

In 2011 Spain stood, for the fourth consecutive year, as the European country with the largest land area dedicated to organic farming with 1,845,039 hectares.

Irrigated land was recorded at 3,522,616 hectares, which is 16% of the total agricultural area.

ENERGY



According to Eurostat, in 2010 Spain was the sixth on the list of EU-27 countries with the lowest level of primary energy intensity.

For the first time since 2005 there was an increase in the intensity of GHG emissions arising from energy production, being 17.64% higher than in 2010. Nevertheless, between 1990 and 2011 the intensity of these emissions has decreased almost 58%.

Renewable energy is still playing an important role in the structure of primary energy demand, despite the slight 1.85% decrease seen in the 2011 contribution, placing Spain sixth in terms of the generation of electricity from renewable energy.

INDUSTRY



In 2011 the industrial sector consumed 21,094 ktoe of final energy, 2% less than the previous year, and the lowest level of the last 15 years.

The N₂O emissions in the year 2011 decreased to 62% below 1990 values.

During the same year, industry improved its environmental efficiency with an increase in gross value added, at the same time as energy consumption and CO₂ emissions decreased.

FISHING



The number of vessels in the Spanish fleet was 10,505; in 2011 the decreasing trend continued in terms of the number of vessels and capacity of the Spanish fishing fleet, with a year-on-year decrease of 3.1%.

The total catch of the Spanish fishing fleet (referring to live weight) in 2011 increased 11.9%, moving from 768,691 tonnes in 2010 to 860,221 tonnes in 2011.

The total production in aquaculture in 2011 experienced a year-on-year increase of 3.3%, reaching 291,235 tonnes.

TOURISM



In 2012 Spain received a total of 57.7 million of foreign tourists, 1.8% more than the previous year, equivalent to 1.22 tourists per inhabitant.

In 2012 the number of visitors to the National Parks saw a decline of 6.3%, with 9,535,808 visitors compared to 10,181,164 in 2011.

According to provisional figures, in 2012 accommodation and capacity rose by 2.3% and 3.2%, while the number of tourists and the overnight stays decreased by 2% and 2.5% respectively.

TRANSPORT



The structure of the passenger car fleet has undergone changes, with a greater proportion of diesel vehicles - in 2011 there were 47.1% petrol vehicles and 52.9% diesel vehicles. Additionally an increase in the number of hybrid vehicles in circulation can be seen, with an increase to approximately 20,700 registered vehicles in 2011.

Transport energy consumption increased by 84% between 1990 and 2011, with continuous growth up to 2007. Domestic transport consumed 69.5% of the entire energy sector, with road transport making up almost 92%. Diesel was used to produce almost 70% of the energy consumed in 2011.

There was a reduction in the quantity of pollutants released per unit of energy used in transport, especially ozone and acidifying precursors and, to a lesser degree, in particulate matter and GHG. One of the main reasons for these reductions is the renewal of the car fleet, with existing vehicles being constantly replaced by more efficient vehicles with lower consumption.

HOUSEHOLDS



In 2010 the gross income of Spanish households continued to decline, together with a decrease in the average expenditure per household.

In 2011 the number of households grew by 1% but overall energy consumption decreased by almost 5%.

There was a slight decrease in the number of cars per household in 2011 (0.6%) but the number of motorcycles increased by 2.3%.

In 2010 the growth in the production of total urban waste per household slowed and the organic amount of urban waste per household collected separately increased.

URBAN ENVIRONMENT



In total 79.1% of the Spanish population lives in municipalities with more than 10.000 inhabitants.

In 2012 these municipalities represented only 9.4% of the total number of 8,116.

The number of properties registered as being of cultural interest, which are an important part of the architectural heritage of the cities, has grown over recent years.

The Network of Local Development Networks is a vehicle for public participation in the environment and the development of 'Agenda 21'. This network included 2,801 municipalities in 2011, with a population of around 28.2 million of inhabitants; additionally, 934 signed the Covenant of Mayors.

NATURAL AND TECHNOLOGICAL DISASTERS



In 2012 there were 35 deaths from natural disasters, 15 of which were due to floods, 10 from forest fires, and seven caused by marine storms.

According to provisional data, during 2012 there were a total of 10,520 incipient forest fires registered, with 5,382 declared fires, giving a total of 15,902 incidents.

In 2012 a total of 209,855 hectares of forest surface were affected; 82,201 hectares of which was wooded land.

In relation to accidents in the transport of dangerous goods by road and rail with possible environmental damage, in 2011 there were 26 such accidents, one more than in the previous year.

During 2012 no incidents involving oil tankers were registered on the Spanish coasts.







BACKGROUND

1.1 SOCIAL AND ECONOMIC FRAMEWORK

1.1.1 POPULATION

1.1.2 ECONOMIC DEVELOPMENT AND PRODUCTIVE SECTORS

1.2 TRANSPARENCY AND ACCESS TO ENVIRONMENTAL INFORMATION

1.3 TOWARDS THE ESTABLISHMENT OF A EUROPEAN EARTH OBSERVATION PROGRAMME: *COPERNICUS* PROGRAMME

BACKGROUND



1.1 SOCIAL AND ECONOMIC FRAMEWORK

1.1.1 Population

2012: the year with the lowest Spanish population growth

The census of the population is carried out every 10 years and provides abundant demographic and social information about each municipalities in Spain. Carried out in 2011 and published by the National Statistics Institute in December 2012, it is a highly important reference work for any analysis of the population, having been prepared using information from different administrative registers and statistical studies, with the municipal register (padrón) of notable importance among these. The census published in 2012 was the first carried out in Spain adapted to the new requirements of European legislation (Regulation 763/2008), which, among other things, assure comparability of the results across the EU.

According to the 2011 census, the Spanish population was 46,815,916 (census date of 1 November). Since the census carried out in 2001 the Spanish population has grown by 5,968,545 individuals, an increase of 14.6%.

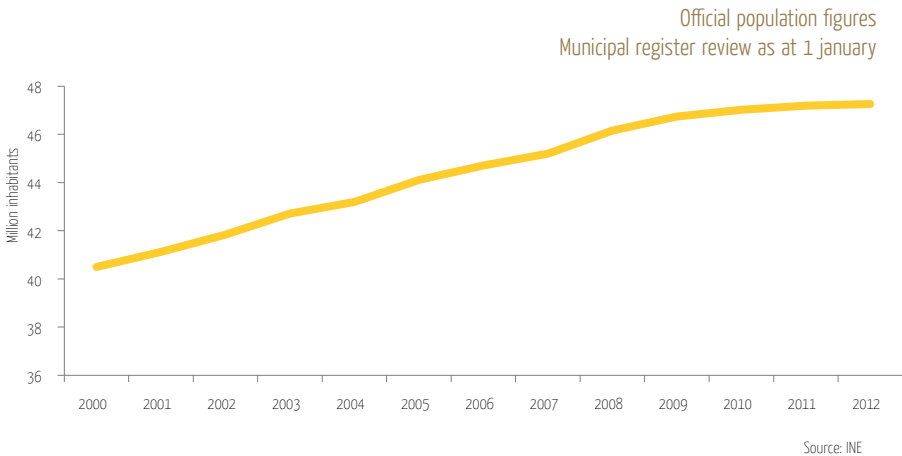
The main reason for the population increase between 2001 and 2011 was the substantial increase in the foreign resident population, with three million non-Spaniards arriving in Spain. The native Spanish population has moved from 39 million inhabitants in 2001 to more than 41 and a half million.

The reasons for this increase have been rising life expectancy, an increase in the birth rate (which reached its highest rate between 2005 and 2009) and the fact that many foreigners acquired Spanish citizenship.

Royal Decree 1697/2012, of 21 December, declares that the population figures on the municipal register as of 1 January 2012 are to be taken as the official statistic. This gives Spain an official population of 47,265,321, an increase in the population of 0.16% with respect to 2011, the lowest increase in recent years (between 2004 and 2005 there was an increase of 2.11%).

Andalusia, with 17.9% of the total population, Catalonia (16%) and Madrid (13.7%) are the autonomous communities with the biggest share of the 2012 population figures. In terms of the size of municipalities, only 20.09% of the total 2012 population lived in municipalities with less than 10,000 inhabitants, while in the year 2000 this percentage was close to 24%. This is an indicator of population movement from rural areas to more populous urban areas.

2012 is the first year to show a decline in the foreign population (- 0.26%), with a total number of 5,736,258 foreigners. Almost 50% of these are from European countries. The biggest increase in this segment of the population occurred in 2008, with a rise of 16.6%.



In 2012 Spain was still the fifth most populous country within the EU-27, with 9.2% of the total population; it is also fourth in terms of population growth during the period 2000-2012, with an increase of 15.3%. This percentage was only exceeded by Cyprus, Ireland and Luxemburg.

1.1.2 Economic development and productive sectors

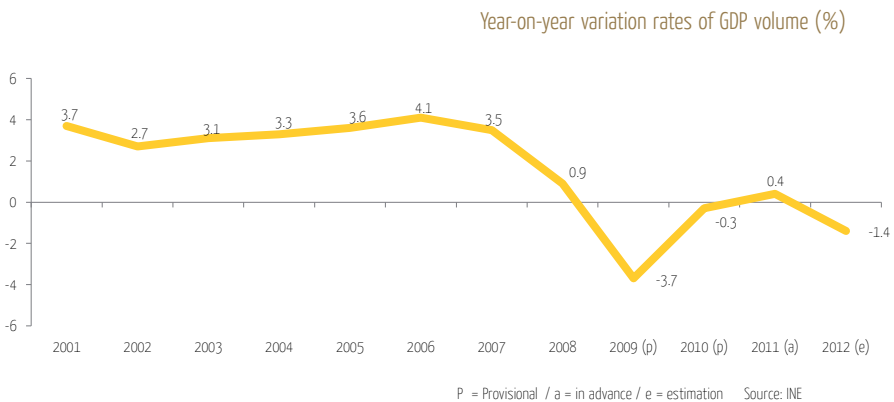
In 2012 real GDP declined by 1.4%, after the slight increase of 0.4% in 2011

The economic framework has been, and is, influenced by several factors such as the strong need for external financing, high level of deficit and debt, together with problems of confidence, solvency and financing.

In order to boost the recovery of the economy several lines of action and structural reforms in various areas have been carried out, in order to enhance the financial system and the labour market.

Economic activity in Spain, measured by GDP in terms of constant prices (real economic growth without inflation), began to fall in 2007 and had negative values in 2009 (-3.7%) and 2010 (-0.3%), increasing to slightly positive values in 2011. Nevertheless, the forecast for 2012 is for a fall of 1.42%, breaking with the recovery that appeared to have started in the previous year and marking the beginning of a new recessionary phase. GDP at 2012 prices stands at 1,051,204 million euros in 2012.

The aforementioned growth in terms of real GDP in 2011 was 0.4%, while the latest data adjusted the 2010 figures downward by two decimal points with respect to the previous data (moves from -0.1% to -0.3%).



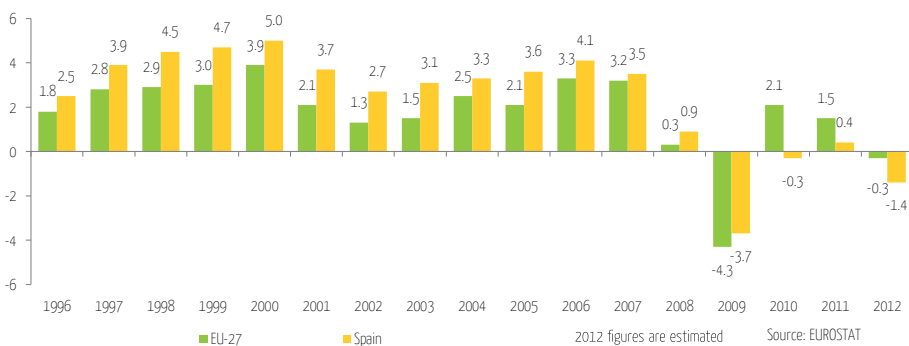
The highest real GDP growth in the autonomous communities in 2011 occurred in the Canary Islands (1.7%), the Balearic Islands (1.6%), Navarre (1.4%), and Castile-Leon (1.1%). The largest GDP declines took place in Extremadura (-0.9%), Melilla (-0.6%) and Castile-La Mancha (-0.4%).

The GDP growth rate in the EU-27 between 2010 and 2011 in real terms was 1.5%

The average nominal GDP in Spain per inhabitant in 2011 was 23,054 euros; in the EU it was 25,200 euros. Seven autonomous communities exceeded the Spanish average: the Basque Country (€31,058 per inhabitant, 37.4% higher than the Spanish average), Madrid (€29,845 per inhabitant, 29.5% higher than the Spanish average), Navarre (€29,640 per inhabitant, 28.6% higher than the Spanish average) and Catalonia (€27,236 per inhabitant). In last position is Extremadura with €15,771 per inhabitant, preceded by Andalusia with €17,337.

The comparison between GDP trends in terms of volume between Spain and the EU shows the higher growth of this indicator in Spain versus Europe, which confirms the expansive phase of our economy described above. Even in 2009, a year during which both economies contracted, the fall experienced by Spain was slightly smaller than the European average. However, in 2010, 2011 and 2012, Spanish GDP fell to a greater extent than that across the EU-27, a clear sign of the economic crisis affecting Spain in those years.

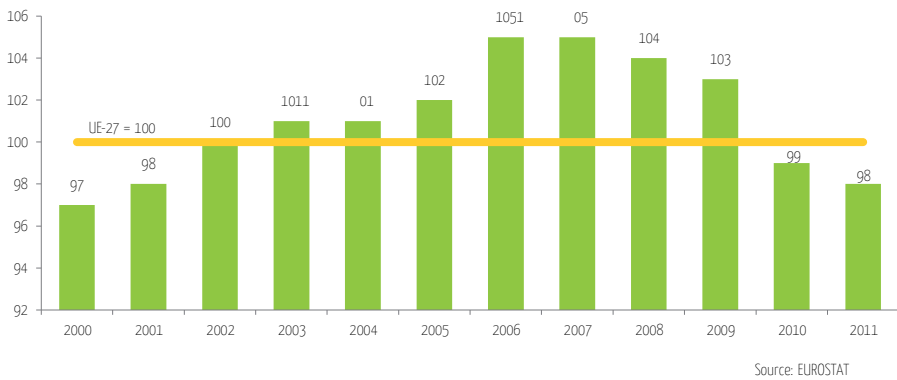
Year-on-year variation rates of GDP volume: EU-27 and Spain



Spanish GDP at current prices stands at 1,063,355 million of Euros in 2011 (at market prices).

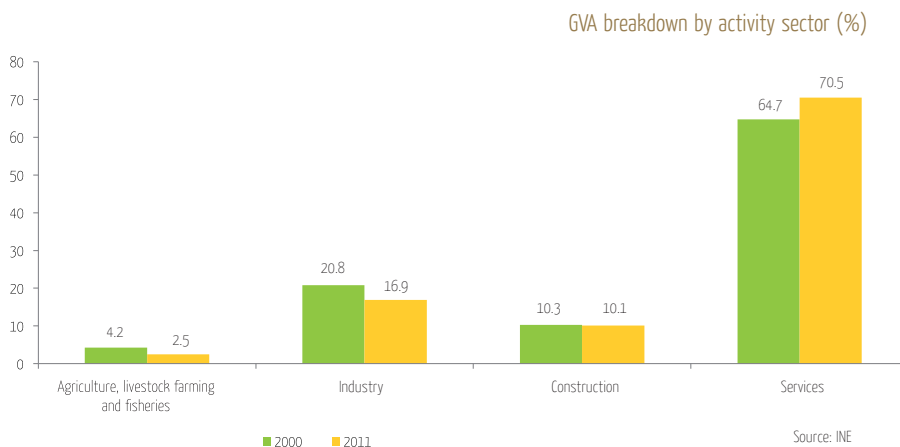
From 2002 to 2009 Spanish GDP, measured in terms of purchasing power parity, was above the EU-27 average. From 2007 onward a downward trend has been seen, with Spain two-tenths of a point below this average value in 2011.

GDP per inhabitant in terms of Purchasin Power Parity in Spain (EU-27 = 100)



In 2011, 12 countries had GDP values, measured in purchasing power parity, higher than the Spain's. As in 2010, Spain's indicator was similar to, but still below, the average values of the EU-27.

The structure of the contribution of each economic sector to Gross Value Added ('GVA') was the same in 2011 as in the previous years, with the service sector playing a key role (70.5%), followed by industry (16.9%) and construction (10.1%). Agriculture, at 2.5%, is the sector with the smallest contribution. In comparison with the year 2000 there is a clear decrease of the contribution from the agriculture and industrial sectors, taking into account that in that year these sectors represented respectively 4.2% and 20.08% of GVA. It is necessary to highlight the growth experienced in the GVA contribution of the services sectors, which in 2000 was only 64.7%. The construction sector made the same contribution in 2000 as in 2011; nevertheless, the real increase in this sector took place during the expansive growth phase, reaching 14.2% of GVA in 2006.



An analysis of the economic sectors over recent years shows us that almost all the productive branches in 2011 had positive rates of change except for construction (- 5.9%) and the group made up of agriculture, livestock farming, forestry and fishing (-0.7%).

Within the services sector, financial activities and insurance are the only areas that experienced a decrease in their GVA.

According to the 'Report on the socioeconomic and employment situation. Spain 2011' of the Economic and Social Council, the disproportionate growth of the construction sector during the period of economic expansion, together with an easing of access to external financing both for companies involved in the sector and for households, led to 13.3% of workers in Spain in 2008 being employed in this sector. Since the start of the crisis the labour force dedicated to this sector has been greatly reduced; in the last trimester of 2011 only 7.5% of workers were employed in the sector.

GPD and GVA by activity sectors (millions of euros)

	2000	2005	2010 (P)	2011 (A)
Agriculture, livestock, forestry and fishing	24,075	24,828	24,554	24,383
Industry	118,294	148,025	154,770	165,051
Construction	58,664	110,425	104,762	98,546
Services	368,565	529,196	673,685	688,331
GAV	569,598	812,474	957,771	976,311
GDP at market prices	629,907	909,298	1,048,883	1,063,355

P: provisional data. A: advance data. Source: INE

The Spanish labour force decreased in 2012 by 158,700 persons and stood at 22,922,400 individuals. The annual rate of change in the active population shows a downward trend over the last two years, with an interruption only during the first trimester of 2012.

In 2012 the unemployment total reached 5,769,000, 15.4% higher than in 2011; 96.1% of this total number were between 20 and 64 years old. 2007 was the last year in which the number of unemployed declined; in 2008 the figure increased by 41.3% and in 2009 by 60.2%. From 2010 the increase was less pronounced: 11.6% in 2010, 7.9% in 2011 and 15.4% in 2012.

This trend had led to a very high unemployment rate, the highest of the EU-27, which had an average of 10.5%. In 2007 the unemployment rate in Spain was 8.31%, after this year the rate continually increased, reaching 25.2% in 2012.

Unemployment among young people has significantly increased in the EU-27 since the start of the crisis in 2007. In 2012 the average of this unemployment was 22.8% (with a variation among countries between 8.1% in Germany and 55.4% in Greece) while in 2007 that rate in Spain was 15.7%. Spain occupies the second highest position, with 53.2% youth unemployment in 2012, triple that of 2007, when the rate was 18.2%. The rate for the 16 to 19 year old age group reached 72.2% in 2012, with the under-25 group registering 49.1% unemployment. These are worrying figures for Europe, revealing that one out of every two young people under 25 has no employment.

In terms of the autonomous communities, Andalusia, Extremadura, the Canary Islands and Ceuta have unemployment rates over 30%. The Basque Country, with less than 15%, had the lowest unemployment rate in 2012.

1.2 TRANSPARENCY AND ACCESS TO ENVIRONMENTAL INFORMATION

In 2012 steps were taken to improve transparency, more than just concerning environmental matters

The principles of transparency and access to environmental information, reflected in the Aarhus Convention and Directive 2003/4/CE, were transposed into Spanish law by Law 27/2006, of 18 July, regulating the Rights of Access to Information, Public Participation and Access to Justice in Environmental Matters. Subsequently, several autonomous communities developed their own legislation on environmental information.

The main legal modification has been the approval, in 2012, of Order AAA/1601/2012, of 26 June, setting out instructions in relation to the application of Law 27/2006, of 18 July, by the Ministry of Agriculture, Food and Environment. The order established common, homogeneous criteria in the application of the law, with the aim of improving the special procedure for the processing and resolution of petitions for environmental information received by the Ministry of Agriculture, Food and Environment, their institutional bodies and different public organisms and entities, to avoid errors that occasionally occurred in its application.

Public authorities are aware that transparency and access to information must be given priority in every public action and, motivated in particular by the public, who are ever-more organised in their demands for more efficiency, explanations and responsibility from public administrations, they have been developing legislative initiatives relating to transparency and good government that go beyond environmental matters.

The Autonomous Community of Navarre is an example of this, with the development in 2012 of Regional Law 11/2012, of 21 June, on Transparency and Open Government; other autonomous communities, such as the Canary Islands, Andalusia, the Basque Country and Extremadura worked on their own legal projects concerning transparency during 2012.

At state level, in July 2012 the Council of Ministers approved a Proposed Law on Transparency, Access to Public Information and Good Governance, and sent it to parliament for approval.

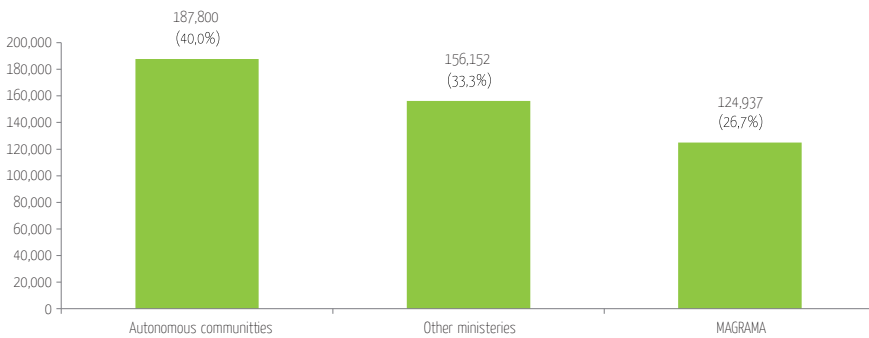
All these initiatives recognise the right to access any content or document held by public authorities without the need to declare a specific interest, and are broadly inspired by the rights of access to environmental information, especially in respect of the initiatives' wider goals, the concept of the public and those parties obliged to deliver information.

The rise of social networks should also be highlighted as mechanisms allowing the exchange of environmental information between administrations and citizens in 2012. There are two tangible manifestations of this: firstly, an evermore widespread presence of environmental authorities in traditional social networks (Twitter, Facebook, YouTube etc.), and secondly, the start-up of information exchange networks specialising in the environment, for instance the Chil platform or *biodiversia.es*.

Regarding the number of applications for environmental information received, according to the data obtained from the various organisms with competences in environmental matters, 468,889 applications were attended to in 2011, compared with 534,010 in 2010; 40.05% of the 2011 applications (187,800, with no data from Cantabria and Melilla) were submitted to the autonomic administrations, with the remainder, 59.95% (281,089 applications),

submitted to the state administration. Of the applications submitted to the state administration 55.55% (156,152 applications, 33.30% of the overall total) were attended to by the Ministry of Agriculture, Food and Environment, with 44.45% (124,937 applications, 26.65% of the overall total) going to other ministries.

Requests for environmental information in ministers, and autonomous governments.
Year 2011 (total: 468,889)



Source: Office for Environmental Information. MAGRAMA

Another significant piece of data, relating to the active dissemination of information, is the number of pages viewed on the MAGRAMA website between May and December 2011, which registered more than two and a half million pages views, with a monthly average of 324,403, according to data in the Ministry's annual report.

Finally, it is interesting to note the perception citizens have regarding the degree of information they have on the environment. According to the data registered by Euro barometer EBE 2005/2008/2011, a majority of Spaniards consider that they are badly informed (53%), with this negative perception having increased in respect of previous years; however, it is important to note that the percentage varies directly in relation to the level of education of the interviewees, with 70% of the population that considers themselves well informed having higher levels of education.

1.3 TOWARDS THE ESTABLISHMENT OF A EUROPEAN EARTH OBSERVATION PROGRAMME: *COPERNICUS* PROGRAMME

Copernicus (previously known as GMES, Global Monitoring for Environment and Security), is the European Program for the establishment of a European capacity for Earth Observation. Its main objective is to understand the state of the environment, in order to protect it and guarantee citizens' security. *Copernicus* is a joint initiative of the European Commission and the European Space Agency. The launch of *Copernicus* is possible thanks to several research projects financed by the Seventh Framework Programme FP7, while the development of the observation infrastructure is performed under the aegis of the European Space Agency, the European Environment Agency and the Member States. The sustainability of the *Copernicus* operational services will be carried out through public European financing, intergovernmental organisms and the Member States, and they will be considered to be 'public goods', accessible to any organisation or citizen.

In practice, the *Copernicus* programme consists of a complex set of systems that collect data from multiple sources: earth observation satellites and 'in situ' sensors (such as ground stations, airborne and sea-borne sensors). *Copernicus* has six thematic areas: land, marine, atmosphere, climate change, emergency management and security. These areas are developed as land monitoring and marine and atmosphere monitoring to directly contribute to the assessment of climate change and to mitigation and adaptation policies.





INDICATORS: THEMES AND SECTORS

- 2.1 AIR QUALITY AND ATMOSPHERIC EMISSIONS
- 2.2 WATER
- 2.3 LAND
- 2.4 NATURE
- 2.5 COASTS AND MARINE ENVIRONMENT
- 2.6 GREEN ECONOMY
- 2.7 ENVIRONMENTAL RESEARCH, DEVELOPMENT AND INNOVATION
- 2.8 WASTE
- 2.9 AGRICULTURE
- 2.10 ENERGY
- 2.11 INDUSTRY
- 2.12 FISHING
- 2.13 TOURISM
- 2.14 TRANSPORT
- 2.15 HOUSEHOLDS
- 2.16 URBAN ENVIRONMENT
- 2.17 NATURAL AND TECHNOLOGICAL DISASTERS

AIR QUALITY AND ATMOSPHERIC EMISSIONS

2.1

Environmental profile of Spain 2012

In Spain, the National Plan of Air Quality and Protection of the Atmosphere (the AIRE Plan) 2013-2016, has been developed as an instrument to allow public administrations to improve the environment and reduce emissions. It contains 39 specific objectives that include 78 horizontal and sectoral measures, and deals with air quality issues at their source; for that reason it proposes measures such as the promotion of the use of less polluting forms of transport, the use of public transport in place of private vehicles and discriminatory measures against less efficient and more polluting vehicles, among others. It also aims to involve citizens, adopting measures to offer real time information on air quality and to incorporate the material as a study subject in secondary education. The plan was finally approved in April 2013 and allows a novel framework to improve the air quality in Spain to be set up.

The Plan can be considered as the instrument that will allow for compliance with Directive 2008/50/CE, of 21 May 2008, on ambient air quality and cleaner air for Europe, as well as, specifically, compliance with the legal specifications the Directive sets out for particulate matter.

In the framework defined by the AIRE Plan, there are diverse initiatives for the improvement of air quality that are worthwhile highlighting. The Plan for the Promotion of the Environment, PIMA Air, has the objective of reducing CO₂ emissions, as well as polluting atmospheric emissions, through the substitution of the small commercial vehicle fleet (up to 3.5 tonnes that are more than seven years old) by models that are more efficient and have less environmental impact. Royal Decree 89/2013, of 8 February, regulates the direct grant of aid under the PIMA Air Plan for the acquisition of commercial vehicles.

Additionally, during 2012 the national emission ceilings of four atmospheric pollutants have been



reviewed within the framework of the Gothenburg Protocol of the Geneva Convention, establishing new commitments for the year 2020. A new emission ceiling has also been added for PM_{2.5} particulate matter, which is the particulate fraction with the greatest impact on human health. During 2013, declared as the Year of Air in the EU, the Commission plans to review its Thematic Strategy on Air Pollution.

As regards climate change, at the end of 2012 the 18th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP18) took place in Doha, Qatar. In addition to forming the basis of a stronger and more ambitious global action against climate change in the short and medium term, agreements were adopted concerning two main policy themes: the adoption of a new binding international agreement in 2015 (with effect from 2020) and an extension to the second commitment period of the Kyoto Protocol, starting on 1 January 2013.

KEY POINTS

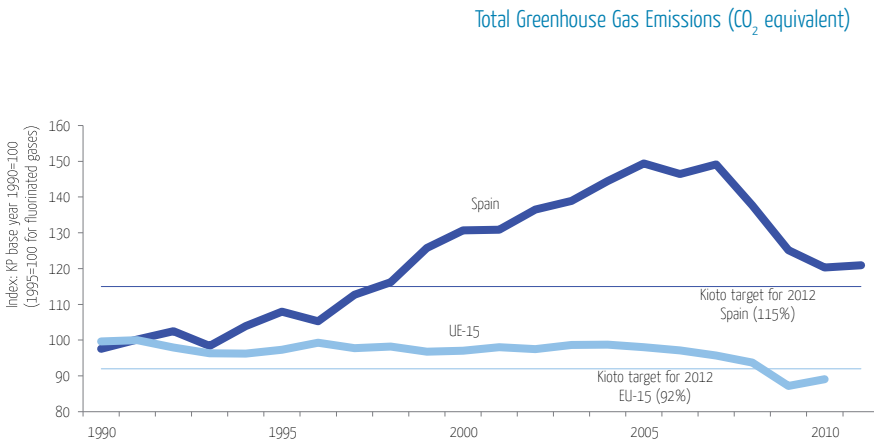
- In 2011 GHG emissions increased 0.5% with respect to the previous year, placing the emissions at 21% over the base year level established in the Kyoto Protocol; Spain was responsible for 7.7% of EU GHG emissions; the emissions per inhabitant and per unit of GDP were below the EU average.
- Although in 2011 the aggregated emissions of acidifying and eutrophying substances increased by 3.1%, since 1990 these have experienced a sharp fall, of up to 46.4%. SO₂ emissions have shown the greatest reduction (75.3%) followed by NO_x (19.7%), while NH₃ emissions have shown a clear rise (14%).
- The emissions of tropospheric ozone precursors have increased by 1.4% in 2011, though during the period 1990-2011 these fell by 25.3%.
- The emissions of particulate matter continued the downward trend seen over recent years; the emission of particulates smaller than 10 µm has decreased by 23.8% from the year 2000, while the emission of particulates smaller than 2.5 µm, the most harmful for health, has decreased by 22.5%. Non-industrial combustion plants and road transport were the sectors that recorded the highest particulate emissions in Spain.
- As regards a representative situation of average air quality, the definitive 2011 data consolidates the trend of previous years, with no breaches in the legal limits (limit for NO₂ and PM₁₀ and target for ozone) in any of the population-weighted average values for the different pollutants. This analysis does not rule out that at certain times and at specific points in urban environments the limits may be exceeded.
- In 2012 the decreases in the annual amount of exceedances of the 120 µg/m³ maximum daily eight-hour mean, and the five-year-moving averages of AOT 40 of ozone have continued, in compliance with legal specifications. The average of the sulphur dioxide, nitrogen dioxide and PM₁₀ concentrations of the last years are below the legal limits.

INDICATORS

- Greenhouse Gas Emissions
- Emissions of acidifying and eutrophying gases and tropospheric ozone precursors
- Emissions of particulate matter
- Air quality in urban environments
- Regional background air quality for the protection of health and vegetation

Emissions of greenhouse gases

In 2011, GHG emissions increased slightly, breaking the declining trend seen during the previous three years



In 2011 GHG emissions increased by 0.5%, going from 348,641 kt to 350,484 kt of CO₂-eq. this breaks the decreasing trend of 2008 (-7.7%), 2009 (-3.9%) and 2010 (-3.1%).

The emissions in 2011 are 21% above the base year level. In total, the evolution of the index has been characterized by a sustained increase during the period of 1990-2007, with the exceptions of 1993, 1996 and 2006, which saw sporadic declines in respect to the previous year. The series continues with the three decreases mentioned and the slight upturn in 2011.

The decrease produced in 2008 and 2009 arose from the combination of two important factors: a change in the distribution of fuels used in the electricity generation industry (with a strong fall in coal consumption) and the effects of the economic recession arising from the economic and financial crisis. The increase in 2011, on the other hand, was a consequence, among other things, of an increase in coal consumption for electricity generation, in spite of there being a decrease in the consumption of fuels for road transport and in the residential and services sectors, together with lower levels of activity in major industrial sectors.

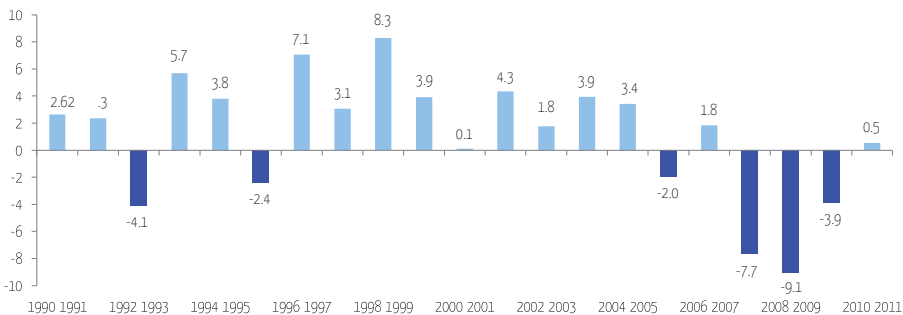


An analysis of the different activity sectors shows a major contribution from the energy sector (which includes, among others, transport emissions), which increased its share from 74.6% in 1990 to 77.5% in 2011, followed, at a considerable distance, by agriculture, with 13.2% in 1990 and 10.6% in 2011. The third group on the list is industry (with an exemption for combustion activities included in the first sector, energy), whose contribution decreased from 9.1% in 1990 to 7.5% in 2011. The waste sector has shown a tendency to increase its share, varying its contribution from 2.6% in 1990 to 4% in 2011.

Finally, the group of solvents used along with other products represent a marginal contribution of between 0.4% and 0.6% of the total.

Carbon dioxide is the main gas emitted, increasing from 80.2% in 1990 to reach 81.1% in 2011, followed by methane and nitrous oxide, which have similar contributions, though methane is slightly higher. Fluorinated gases show a reduced contribution of 2.6% in 2011.

Change in greenhouse gas emissions (%)



Source: MAGRAMA

NOTES

- This indicator presents the total emissions of the six main greenhouse gases (CO₂, CH₄, N₂O, HFC_s, PFCs y SF₆), expressed jointly as CO₂-eq (index 1990=100, and 1995=100 for fluorinated gases).
- Under the Kyoto Protocol of the UN Convention on Climate Change, the EU has undertaken to reduce its greenhouse gas emissions by 8% in relation to 1990 levels within the period 2008-2012. Each EU member state has different obligations and Spain has to stabilise GHG emissions at 15% above 1990 levels.
- The figures are for gross emissions and exclude net sink (capture minus emissions) for 'Land use, changes in land use and forestry'.
- The figures taken as the reference value (base year level) when examining the changes over time in aggregate emissions (without including emissions and absorption attributable to 'Land use, changes in land use and forestry') is the officially approved value used to calculate the quantity allocated to Spain when evaluating its Kyoto commitments.
- Within the context of the EU, Spain contributed 7.7% of total emissions in 2011 and released 7.6 tons of CO₂-eq per inhabitant, lower than the EU average of 9 tons of CO₂-eq per inhabitant. In GDP terms also, Spain was one of the countries with the lowest emissions intensity, releasing 0.33 kg of CO₂-eq in order to generate one unit of GDP in 2011, while in the EU-27 this intensity was 0.36 kg of CO₂-eq.

SOURCES

- Ministry of Agriculture, Food and Environment, 2013. Greenhouse Gas Emissions Inventory of Spain, years 1990-2011. Communication to the Commission. General Directorate for Environmental Quality and Assessment and Natural Environment.
- European Environment Agency, 2012. EEA greenhouse gas data viewer (web).

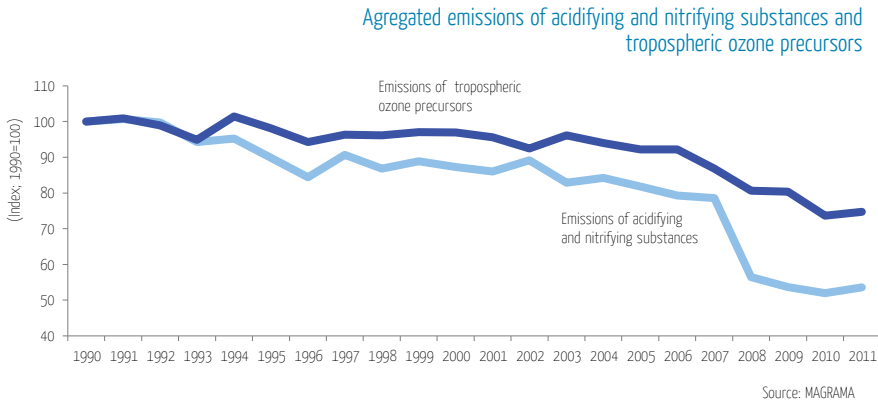
FURTHER INFORMATION

- <http://www.magrama.gob.es/es/calidad-y-evaluacion-ambiental/temas/sistema-espanol-de-inventario-sei/>
- <http://www.eea.europa.eu/data-and-maps/data/data-viewers/greenhouse-gases-viewer/>



Emissions of acidifying and eutrophying gases, and tropospheric ozone precursors

In 2011 the emissions of acidifying and eutrophying and tropospheric ozone precursors increased slightly



The aggregated emissions of acidifying and eutrophying substances have experienced a large reduction during the period 1990-2011, decreasing by 46.4%. Although the overall downward trend is very clear, isolated increases can be observed in some years, and notably the decreases in 2008, 2009 and 2010 were much less pronounced. In 2011 there was a rise of 3.1% that, in principle, may be an isolated exception such as those that have occurred over the series.

Emissions of SO_2 have experienced the most marked reduction (75.3%), followed by NO_x (19.7%), while NH_3 is the only pollutant that has increased, by almost 14%. In relation to SO_2 , almost all economic sectors have contributed to this decrease, in particular combustion in energy and transformation industries, industrial combustion plants and road transport. Meanwhile, in relation to NO_x emissions road transport provided the main reduction (42.4%), followed by non-combustion industrial processes that, although they reduced by 40.4%, have a lower effective incidence because of their overall low share of total emissions.

The main reason behind the growth of NH_3 emissions is an increase from manure management, with reference to nitrogen compounds.

Regarding 2011, emissions of SO_2 were responsible for the majority of the acidifying emis-

sions, which increased 10.4% (due mainly to the rise of emissions from the production and transformation of energy). The contribution to NO_x emissions however fell.

As regards overall emissions of tropospheric ozone precursors, these also show a decreasing trend, although this decrease was less marked. During the period 1990-2011, the aggregated emissions of the four gases evaluated (NO_x , NMVOC, CO y CH_4) fell by 25.3%.

Looking at each type of gas, the largest decline in the period mentioned was in CO, which experienced a reduction of 50% (mainly due to a significant decrease of the emissions of this pollutant from road transport). The reduction of NMVOC has been significant, although to a lesser degree (almost a 25%). The only precursor that has suffered an increase is CH_4 , with a rise of 23.2%, due to the increase in contributions from agriculture, waste management and industrial combustion plants.

As occurred with acidifying and eutrophying emissions, in 2011 these aggregated emissions increased by 1.4%, halting the uninterrupted decreasing trend from 2004, due to the rise of NO_x emissions (3.64%) and, to a lesser extent, of NMVOC (0.5%). It is necessary to highlight a marked 58.1% increase in 2011 of NO_x emissions from combustion in the production and transformation of energy.

NOTES

- The graph for the indicator shows the changes in aggregate total annual emissions of acidifying and eutrophying substances (SO_2 , NO_x y NH_3) and tropospheric ozone precursors (NO_x , NMVOC, CO y CH_4), in relation to the base year 1990. (1990=100).
- SNAP 11 group emissions (other sources and sinks) are not included for NMVOCs, nor are emissions pertaining to subgroups 10.01 and 10.02 (fertilised and unfertilised crops) corresponding to leaf biomass.
- Emissions of acidifying and eutrophying gases are presented as acid equivalents (hydrogen ion-generating potential), and are aggregated using the following weighting factors: 31.25 acid equivalent/kg for SO_2 (2/64 acid equivalent/g), 21.74 acid equivalent/kg for NO_x , expressed as NO_2 , (1/46 acid equivalent/g) and 58.82 acid equivalent/kg for NH_3 (1/17 acid equivalent/g). Emissions of tropospheric ozone precursors were estimated using the tropospheric ozone depleting potential (expressed as NMVOC equivalent). The following weighting factors were used: 1.22 for NO_x , 1.00 for NMVOC, 0.11 for CO and 0.014 for CH_4 .
- The objective of Directive 2001/81/CE, of the European Parliament and of the Council, of 23 October 2001, on national emission ceilings for certain atmospheric pollutants, is to limit emissions of acidifying and eutrophying pollutants and ozone precursors in order to protect human health and the environment.

SOURCES

- Ministry of Agriculture, Food and Environment, 2013. Greenhouse Gas Emissions Inventory of Spain, years 1990-2011. Directorate-General for Environmental Quality and Assessment and Natural Environment.

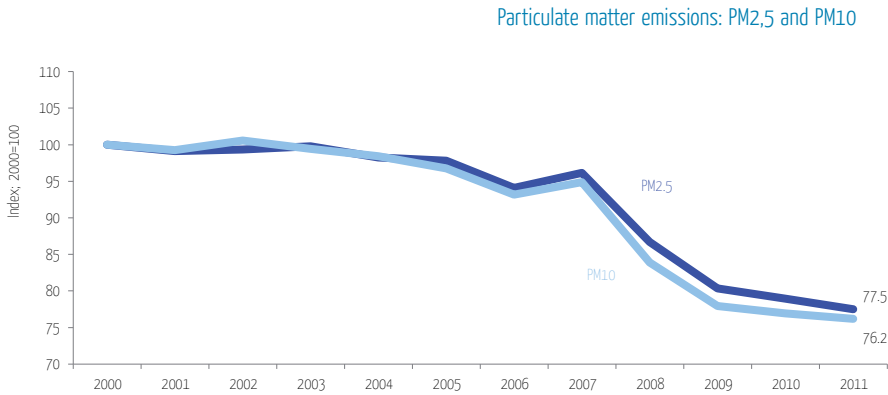
FURTHER INFORMATION

- <http://www.magrama.gob.es/es/calidad-y-evaluacion-ambiental/temas/sistema-espanol-de-inventario-sei/>
- <http://www.eea.europa.eu>



Emissions of particulate matter

Unlike other pollutants, emissions of particulate matter continued to fall in 2011



Source: MAGRAMA

In Spain emissions of particulate matter continued to follow the downward trend seen in recent years, although in 2011, as in 2010, a slowdown in the rate of decrease was observed.

From 2000 to 2011 emissions of particulates smaller than 10 μm have decreased by 23.8%. Almost all sectors have contributed to this decline, except for agriculture (where PM10 emissions increased by 6.8%, mainly from manure) and other transportation means and mobile machinery (a rise of 5.2%, due mostly to emissions from maritime activities). The sector that has most reduced particulate emissions is combustion in the energy and transformation industries, which has fallen 75.4% (despite the 2011 results) and road transport with a fall of 34.7%.

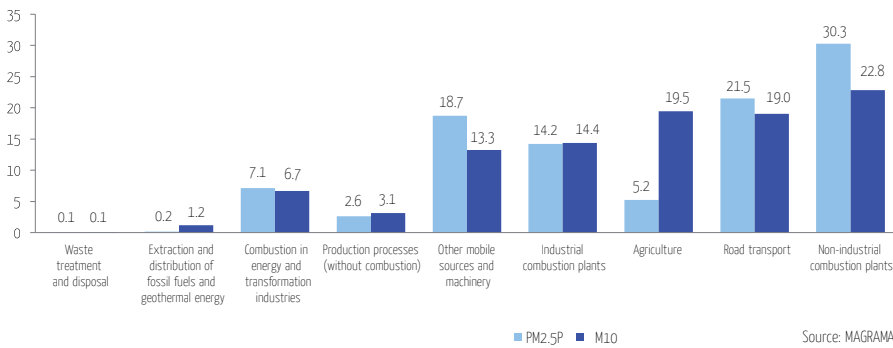
Nevertheless, in 2011 a fall of just 1% was seen; almost all sectors increased their particulate emissions and only falls from road transport and fossil fuel extraction (both slightly above 10%) compensated for the rise in emissions from the rest. The increase in emissions from combustion in energy and transformation industries should be noted (mostly arising from the activity of thermoelectrical power plants), being almost 23% in 2011.

Particulates smaller than 2.5 µm are very harmful to human health due to the breathing and irritation problems they can cause in lung capillaries. During the period 2000-2011 their emissions were reduced by 22.5%. Again, the reductions in the emissions from combustion in energy and transformation industries (64.8% and 9,965 t) and from transport (40.5% and 11,080 t) have most contributed to the total decrease.

However, in 2011 the emissions only fell by 1.8%, with combustion in energy and transformation industries being, again, the sector with the largest increase (17.8%) due to the increase in emissions from thermoelectric power plants.

Regardless of the performance of the different sectors, the distribution of particulate emissions varies relatively little over time, and industrial combustion plants and road transport are the main causes of particulate emissions; with agriculture an important source in the case of emissions of particulates larger than 10 µm, and other means of transport in the case of particles smaller than 2.5 µm.

Breakdown of particulate matter emissions by sector (%). 2011



In terms of EEA countries, during the period 1990-2010, the average reduction of total PM10 emissions was 26%, while the reduction for PM2.5 was 28%.

**NOTES**

- The indicator covers emissions of suspended primary particulate matter with an aerodynamic diameter less than or equal to 10 and 2.5 μm (PM10 and PM2.5).
- The EU has not established specific limits for emission of primary particulate matter, but it did put limits in place in 2010 for their precursors (NO_x , SO_x y NH_3), under the National Emission Ceilings Directive (Directive 2001/81/CE) and the Gothenburg Protocol to the Convention on Long-Range Transboundary Air Pollution (Council Decision 81/462/CEE, of 11 June 1981).

SOURCES

- Ministry of Agriculture, Food and Environment, 2013. Greenhouse Gas Emissions Inventory of Spain, years 1990-2011. Directorate-General for Environmental Quality and Assessment and Natural Environment.

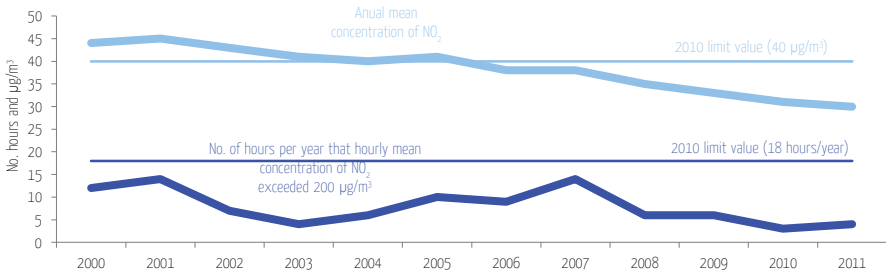
FURTHER INFORMATION

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- <http://www.eea.europa.eu/>

Air quality in urban environments

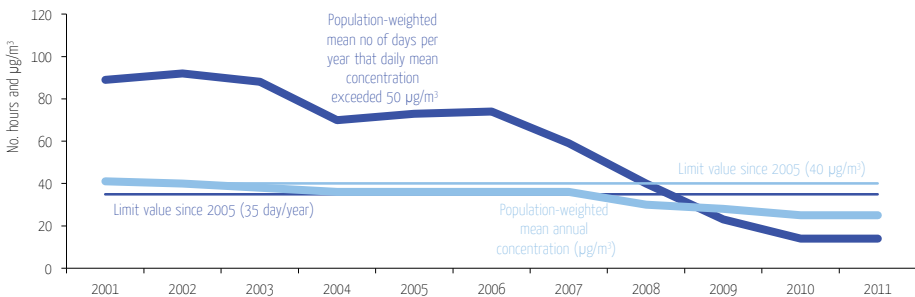
In 2011 average air quality in cities with more than 50,000 inhabitants did not exceed the legal limits and targets.

NO₂: population-weighted mean No. of hours per year that hourly mean concentration exceeded 200 µg/m³ and annual mean concentration (Total for spanish municipalities >50,000 inhabitants)



Source: MAGRAMA

PM10: population-weighted mean No. of days per year that daily mean Concentration exceeded 50 µg/m³ and annual mean concentration (Total for spanish municipalities >50,000 inhabitants)



Source: MAGRAMA



The average air quality in Spanish municipalities with more than 50,000 inhabitants, according to definitive 2011 data, consolidates the trend seen in previous years of not exceeding the legal values (limit for NO₂ and PM10 and for the target for ozone) for any of the average values of the different pollutants.

In relation to nitrogen oxides, the population-weighted average annual concentration of NO₂ has not, since 2006, exceeded 40 µg/m³, the limit established in 2010. A similar situation can be seen with the total population-weighted annual number of hours where the hourly mean concentration exceeds 200 µg/m³, and the limit of 18 hours/year has not been exceeded. In both cases, there is a downward trend, while though it is more marked in the former.

For particulates with a diameter smaller than 10 microns, the variables analysed show a similar behaviour. Firstly, the population-weighted average annual concentration established in 2005 has not been exceeded since 2003, with a marked decrease as of 2007. Secondly, the total population-weighted average number of days per year registering a daily average concentration of 50 µg/m³ has not exceeded the limit of 35 days per year since 2009.

The target for ozone establishes that the maximum daily eight-hour mobile mean concentration of 120 µg/m³ must not be exceeded on more than 25 days per year. In the data available this limit was not breached in any year, with highest number of exceedances occurring in 2003, with 16 days over the limit.

The trends of these pollutants allows for the monitoring of the state of air quality in cities with more than 50,000 inhabitants. The analysis generalises the overall situations that may exist and establishes one representative picture of the average air quality the relevance of which diminishes when weighted by population. Nevertheless, the evaluation of air quality at specific points in the cities may show exceedances of the limits and targets. In Spain, additionally, the incursion of African dust particles, which increases, in a natural manner, the concentration of particles, must be taken into account. Likewise, the high levels of solar radiation in certain months of the year increase the ozone concentration.

NOTES

- The indicator monitors the variables used in the Project on European Common Indicators (ECI), and presents their evolution over time, comparing them with the limits and targets established for 2005 and 2010 in the existing legislation (Royal Decree 102/2011). For each pollutant the average value of all the stations, belonging to each of the municipalities with more than 50,000 inhabitants with sufficient valid values, is calculated, and must be multiplied by the population of that municipality. The sum of these values for all the populations, divided by the total population of all those cities, allows us to obtain the weighted average. In the case of ozone, the indicator, according to the legislation, is based on the three-year average.
- Definitive data for 2011 are offered here, having taken into account all stations with sufficient data (85% for the daily and hourly exceedances and 50% for the annual average concentrations). However, it should be emphasised that the average value obtained represents the average situation of the pollutant, and it is possible that there may be differences between this value and the situation at any given moment that could occur at any specific station.
- The evolution of SO_2 and CO concentrations is not considered as there is no issue with these in urban environments. From 2002, no exceedance of the CO limit has taken place (10 mg/m³ of average CO daily maximum as an eight-hour mobile mean), and from 2009 no exceedance of the SO_2 limit has occurred. The 2011 data are definitive and are the same as those sent to the EU in compliance with current legislation.

SOURCES

- Ministry of Agriculture, Food and Environment, 2013. Greenhouse Gas Emissions Inventory of Spain, years 1990-2011. Directorate-General for Environmental Quality and Assessment and Natural Environment.

FURTHER INFORMATION

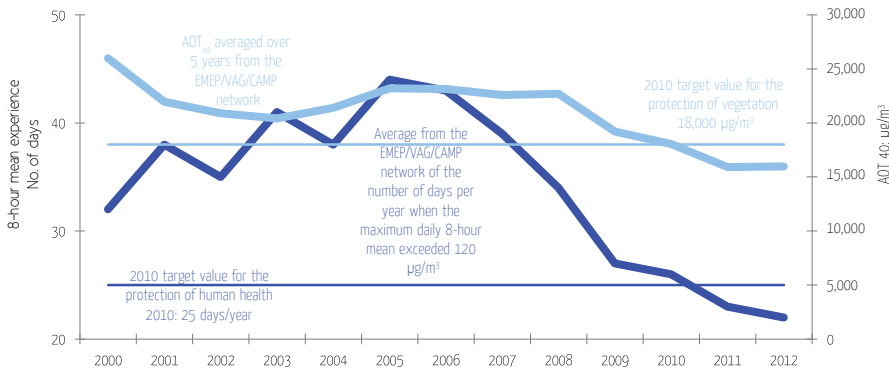
- <http://www.eea.europa.es/>
- <Http://www.magrama.gob.es/es/>



Regional background air quality for the protection of health and vegetation

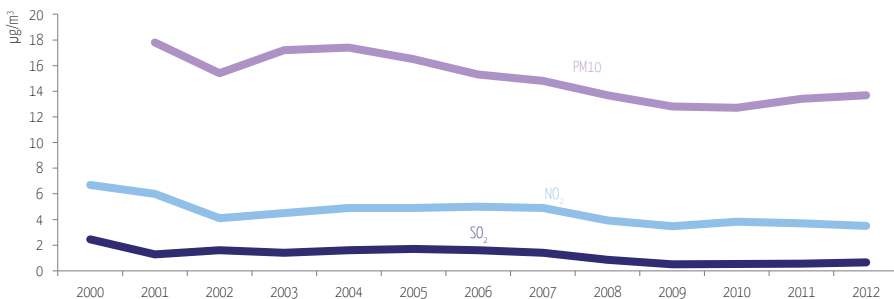
Continuing the downward trend of previous years, the 2012 average values for ozone comply with the legal limits on background contamination in Spain

Background pollution in Spain: Ozone



Source: MAGRAMA

Background pollution in Spain.
Average of annual mean concentrations



Source: MAGRAMA



In order to assess existing background pollution in Spain, an arithmetic average of the mean concentrations of all the stations included in the EMEP/GAW/CAMP Network for the selected pollutants has been used.

In recent years the average mean concentrations of sulphur dioxide, nitrogen dioxide and particles with a diameter smaller than 10 microns, have been lower than the legal limits. Additionally, the linear trend shows a generalised downward evolution, although it appears there is a slight increase in 2012 (provisional data) for PM₁₀ and SO₂. Therefore, and without taking into account possible one-off situations where the legal limits are exceeded, the conclusion can be reached that existing background contamination in Spain of these pollutants is satisfactory, with vegetation protection guaranteed (the case of SO₂ and NO₂) as is the population's health (PM₁₀), given that the established limits have not been exceeded.

The emission of ozone precursors, conditioned by the high levels of sunshine in Spain, causes the tropospheric ozone to be one of the most worrying problems, due to the effects on human health. Nevertheless, the number of days per year recorded by the EMEP/GAW/CAMP Network where the maximum daily eight-hour average exceeded a concentration of 120 µg/m³ was lower than 25 days, being the objective limit established as of 2010 as a threshold to guarantee protection of vegetation. A similar situation occurs with the mean 5 year-running average for AOT₄₀, which since 2010 has recorded lower values than the objective limit of 18,000 µg/m³.



NOTES

- The indicator assesses general background pollution in Spain. This is presented for each pollutant and year as the mean concentrations recorded at all of the stations on the EMEP/ GAW/CAMP Network, which supplies approximate information on background air pollution in Spain. It does not provide information on discrete exceedance episodes that may occur in specific stations. Data for 2012 information is provisional.
- The acronym AOT40 stands for 'Amount Over Threshold'; this index is defined as the sum of the difference between the hourly concentrations above $80 \mu\text{g}/\text{m}^3$ (= 40 parts per billion or ppb) and $80 \mu\text{g}/\text{m}^3$ over a given period (that, in the case of protection of vegetation, are the months of May, June and July), using only the hourly values measured between 8:00 and 20:00 hours, central European time (CET), each day (Royal Decree 1796/2003, which transposes Directive 2002/3/CE; both respectively substituted by Royal Decree 102/2011 and Directive 2008/50/CE). In order to obtain the AOT 40 figure from the 1-hour ozone concentration at each of the stations covered, figures are taken for all those years in which 90% of more of the available data are valid, corrected to standardise all at 100% of possible data. Averages are calculated over five years (running averages) or, in the absence of a complete consecutive series of annual AOT40 figures, a minimum 3-year average is used (Annex I of Royal Decree 1796/2003, which transposes Directive 2002/3/EC into Spanish law; both substituted by RD 102/2011 and Directive 2008/50/CE).
- The EMEP (European Monitoring Evaluation Programme), established under the framework of the Geneva Convention, measures background air pollution. The Global Atmospheric Watch (GAW) is a project implemented by the World Meteorological Organisation (WMO). The Comprehensive Atmospheric Monitoring Programme (CAMP) is fruit of the OSPAR Convention and is designed to identify atmospheric inputs in the North-East Atlantic region and examine their impacts on the marine environment. The EMEP/GAW/CAMP network, which seeks to meet the aims of the aforementioned programme, monitors tropospheric levels of background air pollution and sedimentation on the Earth's surface in order to protect the environment.
- Royal Decree 102/2011, of 28 January, on improving air quality (which transposes Directive 2008/50/CEE of the European Parliament and the Council, of 21 May 2008), establishes limit values for the protection of health and critical levels for the protection of vegetation against NO_x and SO_2 .

SOURCES

- Ministry of Agriculture, Food and Environment, 2013. Air Quality Data Base. Directorate-General for Environmental Quality and Assessment and Natural Environment.

FURTHER INFORMATION

- <http://www.magrama.gob.es/es/>
- <http://www.aemet.es/>
- <http://www.eea.europa.eu/>

WATER



2.2

Environmental profile of Spain 2012

According to the EU, around three quarters of Europeans consider it is necessary to adopt measures to address Europe's water problems, including droughts, floods and contamination.

At the end of 2012 the EU adopted 'A Blueprint to Safeguard Europe's Water Resources' (COM (2012) 673 final). This plan recognises the improvements made over recent years, but also warns about outstanding issues (including water pollution, abstraction for agriculture and energy production, soil use and the effects of climate change). The plan states that equally it is necessary to protect water resources and improve efficiency in their use.

In Spain, the strategic lines of water policy are based on the fundamental objective of having a high quality water supply with sufficient quantity within the entire national territory, taking into account the entire water cycle that contributes to ecosystem maintenance.

In order to achieve these goals a number of actions are deemed necessary, including investment in supply, sewerage and purification infrastructure, as well as the approval of the National Water Reuse Plan.

Royal Decree-Law 17/2012, of 4 May, on Urgent Environmental Measures, modifies the consolidated text of the Water Law and introduces a series of measures in order to achieve more appropriate water use through efficient, coordinated management in which the guiding principle is unified water basin management. Among other aspects, it regulates groundwater bodies and their good condition.



On this basis, during 2012, river basin management plans for river basin districts, have continued to be drawn up, being the basic instruments for a National Water plan that guarantees both high quality and quantity of supply. As of now, 10 river basin management plans have been approved by Royal Decrees (four in 2012 and six in 2013).

KEY MESSAGES

- In Spain there has been a fall in the consumption of the urban water supply, to close to 1998 levels; the consumption per inhabitant also decreased and stood at 144 litres per inhabitant in 2010 compared to 171 litres, as registered in 2004.
- The water reserve during the hydrological year 2011-2012 showed a downward trend. On 30 September the total reserve was 45.5% of overall capacity, smaller than the reserve at the beginning of the hydrological year, and also lower than the average of the five previous years and the average of the last 10 years.
- Both the water reserves in the form of snow and the accumulated contributions during the hydrological year 2011-2012 were lower than the amounts registered in the previous hydrological year and when compared to the average of the last 5 years.
- The autumn and winter at the end of 2011 and start of 2012 were extremely dry, leading to worrying situations in some river basins in the spring of 2012. There have been some hydrological drought episodes in certain river basins in 2012, which were compensated for by stored reserves from previous hydrological years
- Certain farming practices (use of fertilisers and run off from livestock housing) together with liquid urban discharges are sources of nitrate pollution, which is a very serious problem of ground water quality.
- Water abstractions in coastal water bodies can lead to salinisation processes in vulnerable aquifers, affecting the quality of the ground water and the use of this resource.
- In general, an improvement in the degree of organic contamination of river water can be seen, with an increase in the number of stations with less organic pollution measured as BOD5. Nevertheless, for ammonia, there was a slight deterioration in 2012 compared to the previous year.
- In 2012 more than half of the sample points for inland bathing waters registered excellent quality. There was also a decrease in the number of points classified as being of poor quality and an increase in the number of good quality points.

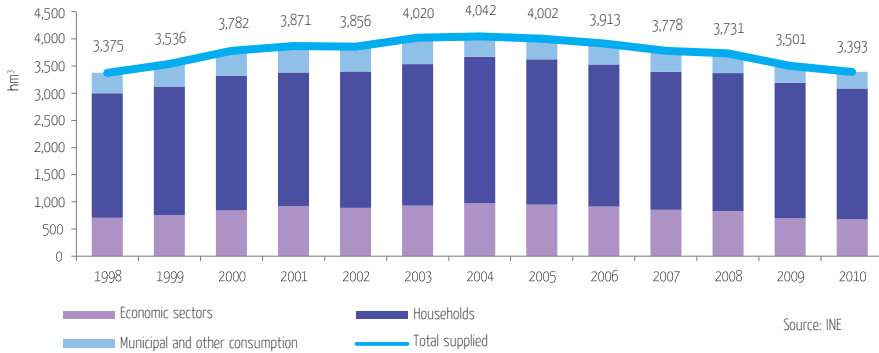
INDICATORS

- Water consumption
- Reservoir water levels
- Water reserves in snow cover
- Hydrological drought
- Groundwater nitrate pollution
- Salinisation of groundwater bodies
- Organic pollution of rivers
- Quality of inland bathing water

Water consumption

Decrease in the quantity of water distributed through the public supply network

Breakdown by sector of water distribution by the public supply network



According to a survey on supply and sanitation carried out by Spain's INE (National Statistics Institute), the urban public supply networks distributed 4,581 hm³ of water in 2010. Around 3,393 hm³ of these were distributed for consumption. In total households used 71.1% (2,413 hm³ of drinking water), economic sectors (industry, services and livestock) 19.9% (675 hm³), while municipal services were 9% (305 hm³).

In 2009 the water distributed for consumption by the same parties and for the same activities was 3,501 hm³, meaning 2010 saw a reduction of 3.1%. Spanish households taken as a whole also reduced consumption, with a decrease of 3.2% compared to the previous year.

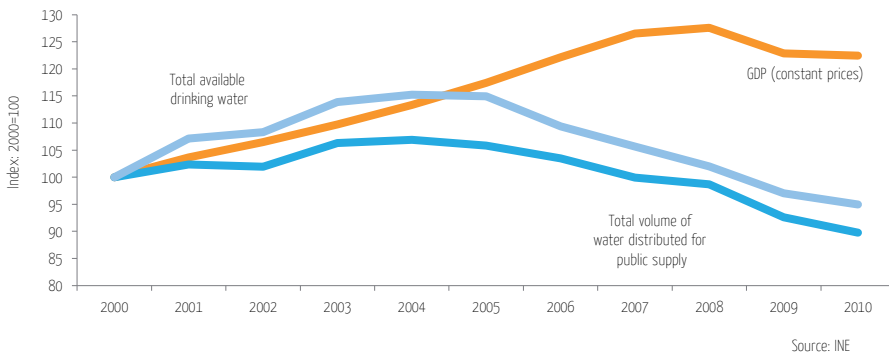
Compared to 2009, the average household consumption fell by 3.3% in 2010 and stood at 144 litres per inhabitant. This data confirms the fall in consumption, a consequence of campaigns to promote saving water and efficient water use and, above all, to improve citizen's awareness. In 2009 consumption stood at 149 l/inhabitant; the consumption data is highly variable among the autonomous communities.

The lowest average water consumption was in the households of the Balearic Islands, with 121 litres per inhabitant per day, and La Rioja and the Basque Country with 122 litres per inhabitant per day.



The comparison of economic growth and water consumption shows how advancing economic growth in Spain has been accompanied by a decrease in the demand for water distributed for public supply and consumption of drinking water. Specifically, between 2000 and 2010, the GDP at constant prices has increased by 22.5%, while the water distributed to guarantee the urban supply has decreased by 10.3%. Likewise, drinking water consumption has declined by 5%.

Comparison between water distributed for public supply and GDP



On the other hand, water used in irrigated agriculture in 2010 (according to the survey on the use of water in the agricultural sector) increased by 16,118 hm³ and grew 1.3% compared to 2009; in 2009 this grew 3.9% compared to 2008, reaching 15,909 hm³.

NOTES

- The water distributed includes all the water available in the public distribution network, plus all the losses from the same.

SOURCES

- Statistic National Institute. INEbase:
 - Water data: statistics on environment. Environmental statistics concerning water:
 - Survey on the water supply and sewerage. Last published data: 2010 (5 July 2012)
 - Survey on the use of water in the agricultural sector. Last published data: 2010 (27 June 2012)
 - GDP data: INEbase/ Entorno físico y medio ambiente / Estadísticas sobre medio ambiente / Cuentas ambientales/ Cuentas de flujos de materiales. Serie 1995-2010 / Principales indicadores de flujos de materiales

FURTHER INFORMATION

- <http://www.ine.es>

Reservoir water levels

During the hydrological year 2011-2012 total reservoir levels decreased compared to the previous year. On 30 September, the reserve stood at 25,225 hm³ (45.5% of the total capacity).

Hidrological trend report. Capacity (hm³) and reserves (%) in peninsular reservoirs.
Situation at 30 september 2012

Watershed	Total Reservoir capacity	Reserves	Reserves compared to total capacity (%)				
	hm ³	hm ³	2012	2011	2010	5-year Average	10-year Average
Atlantic	41,501	19,985	48.2	66.4	68.5	54.3	52.6
Mediterranean	13,897	5,240	37.7	50.0	59.2	45.9	42.0
Total (Entire peninsula)	55,398	25,225	45.5	62.3	66.2	52.2	50.0

Source: MAGRAMA

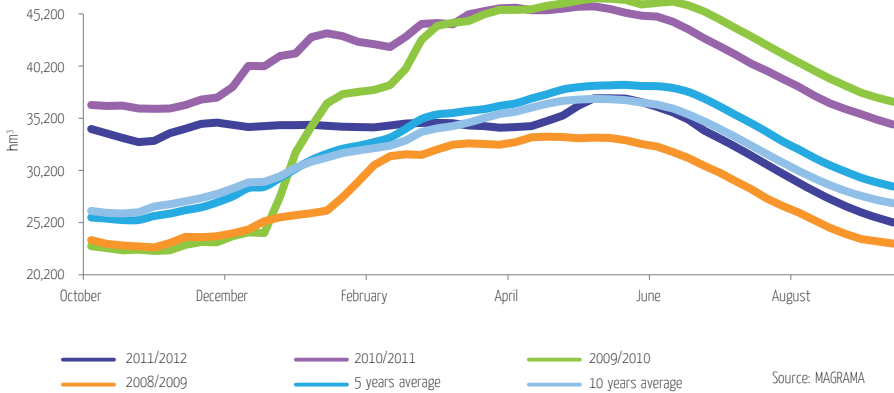
During the hydrological year 2011-2012 water reserves decreased in comparison with previous years. The reserve was above the averages for the last five and 10 years during the first half of the hydrological year (October to March), however it then fell below both the five and 10-year averages. This falling trend in the water reserve has reversed from the beginning of the hydrological year 2012-2013, seeing growth during the first trimester of the year.

The decrease in reserves as a percentage of total capacity has been more pronounced in the Atlantic watershed, falling from 66.4% in 2011 to 48.2% in 2012 (18.2 points), than in the Mediterranean, which fell from 50.0% to 37.7% (12.3 percentage points).

The analysis of the reserve, which is provided in the hydrological bulletin, offers the weekly movement of the reserves, comparing it to the situation of the three previous years and the average situation of the last five and 10 years. The graph below shows the situation described, in which at the end of February the 2012 reserve is lower than the average of the last five and 10 years, and well below that of the reserves in 2010-2011 and 2009-2010. Only the reserves registered in the period 2008-2009 were lower than the ones seen in this last hydrological year.



Peninsular water reserves. Reservoir volume (hm³)
by hydrological year (from 1 October to 30 September of the following year)



NOTES

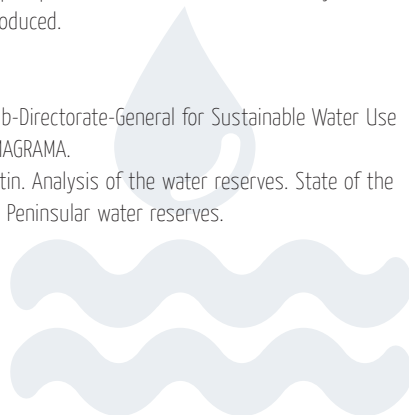
- The hydrological year runs from 1 October to 30 September of the following year.
- MAGRAMA's Hydrological Information Area receives data from the River Basin Authorities as well as other intra-community basin administrations, the State Meteorological Agency and the Electric Network of Spain, and processes that information for its presentation to assist in taking national level decisions with technical, economic and social implications on basin management.
- The aim is to have real time knowledge of water reserves; to monitor, analyse and publish hydrological data providing information on the volume levels in all reservoirs with a capacity higher than 5 hm³; to have information on the situation of the use of reserves destined for irrigation and for public supply as well as flow volumes in the main rivers of each basin, precipitation level and the amount of hydroelectric energy stored (calculated) and the amount actually produced.

SOURCES

- Data provided by the Directorate-General for Water (Sub-Directorate-General for Sustainable Water Use and Planning), State Secretariat for the Environment, MAGRAMA.
- Available on the MAGRAMA web page: hydrological bulletin. Analysis of the water reserves. State of the water reserves and energy available: peninsular totals. Peninsular water reserves.

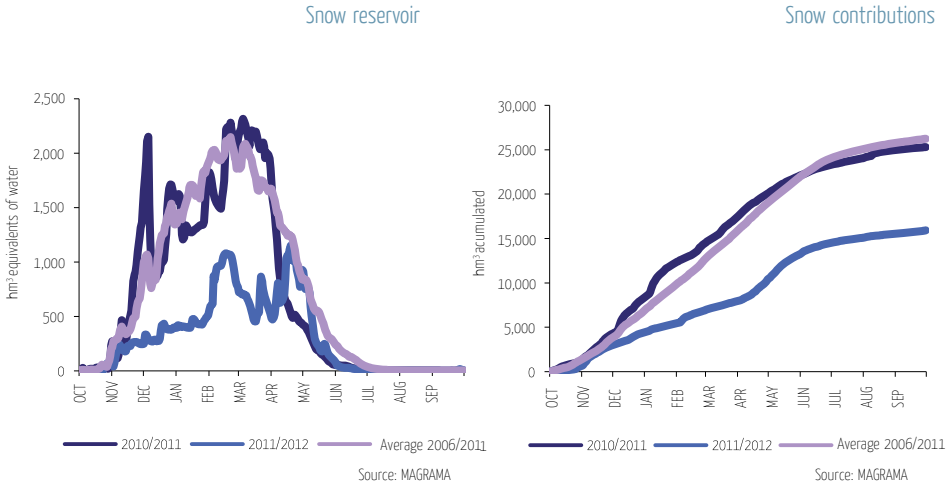
FURTHER INFORMATION

- <http://www.magrama.es>
- <http://portal.magrama.gob.es/BoleHWeb/>
- <http://www.aemet.es>



Water reserves in snow cover

During the hydrological year 2011-2012 the water reserves in the snow cover diminished compared to the previous hydrological year



The evolution of the water reserve in snow cover (water volume in the form of snow-VAFN) in the hydrological year 2011-2012 in the entire Spanish territory stood at 12,630 hm³, equivalent to 66% of the average registered in the five previous years.

The graphs show the lower levels of water reserves as snow when compared with the previous hydrological year, although from the second half of April it can be seen that the 2011-2012 reserves exceeded those of 2010-2011 for the same period. The contributions, by contrast, were always lower both in respect to the previous hydrological year and to the average of the last five years. According to the most recent 'Reports on the evolution of the snow reserve and the contributions in snow holding sub-basins within Spanish territory' of the Program for the Assessment of Water Resources from Snowmelt" (ERHIN), the variation of the modelled surface, the volume of water in the form of snow and the contributions in recent years are as follows:

Water volume in snow cover and contributions

	Modeled surface (km ²)	VAFN (hm ³)	Contributions (hm ³)
30/06/2011	48,386.9	0.3	24,644.2
02/06/2012	48,386.9	32.8	12,629.7
07/04/2013	48,664.5	2,654.3	21,281.2

Source: ERHIN Program. MAGRAMA

Understanding these resources has become evermore important and greater efforts are being progressively made in order to be able to quantify the equivalent amount of water held in the form of snow, as well as the water contribution made to rivers from snowmelt. Quantifying these resources is important, not only as part of regular management carried out by basin authorities but also when managing extreme hydrological phenomena, such as droughts or floods for example, in order to minimise the damage produced.

The scope of the study on snow areas is set out in the following table and attached map; it covers the Pyrenees (11,284.1 km² of modelled surface), Cantabrian Mountains (19,059.2 km²), Central System (16,791.1 km²) and Sierra Nevada (1,252.5 km²). The entire modelled area covers 48,386.9 km² and includes 37 sample points.

Basin Management Organism	Area currently modelled (km ²)	Average height (m)	Number of modelled basins
Ebro Basin	12,821.3	1,390.0	16
Tajo Basin	14,939.4	1,093.0	12
Duero Basin	7,243.4	1,358.0	15
Cantabrian Basin	7,217.7	989.0	16
Miño-Sil Basin	4,912.6	1,188.0	11
Guadalquivir Basin	1,252.5	1,485.0	2
TOTAL	48,386.9		72



NOTES

- Since 1983 the Directorate-General for Water has been developing the Assessment of the Water Resources from Snowmelt (ERHIN), which has identified those basins in the Spanish mountains where the presence of snow is hydrologically significant.
- Another indicator of great importance, not only because of the information on the accumulation of snow but because of its contribution to monitoring the evidence of the effects of climate change in Spain, is the indicator, 'Evolution of the Maladeta Glacier'. The interest in glaciers at Spanish latitudes, rather than arising out of an evaluation of the water resources they contain – which is negligible in total - is because of their significance in environmental terms, both as singular examples in danger of extinction and because of their value as important environmental indicators.

SOURCES

- Data provided by the Directorate-General for Water (Sub-Directorate-General for Sustainable Water Use and Planning), State Secretariat for the Environment, MAGRAMA.

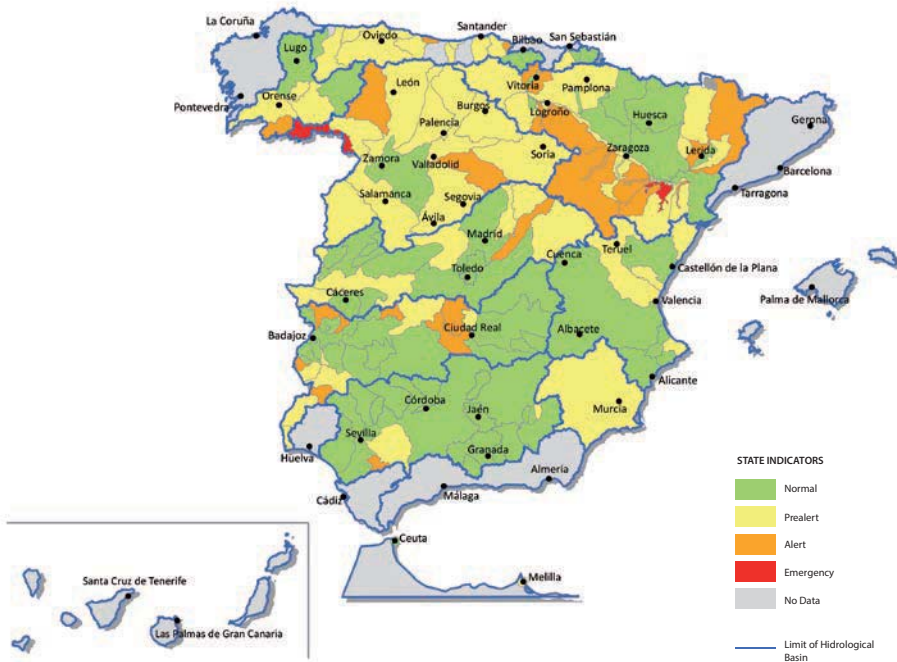
FURTHER INFORMATION

- <http://www.magrama.es>
- <http://www.magrama.gob.es/es/WATER/temas/evaluacion-de-los-recursos-hidricos/ERHIN/datos-interes/>

Hydrological drought

Despite scarce rainfall in 2012, the hydrological year 2011-2012 inherited a favourable situation that allowed the demands of all the basins to be met

Hydrological drought monitoring map. December 2012



Source: MAGRAMA

2012 saw some difficult moments with several basins experiencing hydrological droughts, although in general these were not as severe as the scarce rainfall might have led us to believe; this is due to the fact that the previous hydrological year (which finished on 30 September 2011), left high levels of water reserves, which in basins with some capacity for multiannual regulation allowed 2012 demands to met with relative tranquillity. Nevertheless, autumn and winter at the end of 2011 were extremely dry and, during the month of March 2012, the situation in some basins was worrying, especially the Miño-Sil, Duero and Ebro basins, as the map shows, comparing the situation with that at the end of December 2011.

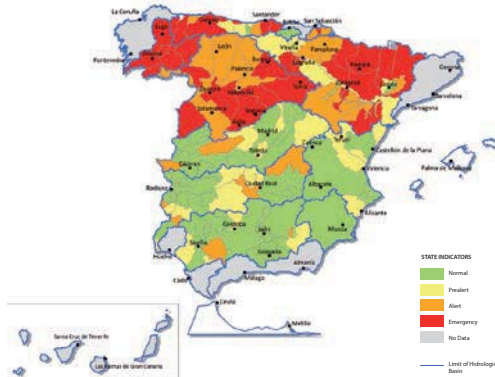


Hydrological drought monitoring map

31 December 2011



31 March 2012



Source: MAGRAMA

The hydrological year 2011-2012 closed on 30 September having registered a total average precipitation of 484 mm, under 75% of the historic average value of 649 mm. The starting point for the current hydrological year was not, therefore, as favourable as it was for last year, particularly in basins like the Duero and Ebro that had some restrictions during the summer irrigation campaign, which in some areas finished prematurely.

The first trimester of the hydrological year 2012-2013 saw high rainfall, such that by the end of December 2012 the hydrological drought situation had improved significantly. This led to an improvement in the values of the indicators, so that by that date only three minor water resource management systems (two in the Ebro and one in the Duero) were still reporting Emergency indicator values, when two months before the number was up to 20.



NOTES

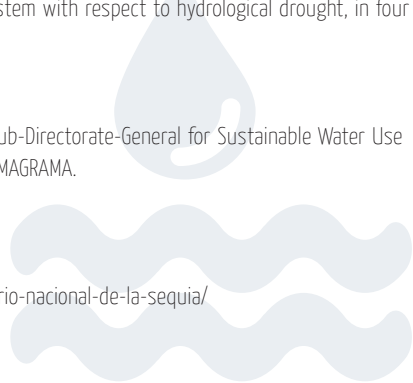
- The main map shows the situation of the drought indicators in the different water resource management systems of the intercommunity basins on 31 December 2012.
- The administrative bodies of the intercommunity basins (those that flow through more than one autonomous community and whose management therefore falls to MAGRAMA), have developed hydrological indicator systems that allow, to a certain extent, to foresee drought situations, assess their severity and take objective and appropriate measures to mitigate their negative effects.
- The hydrological character of these indicators gives them important functionality as an instrument to assist in the decision-making process relative to the management of the water resources of the basin.
- The indicators are an important part of the Special Plans for Drought of each river basin district, which entered into force in March 2007. They are based on the measuring certain hydrological variables at several control points of each system. These values may include: volume stored in reservoirs, natural river inputs at surface gauging stations, aquifers' piezometric levels, rainfall in representative stations, and reserves of stored water in the form of snow in those areas where these are significant in relation to the availability of the resource; or a combination of some of these values. The indicators classify the situation of each water resource management system with respect to hydrological drought, in four categories: normal, pre-alert, alert and emergency.

SOURCES

- Data provided by the Directorate-General for Water (Sub-Directorate-General for Sustainable Water Use and Planning), State Secretariat for the Environment, MAGRAMA.

FURTHER INFORMATION

- <http://www.magrama.es>
- <http://www.magrama.gob.es/es/agua/temas/observatorio-nacional-de-la-sequia/>



Groundwater nitrate pollution

The excessive use of fertilisers and infiltrations from livestock farming can alter the quality of the ground water

Percentage of stations with nitrate concentrations over 50 mg/l

River Basin Districts	2007	2008	2009	2010	2011	2012
Occidental Cantabrian	0.0	1.9	0.0	0.0	0.0	0.0
Oriental Cantabrian		0.0				
Inland Basins - Basque Country	0.0	0.0	0.0	0.0	0.0	0.0
Galicia Coast	0.0	0.0	0.0	2.2	n/d*	3.0
Miño-sil	9.1	0.0	9.1	4.7	0.0	0.0
Segura	26.3	26.5	18.4	9.8	23.9	23.0
Andalusian Mediterranean Basin	n/d	n/d	n/d	12.5	9.6	5.3
Tinto, Odiel y Piedras Basins	30.0	0.0	n/d	12.7	21.4	19.1
Guadalete y Barbate Basins					11.1	25.6
Júcar	20.2	19.7	25.8	15.7	21.6	26.9
Duero	11.3	12.5	14.6	15.9	8.0	16.2
Tajo	24.1	2.7	16.7	17.1	18.5	16.9
Guadalquivir	27.5	42.5	30.3	30.9	n/d	n/d
Guadiana	30.2	26.8	28.7	33.1	36.2	31.1
Ebro	20.5	57.7	15.7	33.8	23.0	19.7
Gran Canaria	n/d	n/d	n/d	35.7	30.8	n/d
Catalonia Internal Basins	34.5	30.0	36.5	37.2	39.0	41.9
Balearic Islands	n/d	n/d	n/d	44.7	41.5	n/d

* n/d: no data

Source: MAGRAMA

In general the internal river basin districts in Catalonia together with the Guadiana basin have recorded the majority of sample points with nitrate concentration over 50mg/l. Additionally the Balearic Islands region has high percentages during the years for which there is available data, with there being no information for 2012. The Júcar, Guadalete and Barbate, and Segura basins also show a relatively high percentage, with more than 20% of the sampling points recording concentrations over 50 mg/l.

At the opposite end of the scale, the river basin districts in the north of Spain (Cantabria, Basque Country Inland Basins, the Galician coast and the Miño basin) show samples that are barely contaminated by nitrates.

Directive 2006/118/CE, transposed into Spanish legislation through Royal Decree 1514/2009, establishes the criteria and procedures for the assessment of the chemical status of groundwater as well as providing possible measures for the reduction of groundwater pollutants. Specifically, in assessing chemical status, the legislation establishes, among others, quality rules in relation to nitrates, which set a maximum admissible level of nitrates of 50 mg/l.

Among the main causes of nitrate pollution is the inappropriate application of fertilisers, infiltrations from livestock housing and, to a lesser extent, urban liquid discharges. This kind of pollution is especially worrying in unconfined aquifers, with a thin unsaturated zone.

In 2012, the Autonomous Communities have continued to identify those areas that are vulnerable to nitrate pollution from agriculture, as set out by article 4 of Royal Decree 261/96, of 16 February.

Sampling points with nitrate concentration >50 mg / l N. Year 2012



Source: MAGRAMA

Vulnerable areas to nitrate pollution



Source: MAGRAMA

NOTES

- Directive 2000/60/CE, which establishes the European framework for action in the field of water policy, includes among its objectives the need to prevent groundwater pollution. In order to meet these objectives, rafts of measures should be established that, among other aspects, include those set out in Directive 91/676/EEC. Furthermore, the at-risk areas established in line with Directive 91/676/CEE are included in the register of Protected Areas under Directive 2000/60/CE.
- At the end of 2012, the peninsular river basin districts were distributed in 10 inter-community river basin districts (one of them, the Eastern Cantabrian, being of mixed character) and five intra-community.
- The remainder of the Spanish river basin districts were: the Balearic Islands (one river basin district), Canary Islands (seven river basin districts, one per island) and Ceuta and Melilla (one river basin in each Community); all of these are intra-community. The control networks, and therefore their management, are a State competence in inter-community basins and an autonomic competence in intra-community basins.

SOURCES

- Data provided by the Directorate-General for Water. MAGRAMA.

FURTHER INFORMATION

- <http://www.magrama.es>
- <http://www.eea.europa.eu>

Salinisation of groundwater bodies

Salinisation, as consequence of abstractions from coastal aquifers, is one of the problems that most affects the quality of groundwater in these areas

Sampling points with chloride concentration >1,000 mg / l. Year 2012

River Basin Districts	2007	2008	2009	2010	2011	2012
Galicia-Coast	0.0	0.0	0.0	0.0	n/d*	0.0
Basque Country I.B.	0.0	0.0	14.3	0.0	6.6	0.0
Occidental Cantabrian	0.0	0.0	0.0	0.0	0.0	0.0
Oriental Cantabrian						0.0
Guadiana	0.0	0.0	0.0	0.0	0.0	0.0
Guadalquivir	0.0	0.0	0.0	0.0	n/d	n/d
Júcar	0.8	5.4	0.0	0.0	1.5	0.4
Ebro	0.1	0.0	0.0	0.0	1.2	2.6
Miño-sil	n/d	n/d	n/d	0.0	0.0	0
Mediterranean- Andalusian B.	n/d	n/d	n/d	5.6	3.8	2.9
Gran Canaria	0.0	0.0	0.0	5.7	15.4	n/d
Tinto, Odiel & Piedras Basins	0.1	n/d	n/d	8.5	0.0	0.0
Guadalete & Barbate Basins					0.0	2.5
Balearic	n/d	n/d	n/d	8.6	8.5	n/d
Catalonia Interior Basins	0.2	0.1	0.1	9.5	3.9	3.9
Segura	18.1	46.9	22.7	37.7	12.2	17.1

* n/d: no data

Source: MAGRAMA

Together with an increase in nitrate concentrations, the salinisation of aquifers caused by groundwater abstractions in coastal bodies is one of the main problems affecting ground water quality in Spain.

Salt intrusion occurs due to the advance of a salt-water wedge inland, when the freshwater flow towards the sea decreases; this is causing pollution problems in numerous Mediterranean coastal aquifers. It arises as a consequence of inappropriate pumping of coastal aquifers. In addition, intensive agricultural practices using irrigation water return and the reuse of wastewater can contribute to this process. The result is an increase of the chlorine and sodium content modifying ground conductivity.

The Segura river basin district has the greatest proportion of sample points with chloride concentrations above 1,000 mg/l. In 2012, 17.1% of the sample points offered chloride concentration values above 1,000 mg/l. This percentage is higher than the previous year but lower than preceding years.

Sampling points with chloride concentration >1,000 mg / l. Year 2012



NOTES

- See the previous indicator notes for 'Nitrate pollution of groundwater'.
- It should be highlighted that the chloride concentration allows the detection of the salinisation phenomenon.
- It should be pointed out that within saline basins and in areas of regional groundwater discharge high chloride content may be found due to entirely natural causes.

SOURCES

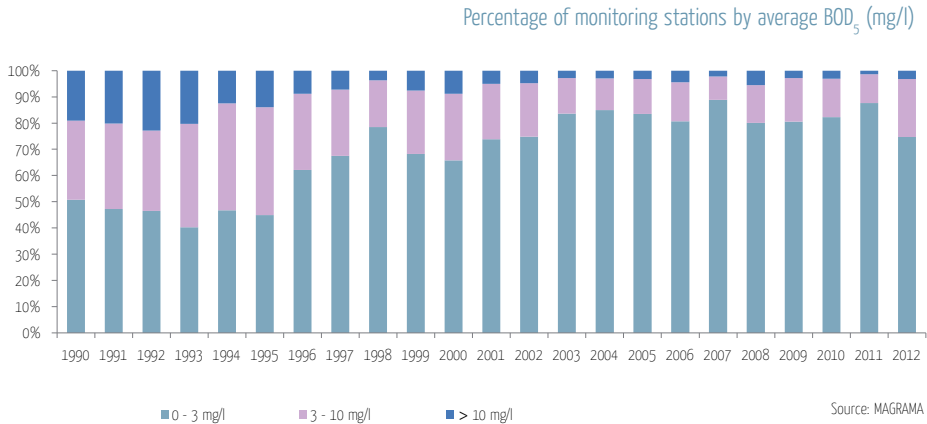
- Data provided by the Sub-Directorate-General for Integrated Management of the Hydraulic Public Domain. General Directorate for Water. MAGRAMA

FURTHER INFORMATION

- <http://www.magrama.es>
- <http://www.eea.europa.eu>

Organic pollution of rivers

There was a fall in the proportion of sample points registering lower levels of BOD₅ and ammonium concentration, although to a lesser extent for the latter.



The Water Framework Directive (WFD) establishes that the status of surface water will be determined by the worst values of their ecological status and their chemical status. The status of groundwater will be determined by the worst values of their quantitative status and their chemical status.

The WFD's list of the main pollutants (Annex VIII) includes BOD as one of the substances that have an unfavourable influence on the oxygen balance.

In general, over recent years an improvement in the degree of organic pollution of rivers has been noted, with an increase in the number of stations with lower organic pollution and a decrease in the number of stations with higher concentrations.

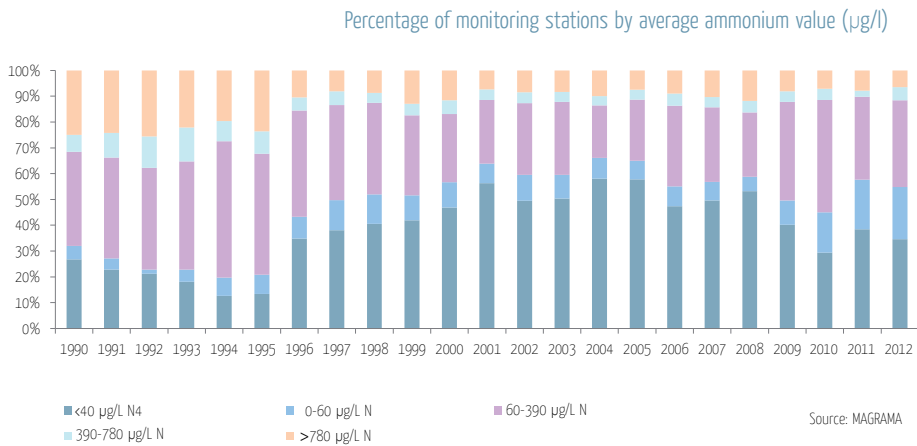
The year 2011 recorded the lowest percentage of the most polluted sample points (with a BOD₅ concentration over 10 mg O₂/l). In 2012, on the other hand, an increase was noted in the percentage of these most polluted sample points. Specifically, in 2011 the number of most polluted sample points was 1.36%, while in 2012 this value reached 3.23%, with 40 out of the 1,240 analysed sample points falling into this range.

There has also been in 2012 an increase in the proportion of medium quality sample points (with a BOD₅ concentration between 3 and 10 mg O₂/l), which represented 22.1% of sample points (in 2011 there were 11.05%). On the other hand, the proportion of sample points with lower BOD₅ concentrations fell almost 13 percentage points between 2011 and 2012, decreasing from 87.6% to 74.7% respectively.



Additionally, ammonium (coming mainly from sewerage networks), along with nitrates, increase nitrogen concentration in the water, which contributes to eutrophication.

The ammonium concentration is expressed in $\mu\text{g/l N}$. Generally the average annual ammonium values have shown a positive evolution; 2011 also showed an improvement, that bucked the declining trend seen in the period just prior to that year. In 2012 there was once again a reduction in the percentage of stations with lower ammonium concentrations ($40 \mu\text{g/l N}$), passing from 38.4% in 2011 to 34.6%, while the number of stations showing intermediate concentrations increased. The percentage of stations with the highest concentrations ($780 \mu\text{g/l N}$) decreased in 2012, from 7.9% to 6.5%.



NOTES

- BOD is the quantity of oxygen dissolved in water needed for the aerobic bacteria to oxidise all the biodegradable organic matter present in water. Values of BOD_5 over $10 \text{ mg O}_2/\text{l}$ are typical of very polluted waters while values below $3 \text{ mg O}_2/\text{l}$ indicate very low organic pollution.
- The indicator presents the percentage of control stations in which the average BOD_5 value falls within these three intervals: $0\text{-}3 \text{ mg O}_2/\text{l}$, $3\text{-}10 \text{ mg O}_2/\text{l}$ and higher than $10 \text{ mg O}_2/\text{l}$.
- Another indicator is the percentage of control stations in which ammonium average value falls within these intervals: $<40 \mu\text{g/L N}$, $40\text{-}60 \mu\text{g/L N}$, $60\text{-}390 \mu\text{g/L N}$, $390\text{-}780 \mu\text{g/L N}$ and $>780 \mu\text{g/L N}$.

SOURCES

- Data provided by the Sub-Directorate-General for Integrated Public Water Resource Management. Directorate-General for Water. MAGRAMA

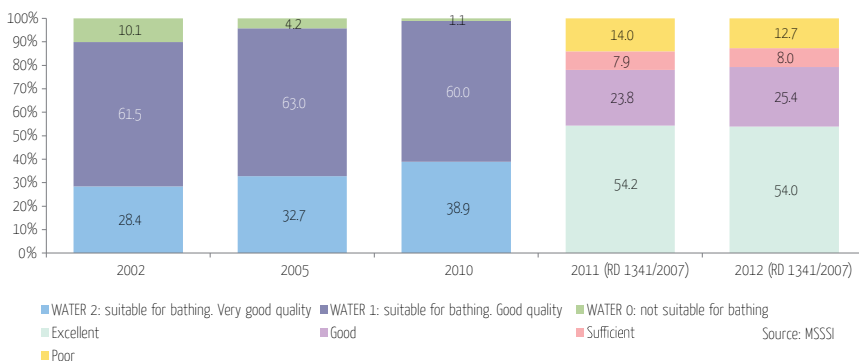
FURTHER INFORMATION

- <http://www.magrama.es>
- <http://www.eea.europa.eu>

Quality of inland bathing water

In 2012 there was a decrease in the percentage of inland bathing zone sample points that registered poor quality water

Quality of inland bathing waters. Percentage of sampling points by category. Data from 2011 according RD 341/2007



In 2012 219 inland bathing zones were registered. These included 230 sampling points, although at four of them (1.7%) sampling was not carried out because the zone was closed and bathing was forbidden. Galicia, with 72 sample points (31.3% of the total), Castile-La Mancha with 35 (15.2%), and Castile-Leon with 32 (13.9%), are the autonomous communities that declared the highest number of sample points for inland waters.

The number of notified samplings during 2012 for inland waters was 2,121, the highest number during recent years. In fact, they increased by 6.7% compared to 2011.

Ignoring the four bathing zones that were closed, as well as those sample points that could not be classified out of the total of 230, analysis was actually carried out at 213 sample points. These were classified by quality category as follows:

Inland bathing waters. Year 2012. Number of sample points according to their quality category

Excellent	Good	Sufficient	Poor	Not classified	Total
115	54	17	27	17	230

Source: MSSSI



During 2012 the percentage of sample points classified as 'poor' quality decreased and the percentage of those classified in the 'good' category increased from 23.8% in 2011 to 25.4% in 2012. The percentage of those of 'excellent' quality stayed at the levels of the previous year, around 54%; as did the percentage classified as being of 'sufficient' quality.

NOTES

- In accordance with the terms of Directive 76/160/CEE, concerning the quality of bathing water, the Ministry of Health, Social Services and Equality submits an Annual Summary Report of Bathing Water Quality in Spain to the European Commission. This describes the key findings of hygiene monitoring of such waters.
- On 15 February 2006, the new Bathing Water Quality Directive (2006/7/EC) was approved. Among other aspects, the Directive modifies the current bathing water classification system, establishing four assessment categories, reducing the number of parameters considered and water quality at each point using a three-year average. This Directive was transposed into Spanish law by Royal Decree 1341/2007.
- Under the new directive, the classification should be performed using data from the current season together with the data for the last three years. The new classification is as follows: poor, sufficient, good and excellent.
- The bathing seasons are those periods during which a large number of bathers are expected, taking into account local customs and the meteorological conditions. In Spain, as an average, the bathing season runs from June to September for inland waters (and from May to the end of September for coastal waters, except for the Canary Islands, where the season includes practically the entire year). For inland waters, the average number of bathing days was 90 (the same number as in 2010 and 2011, and two days less than in 2009), with a maximum of 138 days in Murcia and a minimum of 46 in Navarre.
- During the 2012 bathing season the data covered that year together with the three previous years (2009, 2010 and 2011). This new classification was carried out for the first time in respect of the previous bathing season (2011).

SOURCES

- Ministry of Health, Social Services and Equality, 2013. Bathing Water Quality in Spain. 2012. Studies, Reports and Research Collection. Technical General Secretariat.

FURTHER INFORMATION

- <http://nayade.msc.es/Splayas/home.html>
- <http://www.msssi.gob.es/profesionales/saludPublica/saludAmbLaboral/home.htm>
- <http://ec.europa.eu>



LAND



2.3

environmental profile of Spain 2012

In May 2012 the Division for Sustainable Development of the UN Department of Economic and Social Affairs (UNDESA) published a study named 'Sustainable land use for the 21st century'. The document recognises that changes in land use and land cover have been the most visible indicator of the human footprint and the most important cause of biodiversity loss and other forms of land degradation. One of the most important changes in land use at a global level arises from the urbanisation process, not due to the size of the occupied surface but to the high resources consumed in urban areas; according to the aforementioned study, cities occupy less than 3% of the land surface of the planet, but account for 78% of carbon emissions, 60% of drinking water use and 76% of industrial wood consumption. For this reason, the study of the evolution in land use and land cover allows for an analysis of the changes and transformations produced in the environment, and to take appropriate decisions in order to adequately manage this limited resource.

The Corine Land Cover (CLC) survey, with editions published in 1990, 2000 and 2006, provides information on the evolution of the land cover and use in the EU. The percentage of artificial surfaces, as an indicator of the urbanisation process of the territory, reveals land use changes, although the percentage of artificial surfaces in Spain represents only approximately 2% of the total surface.

Pending the publication of the CLC 2012 results, an approximation of this indicator – on changes in land cover in Spain – will be given in this publication from the perspective of land use reclassification from rural to urban through land-use planning, according to the methodology of the General Directorate for Cadastre. The process of conversion to artificial surfaces is also analysed, from the perspective of the loss of soils of high agronomic utility.

At the same time, in February 2012, the European Commission presented a report on the application of the Thematic Strategy for Soil Protection, which was adopted in September 2006. This report recognises that more than five years after the approval of the strategy, and in spite of the achievements and actions carried out, there is still no specific legislation on soil nor a common system for soil control and quality protection in Europe.

Due to the importance that the EU gives to continuing research, monitoring and awareness of the state and protection of soil, the steps taken in our country regarding the study of soil erosion are included in this 2012 edition of the Environmental Profile of Spain; the indicator used for soil contamination is once again included, and the available information on the processes of land artificialisation and changes in land use is analysed.

KEY MESSAGES

- Between 2006 and 2012 the area of urban land cover in Spain increased by 19%.
- The increased number of industrial and commercial zones during the period 2000-2005 represents a moderate risk of a loss of higher quality agricultural soils.
- Law 22/2011, of 28 July, on Waste and Contaminated Soils establishes the obligation to have a state inventory of contaminated soils; this inventory is being compiled, but the information held by the autonomous communities is disparate and inconsistent.
- In 2012 the works of the National Soil Inventory for the provinces of Palencia and Salamanca (Castile and León) were completed.

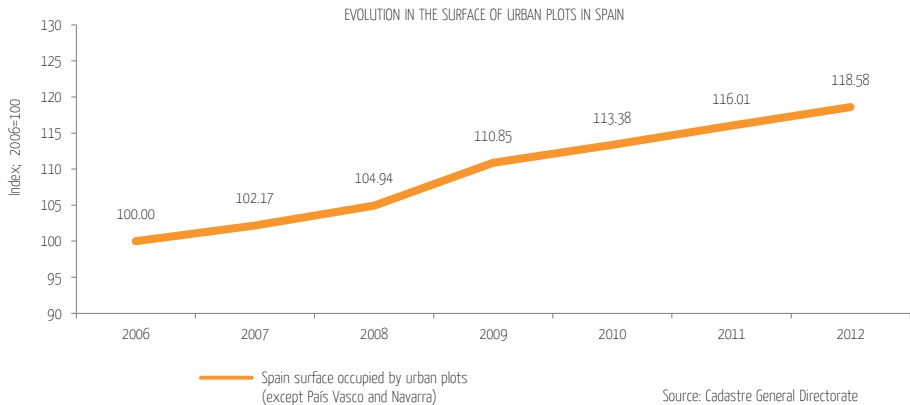
INDICATORS

- Changes in land cover: urban surface.
- Increase of artificial surfaces converted from agricultural areas.
- Contaminated soils
- Area affected by erosion

Changes in land cover: urban surface

Between 2006 and 2011 the area of urban land cover in Spain increased by 19%.

Evolution in the surface of urban plots in Spain



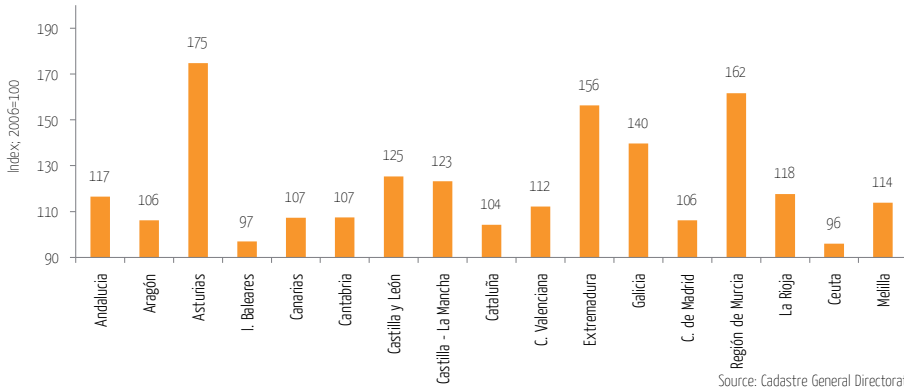
According to information from the Directorate-General for Cadastre for 2012, the area of urban plots has increased by 18.58% with respect to 2006 levels, with the indicator (excluding the Basque Country and Navarre) standing at 1,123,134 ha, 2.22% more than in the previous year. These figures indicate that 2.3% of the total surface in Spain in 2012 (excluding the autonomous communities previously mentioned) is occupied by urban land. Breaking this down between constructed and non-constructed urban plots, in 2012 some 500,685 ha were added to the first group and 622,449 ha to the second group, increases of 2.57% and 1.78% respectively.

The largest increase recorded in the temporal series took place in 2009, with an increase of 5.64% in the surface of Spain (except the Basque Country and Navarre) occupied by urban plots.

At regional level, the highest growth in 2012 with respect to 2006 levels regarding the percentage of surface occupied by urban plots, occurred in Asturias, followed by Murcia,

Extremadura and Galicia. In just six years these communities increased by 75, 62, 56 and 40%, respectively, their percentages of surface covered by urban plots.

Variation in the occupied surface with respect to 2006 values . Year 2012



NOTES

- The Land Registry (*Catastro Inmobiliario*) defines, in its methodology document, surfaces of an urban nature. This can be consulted through the following link: Land Registry Methodology.
- The data for the Basque Country and Navarre are excluded from the scope of this indicator, as they have their own land registry services.

SOURCES

- Surface covered by urban plots: Directorate General for Cadastre, 2013. Cadastral statistics. Urban real estate cadastre. Summary by Autonomous Communities and Cadastre Variables.
- Surface of the Autonomous Communities: National Statistics Institute, 2013. INEbase. Physical environment and the environment. Physical Environment. Territory. Population, surface and density by Autonomous Communities and provinces. 2012.

FURTHER INFORMATION

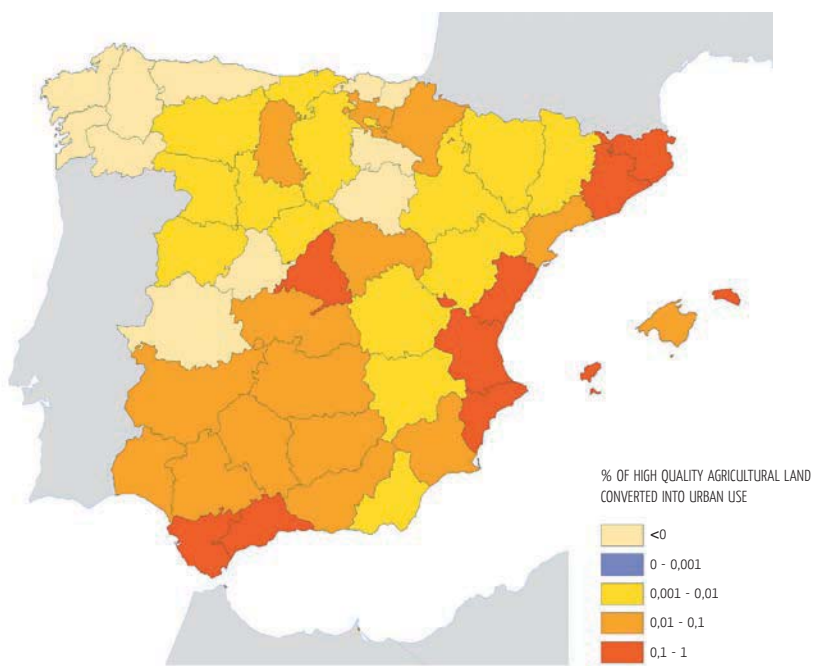
- <http://www.catastro.meh.es>



Increase of artificial surfaces converted from agricultural areas

The increase of industrial and commercial surfaces during 2000-2005 poses a moderate risk of high quality agricultural land loss.

Percentage of high quality agricultural land converted to urban use



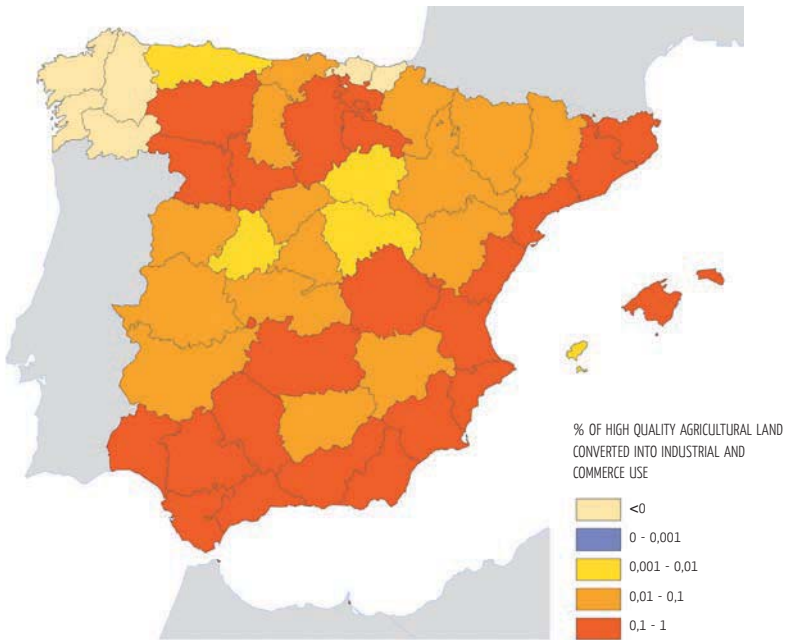
Source: ETCSIA, EEA

Between 2000 and 2005 around 27,000 ha each year were transformed into artificial surface, according to the Corine Land Cover project (editions 2000 and 2006). These changes were undertaken at the expense of agricultural areas (49% of new artificial areas coming from agricultural areas).

The process of artificialisation of land is considered irreversible, so it is deemed to be important to take into account the quality of land undergoing the artificialisation process.

The changes in land use are mainly due to urbanisation and the increase of industrial and commercial surfaces. These changes in land use are more pronounced in the provinces of Barcelona, Valencia, Castellon, Alicante, Girona, Malaga, Cadiz and Madrid. In no case is the loss above 1% of higher quality soils.

Percentage of agricultural land converted into industrial and commercial use



Source: ETCSIA, EEA

The European Thematic Strategy for the Soil Protection identifies soil as a non-renewable natural resource, at least at human scale, and highlights the need to adapt different uses to soil characteristics. In particular, it highlights the need to preserve the best agricultural soils against different pressures, among which the urbanisation process should be highlighted. The processes observed in Spain are reproduced in the rest of Mediterranean countries, although in the north of Italy the percentage of agricultural land that has become artificial surface is greater and exceeds 1%.



NOTES

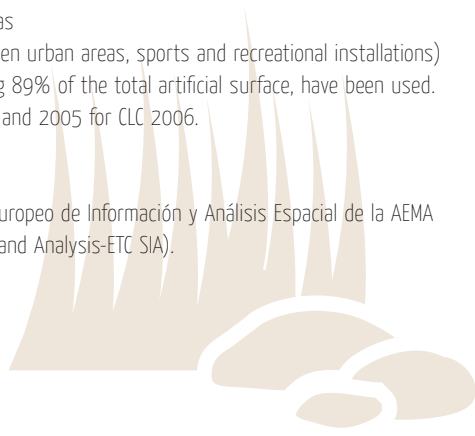
- The quality of the soils has been defined based upon agricultural productivity. To this end, the MARS methodology has been applied, including climatological aspects, limiting factors of production and other physical-technical soil characteristics.
- The Corine Land Cover projects reflect those changes that are equal to, or over, 5 ha. The artificial surfaces are as follows:
 - 1.1 Urban areas (continuous urban areas, discontinuous urban areas)
 - 1.2 Commercial, industrial and transport areas
 - 1.3 Coal mining, landfills and construction areas
 - 1.4 Green artificial, non-agricultural areas (green urban areas, sports and recreational installations)
- In this indicator only 1.1 and 1.2, representing 89% of the total artificial surface, have been used.
- The years of reference are 2000 for CLC 2000 and 2005 for CLC 2006.

SOURCES

- Información facilitada por el Centro Temático Europeo de Información y Análisis Espacial de la AEMA (European Topic Centre on Spatial Information and Analysis-ETC SIA).

FURTHER INFORMATION

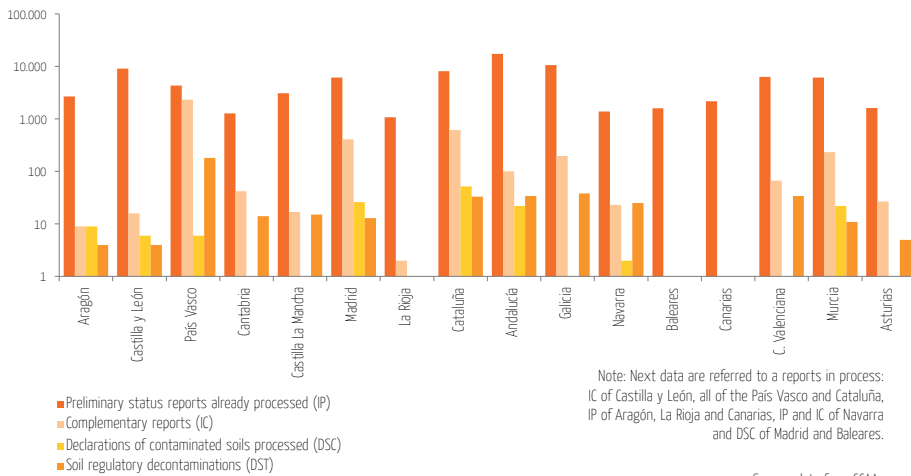
- <http://www.etscia.uma.es>



Contaminated soils

Some autonomous communities have made progress in the declaration of contaminated soils, as well as the compilation of the state inventory of contaminated soils.

Number of resolved cases on contaminated soils during the period 2005-2011



Law 22/2011, of 28 July, on Waste and Contaminated Soils, maintains the obligation for autonomous communities to declare and delimit contaminated soils within their territorial area, as well as to compile an inventory of such soils. This law also obliges the Ministry of Agriculture, Food and Environment to prepare a state inventory of contaminated soils from data provided by the autonomous communities. On the other hand, the law includes a new instrument to make the management of contaminated soils more flexible, for example by voluntary decontamination.

Royal Decree 9/2005, of 14 January, establishing the list of potentially polluting activities for the land and the criteria and standards for the declaration of contaminated lands, sets out the list of potentially polluting activities for the land and the criteria and standards that govern the conditions under which land will be considered to be contaminated. It also sets out the contents of preliminary status reports (PSR) and provides for the possibility



of seeking complementary reports (characterisations and risk analysis) when the PSR so recommends.

This indicator intends to provide a description of the existing situation in the autonomous communities in relation to the management of contaminated soils; it collates, for the period 2005-2011, the total number of preliminary status reports already processed, the number of complementary reports, the number of declarations of contaminated soils and the number of decontaminations (regulatory and voluntary).

This is information that can be improved with the incorporation of data from the rest of the autonomous communities, as well as the inclusion of other variables that will enrich this synthetic information: number of locations and inventoried surface, nature of contamination, effects on groundwater resources, data relative to decontamination, investments, etc.

Within the EU, a serious lack of information concerning the extension and location of contaminated soils has been detected. This is due mainly to the absence of European legislation that obliges member states to gather this information. According to the 2012 report 'The state of soil in Europe', published by the Joint Research Centre (JRC), there could be around three million sites in Europe where there may be, or have been, potentially soil polluting activities and it is estimated that around 250,000 need urgent decontamination. The report recognised the need to change the legislation to avoid this figure increasing by 50% by 2025.

At the same time, it is important to highlight the potential of appropriate management policies for contaminated soils in order to mitigate other threats to soils, for instance the loss of functionality linked to soil sealing. The document 'Guidelines on best practice to limit, mitigate or compensate soil sealing' of the Commission (SWD (2012) 101 final/2) proposes as a solution for soil sealing the reuse of useless buildings or of abandoned industrial areas. The reuse of old industrial areas, potentially affected by contamination, would reduce the need for continuous consumption of virgin soils, at the same time as, with the appropriate measures, supposing a reduction in the risks to human health and the environment associated with soil contamination.

The Cohesion Policy 2007-2013 has 3,500 million euros for the rehabilitation of industrial sites and contaminated land (SEC (2010) 360 final, Cohesion policy: Strategic report 2010 on the implementation of the programmes 2007-2013). In the new financial period



2014-2020, the Commission proposes, among the priorities of the Cohesion Policy, the improvement of the urban environment (COM (2011) 612 y COM (2011) 614), including the regeneration of old industrial areas. The regions of the member states able to receive funds can utilise them to reuse abandoned or contaminated sites and build on them, rather than sealing virgin soils.

NOTES

- Contaminated soils in Spain are regulated by means of Law 22/2011, of 28 July, on Waste and Contaminated Soils, and by Royal Decree 9/2005, of 14 January, establishing the list of potentially polluting activities for the land and the criteria and standards for the declaration of contaminated lands, as well as by the legislative instruments developed by the autonomous communities. Likewise, the National Integrated Waste Plan 2008-2015 (approved by Ministers Council of 26 December 2008) establishes the basic guidelines of the soil protection policy concerning contamination.
- The indicator refers to the number of contaminated land declarations resolved and reports processed.
- For the Basque Country, the data on contaminated land corresponds to land quality declarations.

SOURCES

- Information from the autonomous communities gathered by the Sub-Directorate-General for Waste. Directorate-General for Environmental Quality and Assessment and Natural Environment. Ministry of Agriculture, Food and Environment.

FURTHER INFORMATION

- <http://www.magrama.gob.es/es>
- http://ec.europa.eu/environment/soil/sealing_guidelines.htm



Area affected by erosion

In the year 2012 the work on the National Soil Erosion Inventory for Palencia and Salamanca provinces, within the autonomous community of Castile-Leon, was completed.

Area affected by erosion (%)

CCAA	With moderate erosion (%)	With medium erosion (%)	With high erosion (%)
Cantabria	59.91	22.39	17.70
Asturias	61.92	21.67	16.42
Navarra	65.64	18.79	15.57
Murcia	66.41	18.13	15.46
La Rioja	65.84	20.43	13.72
Galicia	74.34	13.06	12.61
Balearic Islands	76.62	13.69	9.70
Madrid	81.28	10.89	7.83
Catalonia	54.41	24.86	20.74
Extremadura	83.75	9.81	6.44
Canary Islands	69.25	21.86	8.89
Andalusia	57.61	19.76	22.63
C. Valenciana	70.12	16.04	13.83
Castile-Leon (*)	88.79	8.19	3.02

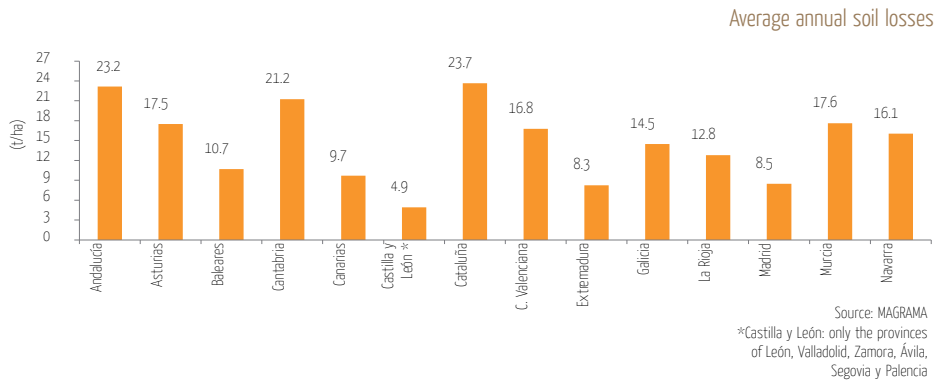
(*) Data from Castile-Leon refer to the provinces of Leon, Valladolid, Zamora, Avila, Palencia and Salamanca. Source: MAGRAMA

The National Soil Erosion Inventory (INES) has been extended after incorporating two new provinces: Palencia and Salamanca (Castile-Leon). The table shows the percentages of land of each of the different autonomous communities included in the inventory that are affected to varying degrees of erosion. The exception is Castile-Leon, in which the percentage of land affected by erosion refers only to the provinces assessed up to now (Leon, Valladolid, Zamora, Avila, Palencia and Salamanca) with respect to the total surface of the region. This data is the result of the work done between the years 2002 and 2012.

As can be seen from the table, regarding those provinces analysed up to the present and with the exception of Castile-Leon that is still to be completed, Extremadura, Madrid and the Balearic Islands are the regions that have the greatest amount of land suffering from moderate erosive processes. Catalonia and Andalusia head the list of autonomous communities with highly erosive processes.

Looking at the annual average losses of the autonomous communities analysed (except Castile-Leon, that is incomplete), Catalonia, Andalusia and Cantabria present the highest values with 23.67, 23.17 and 21.23 t/ha year. The lowest values are registered in Extremadura and Madrid, with 8.25 and 8.47 t/ha year, respectively.

The difference between the National Soil Erosion Inventory and other works of similar characteristics in which sheet and rill erosion are studied in other European countries is that the Inventory, which uses a detailed scale of 1:50,000, involves both field work, that improves the RUSLE model (an updated version of the 'Universal soil loss equation' – USLE), and study of other types of erosion (riverbank, gully, deep and wind erosion). As such, the inventory constitutes a methodological model for studies of this type throughout Europe.



NOTES

- The National Soil Erosion Inventory aims, among other objectives, to analyse the erosive processes occurring in Spain and follow their evolution, so as that it is possible to identify those areas that require priority actions to stop those processes.
- The erosion considered in this indicator is 'sheet and rill' erosion. The percentages of land given refer to the total geographical surface of the autonomous community, with the erodible surface that which is susceptible to erosion processes, calculated by deducting artificial surfaces, surface water sheets and wetlands from the geographical surface.
- The Soils Erosion National Inventory put the results of calculation of soil losses because of sheet and rill erosion into the following groups of erosive levels:

1: 0-5 t/ha year	3: 10-25 t/ha year	5: 50- 100 t/ha year	7: >200 t/ha year
2: 5-10 t/ha year	4: 25-50 t/ha year	6: 100-200 t/ha year	

- In the indicator, 'Moderate' soil loss is defined as 0-10 t/ha year, 'intermediate' as 10-25 t/ha year and "High" as over 25 t/ha year.
- The inventory is divided into five sections according to the various types of erosion:
 - Sheet and rill erosion (quantitative estimate of soil loss, performed by applying RUSLE model, Revised Universal Soil Loss Equation)
 - Gully and ravine erosion (identification and demarcation of affected areas)
 - Deep erosion (mass movements) (identification of areas potentially at risk and qualitative classification)
 - Bank erosion (qualitative classification of hydrological units according to their susceptibility to torrential phenomena in their drainage network)
 - Wind erosion (identification and classification of areas potentially at risk)

SOURCES

- National Soils Erosion Inventory, 2002-2012. Directorate-General for Rural Development and Forestry Policy. Secretariat-General for Agriculture and Food. Ministry of Agriculture, Food and Environment.

FURTHER INFORMATION

- <http://www.magrama.gob.es/es/biodiversidad/temas/inventarios-nacionales/inventario-nacional-de-erosion-desuelos/default.aspx>

NATURE



2.4

Environmental profile of Spain 2012

Spain is one of the European Union countries with the highest biological diversity due, among other reasons, to its geographical position, its geological diversity, the wide climatic, orographic and soil variability, and the existence of island territories. Biodiversity conservation and the maintenance and restoration of ecosystems are some of the main environmental challenges Spain, along with the other European countries, face.

The conservation and sustainable use of biodiversity are key elements of the move to a green economy, together with sustainable development that minimises the impact of human activities and recognises the value and relevance that ecosystem services have for development and well-being.

The EU is firmly committed to biodiversity protection. This is evidenced by the establishment, over the last 25 years of an extensive network, spanning all member states, of 26,000 protected areas. The Natura 2000 Network is the largest network of protected areas in the world.

In Spain, protected areas are defined and regulated by Law 42/2007, of 13 December, on Natural Heritage and Biodiversity, including Protected Natural Areas, areas of the Natura 2000 Network or protected areas by international instruments.



The recent law 7/2013, of 25 June, establishing the Guadarrama National Park, establishes the fifteenth park and fifth largest of the National Parks Network. This natural area will protect 33,664 ha of great environmental value, located within the autonomous communities of Madrid and Castile-Leon.

The law identifies nine natural systems, included in the Annex to Law 5/2007 on the National Parks Network, including unique natural systems of glacial and periglacial origin, as well as pine forests, juniper groves, scrubland above the tree line and high mountain pastures, among others, where ecosystems with an enormous wealth of flora and fauna have developed, and where emblematic species such as the imperial eagle and the black stork, both in danger of extinction, can be found.

KEY MESSAGES

- Protected areas occupy 28% of total Spanish land surface. Of this, 12.4% was classified as Natural Protected Areas, while 27.2% is part of the Natura 2000 Network.
- In 2012, the general status of the wooded areas can be described as healthy in more than the 80% of the species analysed, with conifers faring somewhat better than broad-leaved trees.
- Forest land in Spain in 2012 occupied more than 27.5 million ha (55% of the total area of the country). The total wooded area is over 18 million ha, representing 0.39 ha/inhabitant.
- Bird population trends have shown a positive trend in the forests, with more conservation difficulties present in agricultural and urban environments.
- The number of basic materials that be used to obtain reproductive material increased in 2012 by 10 units, with there now being more than 7,700 units.
- In 2012 SEPRONA registered a decrease in the number of criminal offences and in the number of arrests made; nevertheless, an increase in administrative infringements was registered.
- Most parts of the country present a low level of landscape fragmentation, with between one and five meshes per 1,000 km². The provinces with the highest level of fragmentation are Pontevedra and La Coruña with 28.7 and 25.1 meshes per 1,000 km².

INDICATORS

- Protected areas
- Forest defoliation
- Wooded areas and other forest formations
- Trends in common bird populations
- Forest reproductive material
- Environmental Monitoring
- Landscape fragmentation

Protected areas

In 2012 protected areas accounted for 27.9% of the total terrestrial area Spain, including Natural Protected Areas and those that are part of the Natura 2000 Network.

Protected areas by protection category, 2012

Protected area	PA and Natura 2000 Network	PA	Natura 2000 Network
Terrestrial (ha)	14,099,994.56	6,265,285.75	13,762,850.56
Marine (ha)	1,077,829.37	495,236.92	1,035,280.04
Total (ha)	15,177,823.92	6,760,522.67	14,798,130.60
Terrestrial area protected %	27.85	12.38	27.19

Source: MAGRAMA

Almost 28% of Spanish territory is protected; this percentage is made up of the areas declared as being Protected Areas (PA) under Spanish legislation and those areas belonging to the Natura 2000 Network. It should be noted that part of the area designated as PA also forms part of the Natura 2000 Network. Consequently, adding the two totals together does not sum to the total area protected.

The total area (terrestrial and marine) occupied by Natural Areas was 6,670,523 ha. In 2012 there were 1,551 areas registered, representing 12.38% of the total terrestrial area of Spain. The differences in the figures with respect to the previous year are due to amendments made concerning the geographical delimitation of several of these areas.

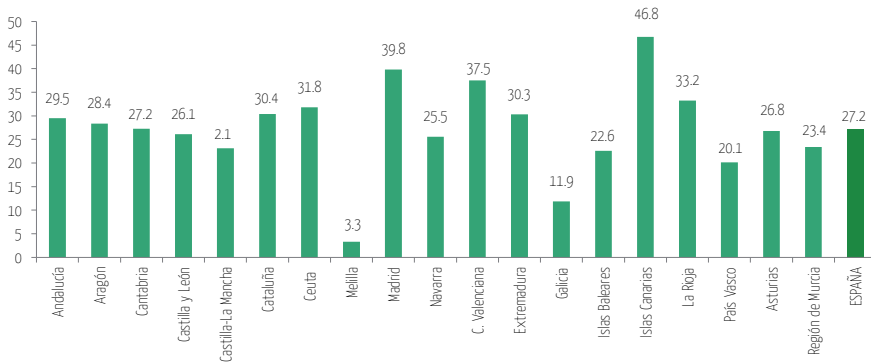
The Natura 2000 Network, consisting of Sites of Community Importance (SCI) and Special Protection Areas (SPAs) for wild birds, in 2012, covered 27.19% of Spain's total land area. It is important to stress that the figures for the Natura 2000 Network areas do not equal the sum of the SCI and SPA areas, because the two overlap and are not double counted.

At 31 December 2012, there were 1,446 SCIs in Spain, according to the official list. Additionally, a proposal for two new SCIs was made to the European Commission, pending approval on the relevant official list. The total SCI area in Spain is 12,740,667 ha, of which 11,722,040 ha is terrestrial and 1,018,626 ha marine. In total 23.16% of Spanish land area is protected by SCIs.

According to data given to the Ministry of Agriculture, Food and Environment by the competent administrations of the autonomous communities in their declarations and management, 273 Special Areas of Conservation (SAC) were designated in 2012 in Spain from the SCI.

The 598 SPAs in existence in 2012 occupy a total of 10,380,300 ha, being 10,107,051 ha of terrestrial area and 273,249 ha of marine area. The terrestrial area in Spain covered by these spaces amounts to 19.97% of the total.

Nature 2000 network as proportion of total area. 2012 (%)



Source: MAGRAMA

Due to their size, the autonomous communities that contribute the most area to the Spanish Natura 2000 Network are Andalusia, Castile-Leon and Castile-La Mancha. With respect to the relative area included in each region, the contributions of the Canary Islands (46.75% of its surface), Madrid (39.82%) and Valencia (37.48%) should be underlined. The autonomous communities with the lowest percentages are Galicia (11.86% of its area), Basque Country (20.15%) and Balearic Islands (22.60%).

NOTES

- Spanish legislation, (Natural Heritage and Biodiversity Law 42/2007, of 13 December 2007, defines protected areas as "...areas within Spain's national territory, including the inland and marine waters (...) that meet at least requirements and are declared as such:
 - a) Contain natural elements or systems that are representative, unique, fragile, endangered or of special ecological scientific, scenic, geological or educational interest.
 - b) Are specifically intended to protect and preserve biological diversity, geodiversity and associated natural and cultural resources."
- The Natura 2000 Network is a European ecological network that consists of Sites of Community Importance (SCI) and Special Areas of Conservation (SAC) designated in accordance with the Habitat Directive (Directive 92/43/CEE), as well as by Special Protection Areas (SPAs) for wild birds established under the terms of the Birds Directive 2009/147/CE. Its purpose is to ensure the long-term survival of the species and types of habitat most under threat in Europe and it is the most important tool for the conservation of biodiversity in the European Union. In order to be designated a SAC, Member States must put forward to the European Commission the areas that noticeably contribute to maintaining or, where applicable, recovering the favourable state of conservation of natural habitats and the habitats of species of community interest, and where the necessary tools are used to manage those areas, for approval as SIC.

SOURCES

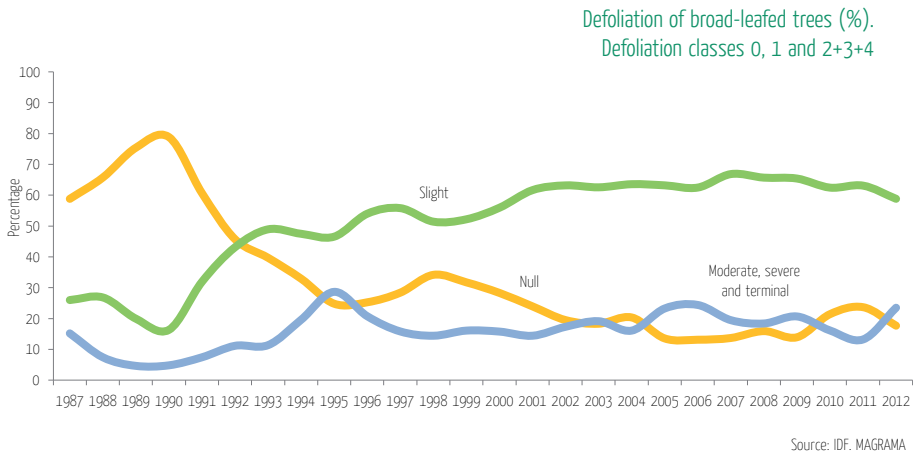
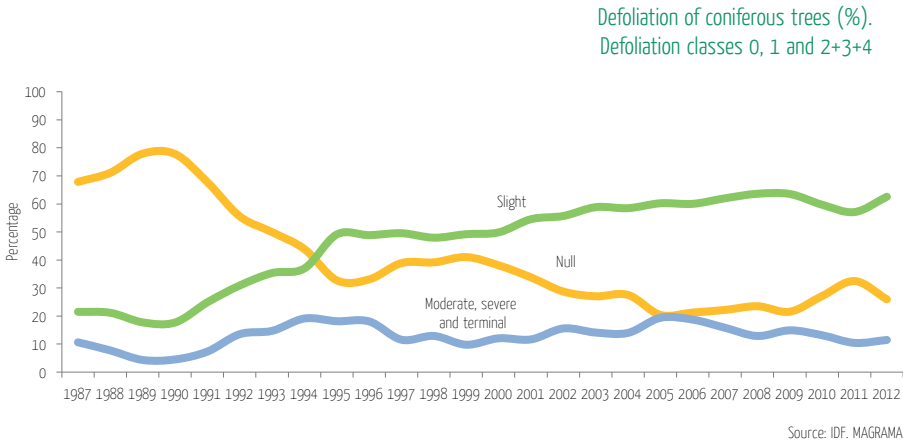
- General-Directorate for Environmental Quality and Assessment and Natural Environment. Ministry of Agriculture, Food and Environment.
- The calculations of surface area were carried out using the regional boundaries agreed in the Spanish Inventory of Natural Heritage and Biodiversity Committee, in December 2012. The projection used for the Peninsula and Balearic Islands: EPSG 25830 and for the Canary Islands: EPSG 32628.

FURTHER INFORMATION

- <http://www.magrama.gob.es/es/biodiversidad/temas/espacios-prottegidos/>
- <http://www.magrama.gob.es/es/parques-nacionales-oapn/>

Forest defoliation

In 2012, the overall forest status showed that 82.5% of tree species studied had a healthy appearance.



In 2012, 82.5% of the tree species studied presented a healthy appearance, compared to 88.2% the previous year, and similar to 2007 levels (82.4%).

Overall 15.9% showed defoliation in excess of 25%, while in 2011 the percentage was 10.2%. The number of damaged trees has clearly increased, while the number of dead trees is at the same level as the previous year, at 1.6%; this is lower in the case of broad-leaved trees at 1.1% and higher in the case of conifers at 2.1%. The overall deterioration affects broad-leaved trees to a greater extent, with 76.5% trees being healthy (86.8% the previous year), than for conifers (88.5% this year and 89.6 % in 2011).

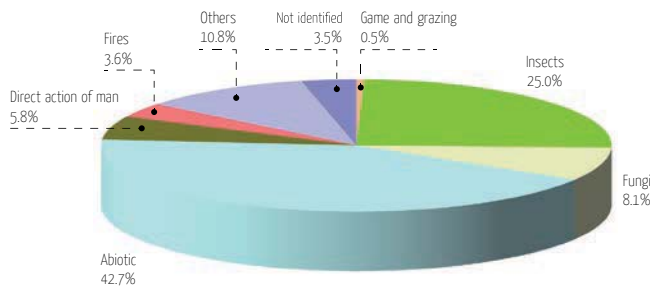
Most of the dead woodland is due to preventative felling, the result of forestry and deterioration owing to isolated water shortages.

As regards other possible causes of tree damage, there has been an increase in abiotic damage (mainly water shortage), while damage directly associated with biotic agents has had less impact.

Fieldwork notes have detected variable behaviour in insects, with a reduction in phytophagous insects affecting broad-leaved trees, with the exception of the alder; differing trends in pine processionary caterpillars (increases in the south and east, decreases in the west and the northern meseta), a slightly rising trend in relation to coniferous tree perforators and a clear increase of broad-leaved tree perforators.

Fungi have shown an overall decrease in their impact, with the only exception being Dutch elm disease (*Ceratocystis ulmi*). Drought however is the damage causing agent that has been most seen, with a considerable impact in the middle and south of the peninsula, with the exception of Catalonia. The recurrence of damage caused by oak branch dieback is concentrated in already established areas, with no appreciable increase.

Type of damages detected in the forested areas. IDF Spain 2012
(Only trees with more than 25% of defoliation)



Source: MAGRAMA



NOTES

- Forest defoliation is the process by which a plant species loses its leaves as a result of pathological or climatic stress that provokes premature or abnormal leaf fall. The degree of forest defoliation indicates the forests' state of health. It is analysed in terms of foliage loss from the tree crown at a series of sampling points, classifying into the following categories:

Loss of needles/leaves	Degree of defoliation
0 – 10%	None
>10-25%	Slight
>25%	Moderate, severe and terminal

- Under the International Cooperation Program on the Assessment and Monitoring of Atmospheric Pollution Effects on Forests, the Level-I European Network on Forest Damage is an international large scale systematic network consisting of more than 5,700 monitoring points spread across a 16 x 16 km grid covering all Europe. It was set up in 1986 from a random starting point. This network annually analyses forest health and assesses the main factors that have a negative impact on it. The Spanish Network currently has 620 sampling points; its design allows for the monitoring of other aspects such as the effects of climate change on forests, sustainable management and the preservation of forest biodiversity.

SOURCES

- Service for Forest Health and Biological Balances. Directorate General for Rural Development and Forest Policy. Ministry of Agriculture, Food and Environment.

FURTHER INFORMATION

- <http://www.magrama.es>
- <http://www.icp-forests.org>

Wooded areas and other forest formations

Spain has more than 27.7 million ha of forested land, with woodland occupying more than 18 million ha

Evolution of forest land in the last 15 years

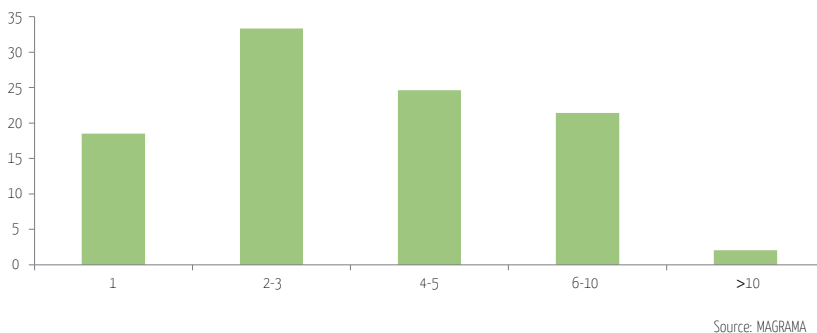


The particular geographical situation of Spain and its broad climatic range, allow for the existence of a wide diversity of forest ecosystems. According to the National Forest Inventory, updated with information from the autonomous communities which have begun the fourth phase of the inventory (started in 2008), Spain's forest area covers 27.7 million ha, equivalent to 55% of Spain's total land area, although a substantial amount of this area is treeless or barely covered by sparse trees (9.3 million ha). The forested area that can be considered woodland comes to 18.3 million ha (representing 0.398 ha/inhabitant).

The Basque Country (55.0%), Catalonia (49.9%) and Galicia (49.0%) are the autonomous communities with the highest percentage of forested areas in relation to their overall areas. At the same time, the autonomous communities with the lowest percentage of forests in relation to their total area are the Canary Islands (17.7%), Murcia (27.2%) and Castile-Leon (31.3%).

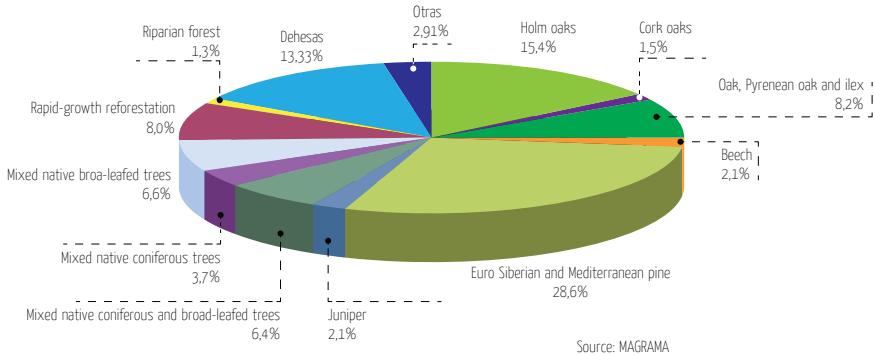
Spanish forests are characterised by their diversity. According to the data of the National Forestry Inventory, 18.6% of forests are made up of only one species, while more than 80% are made up of two or more tree species; 33.3% with two or three; 24.6% with four and five; 21.4% with between six and 10 species; and 2.1% with more than ten species. Even in the forests dominated by one species there is a high presence of non-target species.

Breakdown of forest area by number of present tree species (%).
FN3 (1997-2007)



The most common species is the holm-oak (*Quercus ilex*), occupying 2.8 million ha (15.4% of the total forest area), without taking into account the meadows. Regarding the conifers, the *Pinus halepensis*, with 2 million ha (11% of the forest area), together with *P. pinaster* and *P. sylvestris* represent the majority of pure conifer mountain area. In conjunction, the pine forests occupy 28.6% of the forest land.

Breakdown of wooded formations (%)



NOTES

- According to international criteria, forest is considered wooded area in which the canopy cover fraction is greater than or equal to 10%.

SOURCES

- Spanish Forestry Inventory (SFI) and its base cartography Forest Map of Spain (FMS), both produced on a provincial scale and on a 10 yearly-basis. IFN2 (1986-1996); IFN3 (1997-2007); IFN4 (commenced in 2008); MFE50 (1997-2007); MFE25 (commenced in 2007).
- National data: Navarre, Galicia, Asturias, Cantabria, Balearic Islands and Murcia: IFN4 and MFE25; Rest of Autonomous Communities IFN3 and MFE50.
- Sub-Directorate-General for Forestry and Woodlands. Directorate General for Rural Development and Forestry Policy. MAGRAMA

FURTHER INFORMATION

- <http://www.magrama.gob.es/es/biodiversidad/temas/>

Trends in common bird populations

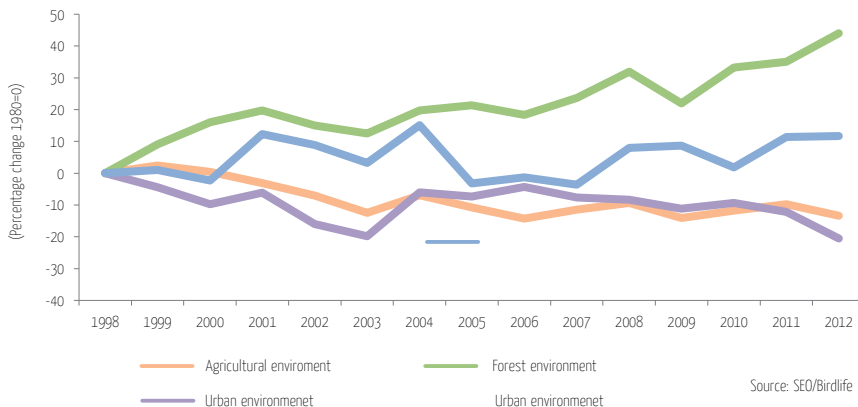
Bird populations have tended to increase in forest areas

Birds, being excellent biomarkers, are used by the European Statistical System working group (Eurostat) as one of the indicators of our quality of life. The working group calls this the 'Common Bird Index', and it is categorised under 'protection of natural resources'.

The working group is made up of volunteers from all the countries of the EU. In Spain, it is coordinated by SEO/Birdlife, and the data are compiled and analysed at European level by the European *Bird Census Council* (EBCC) to produce the *Pan-European Common Bird Monitoring Scheme* (PECBM).

The analysis of this information provides valuable information with which to assess trends in Spain's important ecosystems and, by extension, to assess the country's biodiversity. SEO/BirdLife has carried out this work in Spain since 1996 with the results being representative during the period 1998-2012.

Trend of the common bird populations



The main results observed over the period 1998-2012 are summarised in the following table, which breaks down some of the environments considered to provide greater detail:

Trends of common birds populations: percentage of change between 1998 and 2012

Environments	Trend (% of change) 1998-2012
Agricultural environment	-13.4
Tree plantations	-4.8
Cereal plantations	-25.0
Northern agricultural environments (grasslands)	-22.6
Forest environments	44.0
Euro-siberian forests	10.3
Mediterranean forests	45.4
Birds linked to urban environments	-20.5

Source: SEO/Birdlife

Of all the areas agricultural environments show the most conservation problems. This situation is common across Europe and in Spain there was significant loss during the period 1998-2012, with a fall of 13%. The excessive use in the agricultural environment of herbicides and chemical products to eliminate insects, fungi and other threats, and also to improve yields, negatively impacts bird life. This occurs at the expense of the biodiversity that has always existed in these environments and which is reduced day by day, as the data shows. The agricultural environment in Spain is very diverse, from the Euro-Siberian region to the Mediterranean, but in both regions the decrease is notable, being more pronounced in the dry cereal-cultivation areas than in the grasslands of northern Spain.

Equally, negative trends have been noted in urban environments, where the decrease registered during the period under analysis reached 20%. Urban bird communities have important inter-annual fluctuations, but fell between 1998-2003 and 2005-2012, with marked recovery only being registered during the period 2003-2004. It is necessary to pay more attention to the environment in which these bird communities live, the same environment in which most of the human population in Spain resides.

A notable increase of Passeriformes birds has been registered in shrubland environments. There is no doubt that the disappearance of extensive pastureland in many municipalities gives rise to an increase in the amount of area with this type of vegetation that facilitates an increase in their bird populations.

At the same time, forest bird communities have maintained the moderate increase already observed in previous years, both in Mediterranean forests (Sclerophyllous) and Euro Siberian (deciduous), in line with the recovery of these environments seen in Spain in recent years.

NOTES

- The trend indicators employed are used internationally within the framework of the Convention on Biological Diversity and have been adopted by the EU to assess fulfilment of its goals and strategic plans in the area of biodiversity. To carry out the monitoring of bird populations, annual samples are taken in the peninsula, the Balearic and the Canary Islands in 10 x 10 km UTM grid, with a standardised methodology (20 stations, with 5 minute listening repeated twice every spring). There were over 1,000 participants in 2012 (more than 1,000 sample grids, meaning approximately 20% Spain's territory) and its distribution is reflected in the information below.
- Population data are obtained by a standardised census for more than one hundred bird species during breeding season throughout Spain. Additionally, those species that share common characteristics, such as being present in certain environment, are grouped together, obtaining grouped trend indicators.
- The bird populations monitored by this indicator are grouped as follows:

By environment inhabited	Urban environments	
	Forest environments	Euro-Siberian Mediterranean
	Agricultural environments	Cereals
		Northern Wooded
Aquatic environments		
By migratory behaviour	Sedentary birds	
	Migratory birds	Sub-Saharan Trans-Saharan
By diet	Granivorous birds	
	Insectivorous birds	
Non-native	Exotic birds	

SOURCES

- SEO/Birdlife.

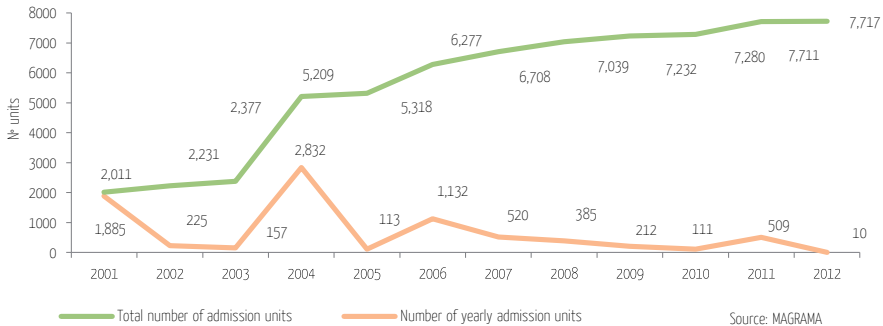
FURTHER INFORMATION

- <http://www.seo.org>
- <http://www.magrama.es>

Forest reproductive material

The number of basic materials increased by 10 units in 2012

Number of admission units of the national catalogue of basic materials



The National Catalogue of Basic Material (NCBM) is a core element of the system that regulates the production and marketing of reproductive materials in Spain, as it includes the basic materials, or units of approval, from which certified forest reproductive material in its origin and genetic quality (seeds and plants) can be obtained.

Basic materials are natural populations, plantations and clones from which reproductive material is obtained for reforestation. The types of basic material currently approved are: seed sources, selected stands, seed orchards, parents of families and clones. The information on these basic materials is compiled in the NCBM and is organised according to the different categories of forest reproductive material that can be obtained with them (identified, selected, qualified and monitored).

The National Catalogue's main objective is to provide the final user with a guarantee as to the origin and quality of the forest reproductive material. In turn, it is intended to provide sufficient knowledge to responsible technicians to facilitate the selection of the type of material and the most appropriate origins for each action.

In 2012 the National Catalogue of Basic Materials increased by 10 new units compared to the 509 new units of 2011. This year, after deducting losses, the total units of approval stands at 7,717 units.

The distribution of the units of approval by type and category is shown in the following table:

Existing units of approval in the national catalogue of basic materials. Year 2012

Type of basic material	Category	Number units of approval (2012)	Land area* (ha) of the units of approval
Seed sources and stands	Identified	7,222	5,570,262.19
Selected stands	Selected	337	17,921.75
Seed orchards	Qualified	25	98.84
	Monitored	2	
Parents of families	Qualified	31	No cuantificable en área
	Monitored	4	
Clones	Qualified	55	No cuantificable en área
	Monitored	41	
TOTAL		7,717	5,588,282.78

* It should be noted that the areas included in the calculations sometimes overlap with other areas containing different species. Also, for practical reasons, sometimes entire municipal districts or hill areas are registered, whose land area may be greater than that actually occupied by the forest.

Source: MAGRAMA

Regarding the total units of approval, 7,222 out of the 7,717 are in the identified category (seed sources and stands), 337 units in the selected category (selected stands), 111 in the qualified category and 47 units in the monitored category. In terms of area, the units of approval occupy approximately 5.6 million of hectares.

NOTES

- Basic Material comprises populations, plantations and clones from which are obtained forest reproductive material (seeds and plants) used in reforestation. The approved types of basic material, currently approved by Royal Decree 289/2003, of 7 March, on the sale of forest reproductive material, are:
 - Seed source: Trees within an area from which fruit and seed is collected;
 - Stands: Delineated population of trees possessing sufficient uniformity in composition;
 - Seed orchard: Plantation of selected clones or families, which is isolated or managed so as to avoid or reduce pollination from outside sources, and managed to produce frequent, abundant and easily harvested crops of seed;
 - Parents of family: Trees used to obtain progeny by controlled or open pollination of one identified parent used as a female, with the pollen of one parent (full-sibling) or a number of identified or unidentified parents (half sibling);
 - Clone: Groups of individuals (ramets) derived originally from a single individual (ortet) by vegetative propagation, for example by cuttings, micropropagation, grafts, layers or divisions.
 - Clonal mixture: A mixture of identified clones in defined proportions.
- Management of the Catalogue implies ecological and phenotypic characterisation of each of the approved materials. This task is carried out by the Directorate-General for Rural Development and Forestry Policy (MAGRAMA) in collaboration with regional governments. New basic materials are published in the Official Gazette (BOE) and form part of the European common catalogue.

SOURCES

- Genetic Material Service. Planning and Forestry Policy Department. Sub-Directorate-General for Forestry and Woodland. General Directorate for Rural Development and Forestry Policy. MAGRAMA.

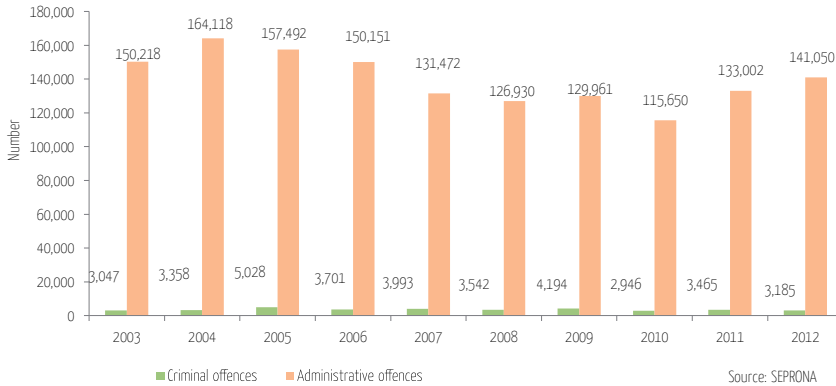
FURTHER INFORMATION

- <http://www.magrama.gob.es/es/biodiversidad/temas/montes-y-politica-forestal/recursos-geneticos-forestales/default.aspx>

Environmental monitoring

The number of administrative infringements increased in 2012, while criminal offences and arrests decreased

Interventions carried out by the Civil Guard concerning environmental matters



Organic Law 2/1986 on State Security Forces and Law Enforcement Bodies entrusts the Civil Guard with the responsibility of ensuring the conservation of nature and the environment. The mission of the Nature Protection Service (SEPRONA) is to enforce compliance with the legislation to conserve nature and the environment, water resources, as well as game, fish, forests and all other natural and related resources.

The trend over the period 2003-2012 in the number cases involving environmental matters dealt with by SEPRONA can be seen in the graph below, which shows that, for administrative infringements, there is a generally reducing trend in the number of cases, up to 2010 and an increase during the next two years. The trend is less consistent with regard to the number of criminal cases, with the average of the last five years standing at around 3,500 offences.

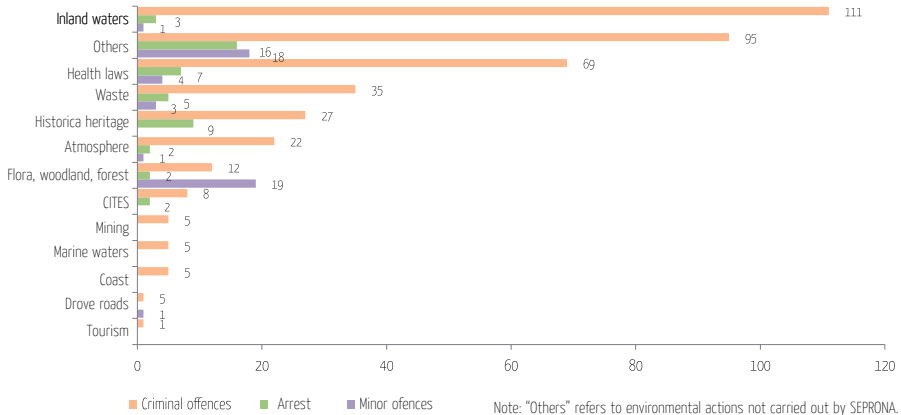
In 2012, in total SEPRONA intervened in 5.7% more cases than in 2011, from 136,467 to 144,235. Of this total number of offences, 97.80% were for administrative infringements that, inter-annually in 2012, increased by 6.05%; 2.05% of the total were criminal offences, with this figure having decreased by 7.3% in the last year; the remainder, 0.15%, were misdemeanours (with an inter-annual decrease of 17.7%).

Environmental cases dealt by the Civil Guard

		2008	2009	2010	2011	2012
Offences	Criminal	3,542	4,194	2,946	3,465	3,185
	Administrative	126,930	129,961	115,650	133,002	141,050
Arrests		330	399	274	313	298

Note: only includes SEPRONA interventions on environmental offences
 Source: compiled in-house using SEPRONA data

Number of criminal offences and arrests concerning environment (2012)



By type of criminal offence, and taking into account that inspection campaigns carried out in a specific area at a certain time may increase the number of offences reported in that area, forest fires account for the largest number of offences in 2012, making up 55.3% of the total (1,639 interventions). These are followed by crimes against domestic animals



with 393 cases, representing 13.3% of the total, and crimes against wild fauna (9.1%) and land-use planning offences (8.8%).

In 2012, SEPRONA arrested 298 persons for environmental offences, 8.7% more than the previous year, in which 274 arrests were made. Of those arrested, 42.6% were arrested in relation to forest fires, 24.5% for offences against wild fauna, 8.7% for domestic animals offences, 8.7% in relation to land-use planning offences with the rest, 15.5%, attributable to a variety of other causes.

NOTES

- When calculating the indicator, this edition only takes into account environment-related cases dealt with by the Civil Guard.

SOURCES

- Civil Guard Public Information Office. Directorate-General for the Police and Civil Guard. Minister of Interior.
- SEPRONA. Directorate-General for the Police and Civil Guard. Ministry of Interior.

FURTHER INFORMATION

- <http://www.guardiacivil.org>

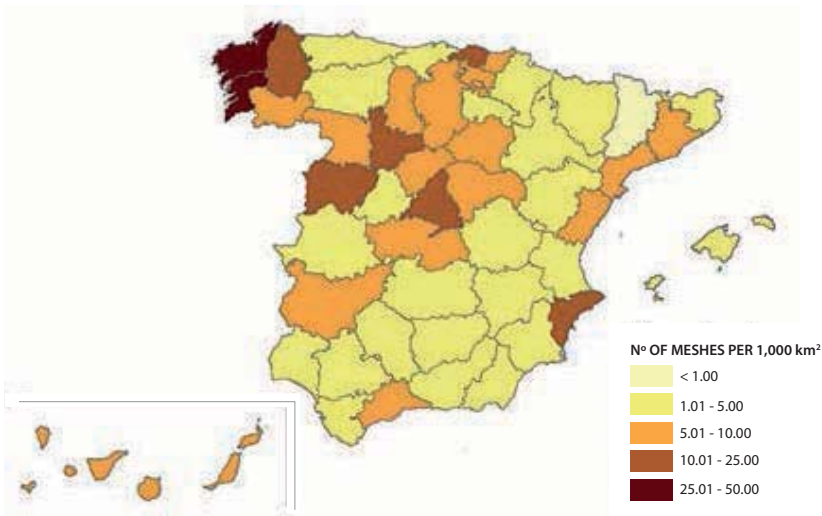


Landscape fragmentation

The majority of the country shows low fragmentation with between 1 and 5 meshes per 1,000 km². The provinces with most fragmentation are Pontevedra and La Coruña, with 28.7 and 25.1 meshes per 1,000 km² respectively

This indicator quantifies the extent to which the movement of wild fauna is interrupted by transport infrastructure and built-up areas. The higher mesh values indicate greater fragmentation of the landscape (see notes at the end of the indicator).

Landscape fragmentation in Spain



Source: MAGRAMA

Spain is among the countries with the least fragmentation in Europe (see Environmental Profile of Spain 2011). Most of Spain presents a low fragmentation, with between 1 and 5 meshes per 1,000 km². Galicia is the autonomous community with the highest fragmentation, followed by Castile-Leon and the Basque Country. In some provinces, the fragmentation occurs as a consequence of urban development or even the presence of large dams.

The provinces with the highest fragmentation levels are Pontevedra and Coruña with 28.69 and 25.11 meshes per 1,000 km² respectively. These are followed by Valladolid (15.19),

Bizkaia (13.98), Lugo (13.78), Alicante (13.37), Madrid (12.95) and Salamanca (11.80), in a range of between 10 and 25 meshes per 1,000 km².

Thirdly, with densities between 7.5 and 10 meshes per 1,000 km², are Segovia (9.55), Las Palmas (8.90), Alava (8.89), Burgos (8.89), Zamora (8.10), Soria (7.92) and Tarragona (7.74).

Next, there are a large number of provinces have between 2.5 and 7.5 meshes per 1,000 km²: Santa Cruz de Tenerife (7.39), Palencia (7.35), Ourense (6.71), Castellon (6.70), Toledo (6.66), Guipúzcoa (6.17), Barcelona (6.06), Guadalajara (5.84), Badajoz (5.23), Malaga (5.14), Caceres (4.82), Cuenca (4.61), Navarre (4.57), Cordoba (4.52), Teruel (4.52), Valencia (4.36), Zaragoza (3.95), Murcia (3.94), Avila (3.91), Cantabria (3.77), Balearic Islands (3.70), La Rioja (3.61), Leon (3.49), Albacete (3.40), Ciudad Real (3.09), Almería, (2.89), Girona (2.85), Cadiz (2.81), Asturias (2.81) and Huelva (2.60).

Finally, with a density below 2.5 meshes per 1,000 km², are Sevilla (2.31), Granada (1.82), Jaen (1.64), Huesca (1.34) and Lleida (0.87).

NOTES

- The effective mesh density (Seff) has been obtained from the calculation of the effective mesh size (Meff) by means of the cross-boundary connections method, which eliminates the bias related to the borders and is applied in 1x1 UTM grids. Unlike the method applied in EEA 2011, we have not considered mountains as barriers when calculating the given values in Spain (MAGRAMA, in preparation). The effective mesh density (Seff) represents the number of meshes per 1,000 km² or the density of meshes, i.e. how many times the effective mesh fits into an area of 1,000 km². Thus, the more barriers fragmenting the landscape, the higher the effective mesh density.
- The effective mesh size (Meff), measured in surface units, is an indicator that serves to measure landscape connectivity, that is, the degree to which the movement of organisms is possible within different parts of the landscape. It expresses the probability that any two points chosen at random in a region are connected, that is, not separated by barriers such as transport routes or built-up areas.

SOURCES

- MAGRAMA. In preparation. Identification of areas to defragment in order to reduce the impact of transport routes on biodiversity. Documents relating to the reduction of habitat fragmentation caused by transport routes, number 6 O.A. National Parks. Ministry of Agriculture, Food and Environment.
- EEA, 2011. Landscape fragmentation in Europe. Joint EEA-FOEN report. EEA report No 2/2000. European Environment Agency (EEA). Federal Office for the Environment (FOEN).

FURTHER INFORMATION

- Working group on habitat fragmentation due to transport infrastructure:
http://www.magrama.gob.es/es/biodiversidad/temas/ecosistemas-y-conectividad/conectividad-fragmentacion-de-habitats-y-restauracion/fragmentacion_habitats.aspx

COASTS AND MARINE ENVIRONMENT



2.5

Environmental profile of Spain 2012

The Spanish shoreline is slightly over 10,000 km length. This narrow strip of the country's environment is of great geomorphological diversity, as well as being highly environmentally sensitive and fragile. It also supports a large number of socioeconomic interests. Planning and organisation of these interests is required, which at the same time allows for protection and conservation.

Law 2/2013, of 29 May, on the Protection and Sustainable Use of the Coastline, amending Law 22/1998, of 28 July, the *Coastal Law*, is an effective legal instrument for coastal protection and preservation. This law provides a stable, predictable and secure framework for all parties involved: users, owners, companies, public authorities, etc., such that the environmental protection of the coast is completely compatible with the economic development of coastal areas.

Marine strategies

Law 41/2010, of 29 December, on the Protection of the Marine Environment, transposes the Marine Strategy Framework Directive (2008/56/CE), with the objective of extending environmental protection to Spanish waters.

The aim of this law is to achieve good environmental status in the marine environment, with a time limit set for 2020, by means of planning tools



known as marine strategies. Five strategies will be developed, one for each marine demarcation established in the law.

The law on the Protection of the Marine Environment also includes provisions for the protection of marine biodiversity, for example those relating to the formal creation of the Spanish Network for Protected Marine Areas. The network will be made up of distinct types of areas, among them the Natura 2000 Network areas and, provided integration criteria are complied with, the Marine Reserves of interest to the fishing industry.

Marine biodiversity protection

In recent years, clear progress has been made towards the goal of having greater knowledge of the wealth of our seas, and of providing an adequate protection regime for those representative areas, and those species, that are most vulnerable to human activity.

Some of the current areas of work at a national level relate to the declaration of marine protected areas and to the launch of the Spanish Inventory of Marine Habitats and Species. Both areas of work are based on the provisions of Law 41/2010, of 29 December, on the Protection of the Marine Environment and Law 42/2007, of 13 December, on Natural Heritage and Biodiversity.

KEY MESSAGES

- The first phase of the elaboration of the Marine Strategies was finalised in 2012: initial assessment of the status of the marine environment, definition of good environmental status and establishment of environmental goals.
- The Spanish Inventory of Marine Habitats and Species is a consultation tool for knowledge, planning and management of the natural heritage of the marine environment.
- The objective of the Network of Marine Protected Areas is to have a coherent, well managed network of protected marine areas that represent the main marine ecosystems of Spanish waters.
- A total of 95.85% of Spain's coastline is demarcated.
- In 2012, under the criteria of the new legislation on bathing waters, there was an increase of 2.3% in the percentage of sample points obtaining an excellent grade.

INDICATORS

- Marine strategies
- Spanish Inventory of Marine Habitats and Species
- Spanish Network of Marine Protected Areas
- Demarcated coastline
- Quality of the coastal bathing waters

With the aim of assessing the conservation status and enhancing knowledge of marine heritage, according to RD 556/2011, of 20 April, on the development of a Spanish Inventory of Natural Heritage and Biodiversity, a standard reference list of the types of marine habitats in Spain has been drawn up, along with their hierarchical classification, relating them to the different existing classifications (Annex I of Law 42/2007, Directives and International Treaties). To this end, the reference list is expected to be officially adopted by means of a Ministerial Decree in 2013. Additionally, a digital version has been developed in order to disseminate the information in the inventory.

Marine Protected areas

The first steps have been taken to establish the Spanish Network of Marine Protected Areas, a coherent, well managed network of Marine Protected Areas in Spanish waters. In compliance with the criteria established in Royal Decree 1599/2011, of 4 November, establishing the integration criteria for marine areas into the Spanish Network of Marine Protected Areas, the first areas will be included in the network in 2013.

Marine strategies

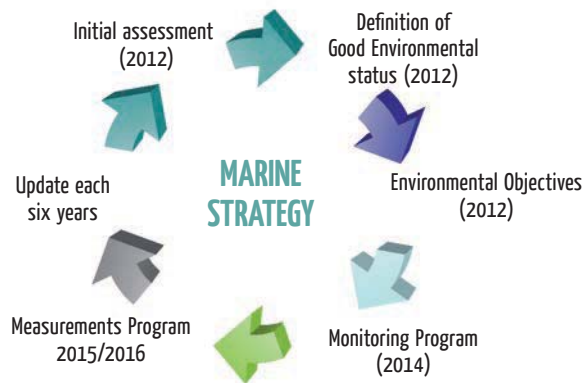
The essential planning instrument to meet the objective of obtaining and/or maintaining a good environmental status in the marine environment

Spanish marine demarcations



Source: MAGRAMA

Marine strategy: stages of drafting



MAGRAMA is the competent authority for the application of the Marine Strategy Framework Directive that has been transposed into Spanish legislation by Law 41/2010, on the Protection of the Marine Environment. This law sets out the legal status required to achieve or maintain good environmental status of the marine environment and regulates the essential planning instruments to be used to meet the objective: the marine strategies. A marine strategy will be developed for each of the five marine demarcations (North Atlantic, South Atlantic, Canaries, Levantine-Balearic, and Gibraltar Strait and Alboran Sea), covering the entire marine environment under their sovereignty or jurisdiction, being more than 1 million km².

The marine strategies are action plans with the following components: initial evaluation, definition of good environmental status, environmental objectives, monitoring programmes and measurement programmes. During 2012 the first phase of the strategies was developed: initial evaluation, good environmental status and environmental objectives.

The definitive documents are available on the internet, along with the document on environmental objectives, which was approved by agreement of the Ministers Council on the 2 November 2012.

Law 41/2010 on the Protection of the Marine Environment provides for coordination between administrations, through the Interministerial Commission for Marine Strategies (created by RD 715/2012) and the Marine Strategies Monitoring Committees (one for each marine demarcation).

After the initial work as described, the next step in the strategies is the design of the marine environment monitoring programmes that will be operative as of July 2014. These monitoring programmes must:

- Take full advantage of the monitoring programmes that already exist by virtue of other European or international obligations.
- Analyse the indicators established for the monitoring of environmental objectives.
- Take into account all the indicators of good environmental status included in the directive.

Example of an INDICATOR: litter on the continental shelf

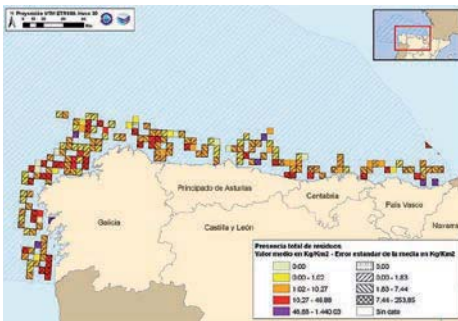
The marine strategies must assess the marine environment status by means of 11 indicators of good environmental status. One of these indicators, D10, deals with marine litter; the accumulation of marine litter must be analysed, according to the directive, on the

coastline, on the seabed and in the water column. Likewise, the impacts of litter on marine life must also be taken into account.

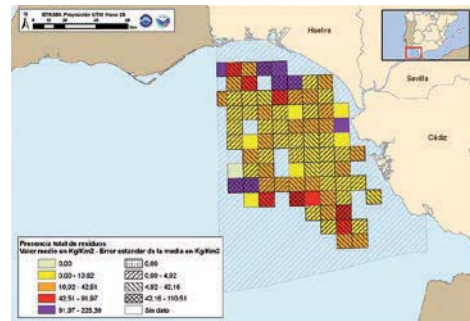
To address the indicator of seabed litter, data from oceanographic bottom-trawling operations, which are regularly carried out by the Spanish Institute of Oceanographic in the distinct Spanish seas, was analysed.

This analysis has provided, for the first time, an important perspective on the densities of marine litter accumulated on the seabed; this accumulation has been analysed both as a whole (total density, see next chart) and systematically by different types of litter (plastics, different materials, fish litter...).

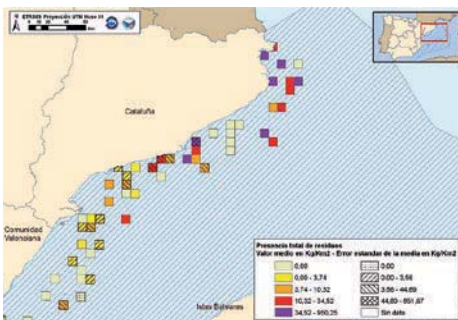
Total density (kg/Km²) of marine litter on platform seabed
In the different marine demarcations (no information for Canary Islands)



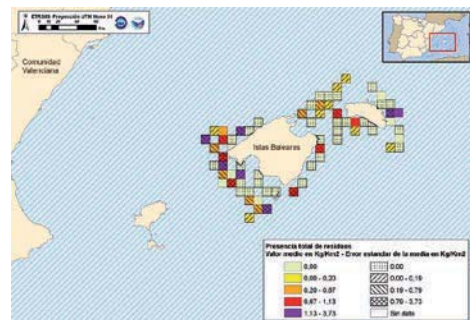
M.D. North Atlantic



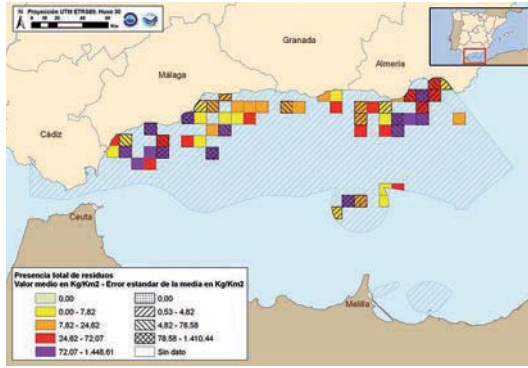
M.D. South Atlantic



M.D. Levantine-Balearic (1)



M.D. Levantine-Balearic (2)



M.D. Strait of Gibraltar and Alboran

NOTES

- This indicator is only an example of several indicators that must be analysed through the marine strategies for the evaluation and monitoring of the marine environment status.
- The marine strategies are living documents, as all their content must be updated at least every six years.

SOURCES

- Information provided by the Directorate-General for Coastal and Marine Sustainability. MAGRAMA. 2013

FURTHER INFORMATION

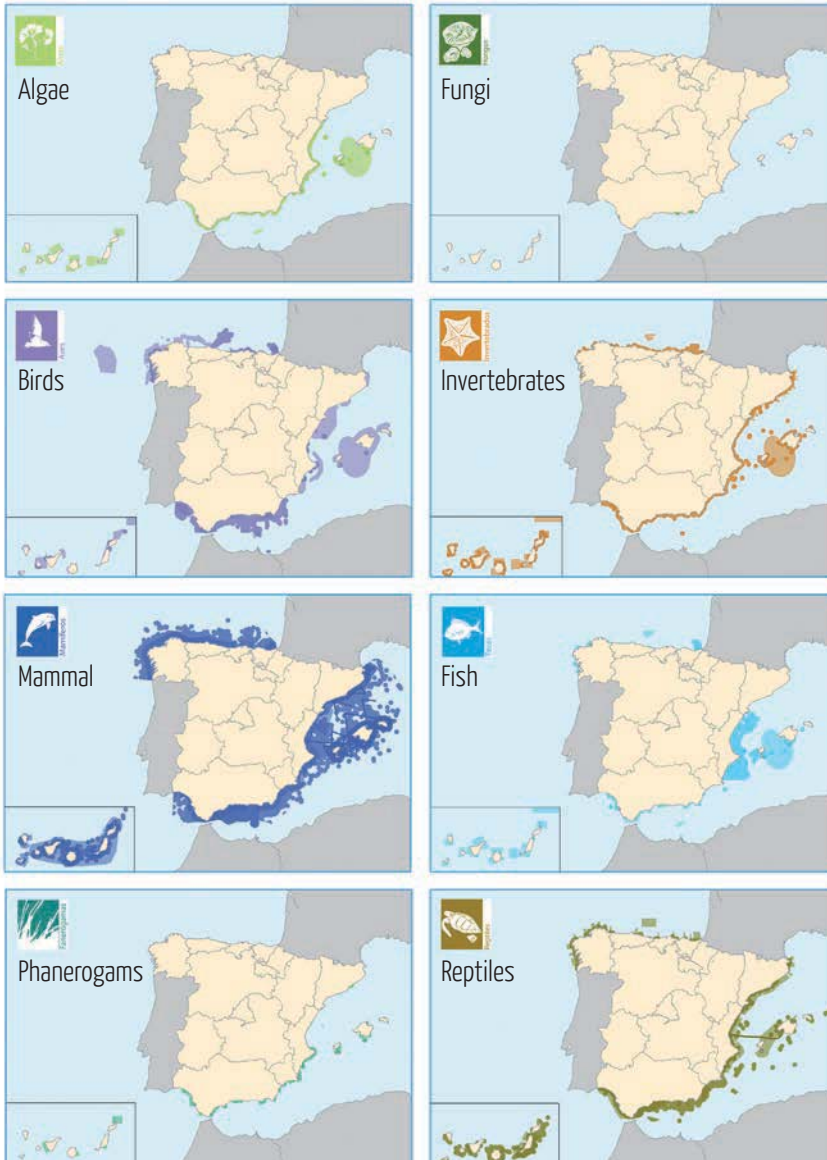
- <http://www.magrama.gob.es/es/costas/temas/estrategias-marinas/default.aspx>
- <http://www.magrama.gob.es/es/costas/temas/default.aspx>



Spanish Inventory of Marine Habitats and Species

The Spanish Inventory of Marine Habitats and Species is a consultation tool for knowledge, planning and management of natural marine heritage

Spanish Inventory of Marine Species.
Presence in spanish waters, by species group



Source: Directorate-General for Coastal and Marine Sustainability. MAGRAMA. 2013

The geographical distribution of the species does not show their total distribution, but that registered in the Spanish Inventory of Marine Species at December 2012; likewise, the variety of sources does not allow, in every case, for precise coordinates, with the distributions of species being established according to the scope of the study or project.

Inventory of Marine Habitats and Species: Identified taxa. 2012

Regions and marine demarcations	Number of identified taxa (*)							
	Algae (*)	Birds (*)	Phanerogams (*)	Fungi (*)	Invertebrates (*)	Mammal (*)	Fish (*)	Reptiles (*)
Atlantic Northeast region	887 (86)	45 (43)	98 (7)	0 (0)	1,546 (116)	80 (63)	641 (101)	12 (10)
North Atlantic MD	391 (40)	45 (43)	96 (7)	0 (0)	1,006 (79)	77 (63)	399 (88)	11 (10)
South Atlantic MD	286 (37)	43 (42)	97 (6)	0 (0)	429 (84)	71 (63)	460 (84)	11 (10)
Canary Islands MD	481 (42)	43 (42)	95 (6)	0 (0)	631 (102)	78 (63)	303 (75)	11 (10)
Mediterranean region	369 (31)	36 (36)	6 (4)	4 (0)	514 (45)	35 (28)	312 (38)	4 (4)
Gibraltar Strait and Alboran Sea MD	446 (64)	44 (43)	99 (6)	4 (0)	1,995 (124)	72 (63)	482 (92)	11 (10)
Levantine-Balearic MD	728 (65)	43 (42)	97 (6)	0 (0)	1,903 (120)	72 (63)	599 (93)	11 (10)

(*) Species with some level of protection.
Source: MAGRAMA

Among the most remarkable aspects of the Inventory of Marine Habitats and Species, which deserves mention, is the elaboration of the standard reference list of the types of marine habitats existing in Spain. This is a state reference list that includes the hierarchical classification of the 886 marine habitats identified in Spain. It was approved by a Resolution of the Directorate-General for Coastal and Marine Sustainability on 22 March 2013.

The list mentioned makes available not just an extensive catalogue of the marine habitats found within Spain, but provides an inventory with information and a descriptive cartography that enables the understanding of the importance and significance of the marine habitats mentioned and, in the future, the monitoring of their conservation status.

The use of this classification system will allow, thanks to the convergence between the reference list and other classifications, for easily comparable cartographic information for the habitats included, for example, in Law 42/2007, of 13 December, on Natural Heritage and Biodiversity (transposition of the Habitats Directive into Spanish legislation), OSPAR Convention, Barcelona Convention, EUNIS Classification System (European Nature Information System) and Law 5/2007, on the National Parks Network, among others.

NOTES

- The Inventory of Marine Habitats and Species is a product of Law 42/2007, of 13 December, on Natural Heritage and Biodiversity, which includes in its Title I, Chapter I, the obligation to draw up the Spanish Inventory on Natural Heritage and Biodiversity, and RD 556/2011, of 20 April, for the development of the Inventory of Marine Habitats and Species, that defines the minimum content to take into account for each component. The result of both inventories will be digitally published in 2013, consisting of interpretative guidance of the marine habitats of Spain, and of descriptive fact sheets on habitats and marine species included in the Inventory of Marine Habitats and Species.
- The reference list of marine habitats existing in Spain and the links are available in the section 'Coasts and Marine environment' of the Ministry of Agriculture, Food and Environment web.
- The number of identified taxa for birds refers to those considered as strictly marine by SEO/Birdlife.

SOURCES

- Information provided by the Directorate-General for Coastal and Marine Sustainability. MAGRAMA. 2013

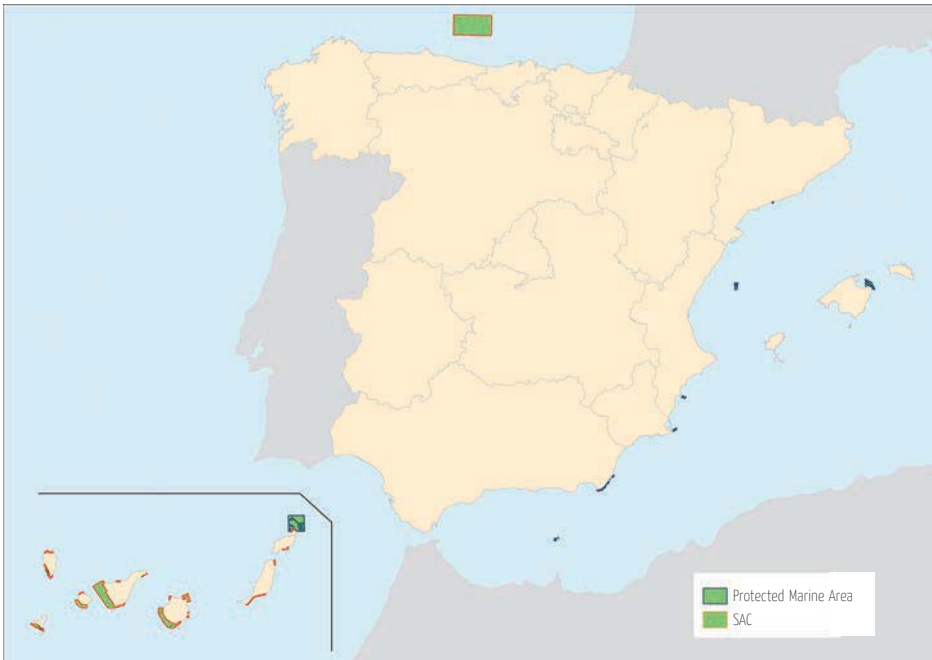
FURTHER INFORMATION

- <http://www.magrama.gob.es/es/costas/temas/biodiversidad-marina/>

Spanish Network of Marine Protected Areas

The Spanish Network of Marine Protected Areas will provide a coherent and well managed net of protected marine areas in Spanish waters to ensure the protection, conservation and recovery of natural heritage and Spanish marine biodiversity

Protected Marine Areas Network in Spain



Source: Directorate-General for Coastal and Marine Sustainability. MAGRAMA, 2013

The Spanish Network of Marine Protected Areas was established by Law 42/2007 on Natural Heritage and Biodiversity, and was further developed subsequently by Law 41/2010, on the Protection of the Marine Environment. This included the need for a Master Plan, criteria for the inclusion of areas in the network and minimum management criteria.

So far RD 1599/2011, which establishes the inclusion criteria for areas in the network, has been approved.

As a first step in the development and extension of the network, those marine spaces already declared as Special Areas of Conservation (SAC) within the Natura 2000 Network are to



be included in the Marine Protected Area Network (MPAN), taking into account the integration criteria of the MPAN marine protected areas established in RD 1599/2011.

The areas that fall within this are the 24 marine SAC of the Canary Islands, declared by means of Order ARM/2417/2011, and 'El Cachucho', declared as a Marine Protected Area and as a SAC in RD 1629/2011. Spain is also working to include within the network Marine Reserves in external waters of interest to the fishing industry established under the auspices of the Law on Maritime Fishing.

Law 41/2010 establishes the need to draw up a Master Plan for the Network of Marine Protected Areas as a basic coordinating instrument for the achievement of the network objectives, and includes guidelines for management and the conservation of the areas it covers, a programme of common actions and projects of interest that can be subject to state financing. It also includes common minimum criteria for the coordinated, coherent management of the network.

The development of the Master Plan was, in April 2013, in an initial phase, with it being necessary for it to be reviewed and updated as more areas are included in the network over the following months. The Master Plan will be brought into legislation as a Royal Decree and, in accordance with Environmental Impact Assessment legislation and the Law on the Protection of the Marine Environment, it will have to be submitted to Strategic Environmental Assessment for its adoption. At the same time, a public participation process will be used for its preparation and review.

NOTES

- The Spanish Network of Marine Protected Areas was established by the Law 42/2007 on Natural Heritage and Biodiversity, and was further developed by Law 41/2010, on the Protection of the Marine Environment, setting up the network and providing the requirement to have a master plan, a criteria for the inclusion of areas in the network and minimum management criteria.
- The Network of Marine Protected Areas will be a coherent and well managed network of protected marine areas in Spanish waters, with the aim of assuring the protection, conservation and recovery of natural heritage and biodiversity.
- The Network of Marine Protected Areas will be made up of protected areas located in the Spanish marine environment, which are representative of marine natural heritage, independent of whether their declaration and management are regulated by international, European or state legislation. Likewise, those spaces whose declaration and management are regulated by autonomic legislation, can also be part of the network in accordance with article 36.1 of Law 42/2007, of 13 December, on Natural Heritage and Biodiversity.

SOURCES

- Information provided by the Directorate-General for Coastal and Marine Sustainability. MAGRAMA. 2013

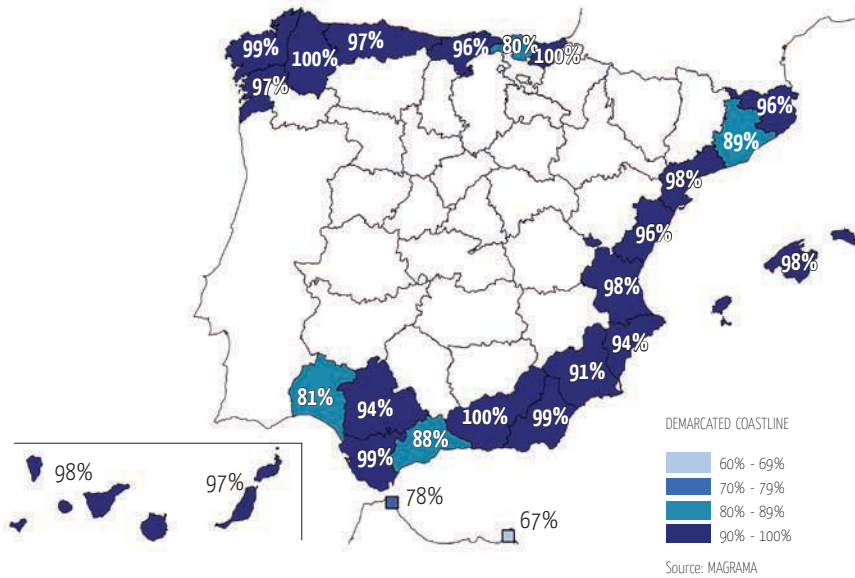
FURTHER INFORMATION

- <http://www.magrama.gob.es/es/costas/temas/biodiversidad-marina/>

Demarcated coastline

In total 95.85% Spanish coast is now demarcated

Percentage of demarcated coast per province. 2012



In 2012, the Spanish coastal area was demarcated by 95.85%. Demarcation is the administrative procedure used to mark the boundaries of the publicly owned shoreline. A new Law, 2/2013, of 29 May, on the Protection and Sustainable Use of the Coastline, which amends Law 22/1988, of 28 July, the Coastal Law, is an effective legal instrument for the protection and conservation of the coast, providing a stable, predictable and secure framework for all the parties involved: users, owners, companies, public authorities, etc. This is intended to correct those problems that had been detected, as well as to promote economic activity and job creation on the coast; to increase legal certainty for developments on the Spanish coast and to improve the environmental protection on the coast through, among other measures, the simplification and reduction of administrative burdens caused by administrative procedures.



The new law has, among its aims, the strengthening of the legal certainty of the demarcation procedure. For this reason, as a first step it revises the actual concept of the public shoreline, and secondly, it includes greater guarantees for citizens, both during the demarcation procedure and once it is completed.

Additionally, the law clarifies the boundaries of the publicly owned shoreline and the protection easement area without modifying the established regime of forbidden uses, which guarantee the conservation of the Spanish coast. Furthermore, it balances and ensures compatibility between environmental, economic and social uses, and is therefore a tool that guarantees the environmental sustainability of the coast.

Private land adjacent to the publicly owned shoreline will continue to be subject to the ownership limitations established through the boundaries of the easement areas and the areas of influence from the inner boundary of the shoreline.

NOTES

- The Ministry of Agriculture, Food and Environment carries out the demarcation plan, processing and approving the records that define the boundary of the publicly owned shoreline.
- To raise awareness of the process, the Directorate-General for Coastal and Marine Sustainability has launched a project that allows the public to consult, through cartography of the Spanish shoreline and available aerial photographs, the boundary line of the publicly owned shoreline and the private land affected by the protection easement area. This information can be accessed in three ways: through the MARM map viewer (<http://sig.marm.es/dpmt/>), through the Cadastre Web site of the Ministry of Economic and Finance (<http://www.sedecatastro.gob.es/>) or by accessing the WMS Service of the publicly owned shoreline. With the modification to the Coastal Law this information will be published in its entirety on the MAGRAMA web site.

SOURCES

- Information provided by the Directorate-General for Coastal and Marine Sustainability. MAGRAMA. 2013

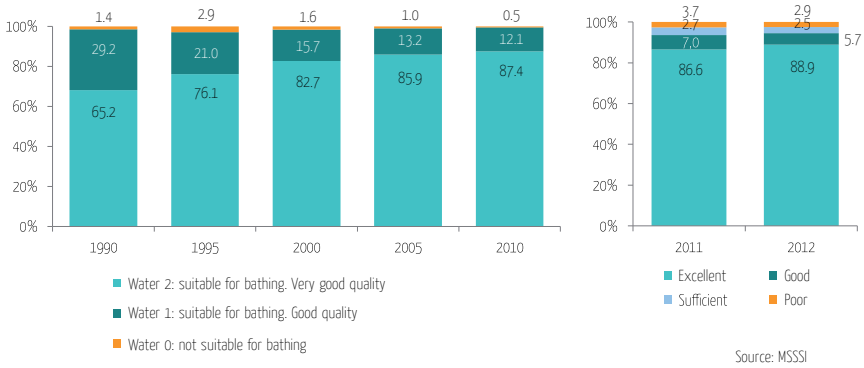
FURTHER INFORMATION

- <http://www.magrama.gob.es/es/costas/temas/gestion-del-dominio-publico-maritimo-terrestre/>

Quality of coastal bathing waters

During 2012 there was an increase in the percentage of sample points classed as excellent, according to the criteria of the new legislation on bathing waters

Quality of coastal bathing waters. Percentage of sampling points by category



The 2012 season, as indicated in the report 'Quality of bathing waters in Spain', was the second in which the criteria of the new legislation on bathing waters have been applied. Results were obtained from 1,923 out of the 1,926 existing sample points for coastal waters, with 1,916 able to be classified, as set out in the following table.

Quality of coastal bathing waters

Autonomous Communities	Excellent	Good	Sufficient	Poor	Total
Total	1,703	110	56	47	1,916



In percentage terms, 88.9% of the sample points of coastal bathing waters were classed as excellent, 5.7% as good, 2.5% as sufficient and 2.9% as poor. With respect to 2011, there has been an increase in the percentage of sample points classed as excellent, and the percentage of sample points classed as sufficient has decreased from 3.7% to 2.9%.

In terms of the autonomous communities, seven out of the 12 assessed had more than 90% of the sample points classed as excellent. The best percentages were seen in Ceuta, with 100% of sampled points classed as excellent, followed by Catalonia (98%) and the Canary Islands (97%).

At EU level, according to the EEA report on European Bathing Water Quality 2012, Spain's values were above the EU average, with 84% of its maritime waters qualified as excellent while the average was 80.1%.

NOTES

- Directive 2006/7/CE regulates, within the EU, the management of the quality of bathing waters. In Spain, this area is regulated by means of the transposition of the directive into Spanish legislation through RD 1341/2007.
- The Directive and the Royal Decree classify the quality of bathing waters as: poor quality waters, sufficient quality waters, good quality waters and excellent quality waters.
- The data for Spain on the quality of the coastal bathing waters in 2011 contained in the reports of the Ministry of Health, Social Services and Equality and the EEA, do not coincide due to the fact that the Spanish authorities do not use the same statistical approach for the analysis of the water quality as the EEA.

SOURCES

- Ministry of Health, Social Services and Equality. Technical report '*Quality of the bathing waters in Spain*'. 2012.
- European Environment Agency (EEA). '*European bathing water quality in 2011*' report.

FURTHER INFORMATION

- <http://nayade.msc.es/Splayas/home.html>
- <http://ec.europa.eu/environment/water/water-bathing>

GREEN ECONOMY

2.6

Environmental profile of Spain 2012

2012 started with the recently adopted “Roadmap to a resource-efficient Europe”, the objective of which is to transform the European economy into a sustainable economy by 2050. Its goals include: promotion of competitiveness, reduction in resource utilisation in the production and consumption of goods, and the creation of companies and job opportunities from activities like recycling.

Increasing the efficient use of resources, that is, using the limited resources of the earth in a sustainable manner, is crucial in order to assure growth and employment. When growth and economic development are encouraged and, at the same time, the natural environment continues to provide environmental resources and services that guarantee our well-being, we are encouraging green growth. Therefore, the green economy gives natural resources a high value, promoting sustainable use and preserving biodiversity; additionally, it offers new business lines that allow companies to be more competitive and grow. At Rio +20 a common understanding was reached concerning the meaning of the green economy: “an economy that contributes to reducing the consumption of energy, raw material and water, that minimises the generation of pollution and greenhouse gases, and encourages the reduction and reuse of waste”.



The United Nations Environmental Program (UNEP) defines green employment as being jobs that reduce the environmental impact of enterprises and economic sectors, ultimately to levels that are sustainable. They therefore help to cut the consumption of energy, raw materials and water, to de-carbonise the economy and reduce greenhouse-gas emissions, to minimise or avoid all together all forms of waste and pollution, and to protect and restore ecosystems and biodiversity.

The green economy is a potential engine for employment creation that should be encouraged in a more determined manner during this crisis. Renewable energies, sustainable transport, housing energy efficiency, industry and waste management are sectors that offer great potential. In this sense, an important concept is that of a 'circular economy', in which 'waste is considered as a valuable resource to be included in the production chain, reducing production costs and minimising landfill'.

KEY MESSAGES

- The energy intensity of the Spanish economy is below the EU average, consuming less energy per unit of GDP generated. After a period of stability, from 2004, the energy intensity in Spain has reduced at a faster rate than in the EU.
- The consumption of materials in Spain reflects the performance of the economy, with continuous growth until 2007, followed by a phase of contraction that saw the figures fall to 1998 levels. During the period 2007-2010 the fall was 37%.
- Spain remains the second leading country in terms of EMAS registered organisations within the EU, representing around 28% of the total (June 2012). In 2012 the number of registered organisations has increased slightly.
- Spain has designed a domestic strategy for the reduction of greenhouse gases through projects in a wide range of sectors. In the first round of selection of the Clima Projects, promoted by MAGRAMA, 194 projects were presented, with 37 of them being selected. It is estimated that these projects will allow for a reduction in emissions of up to 800,000 t of CO₂ -eq.
- In 2010 Spain contributed around 6% of the environmental taxes of the EU (the sixth largest country in terms of contributions). As a percentage of GDP, the Spanish contribution was the lowest of the EU-27 countries with environmental taxes representing only 1.65% of GDP, while the European average was 2.37%.

INDICATORS

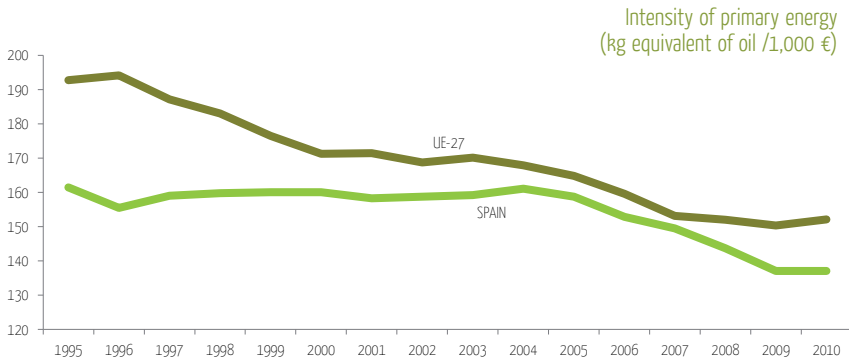
- Energy intensity of the economy
- Total material requirement
- Organisations with Eco-Management and Audit Scheme (EMAS)
- Spanish carbon fund "Clima Projects"
- Environmental Taxes



An example of the initiatives carried out by the Ministry of Agriculture, Food and Environment for promoting economic development and employment creation within the framework of the fight against the climate change, are the 'Clima Projects'. At the end of November 2012 the results of the first invitation for proposals were published, during which 37 out of the 194 projects presented for the avoidance of emissions in agriculture, transport, the residential sector or the waste sector, were selected. The indicator 'Carbon Fund Clima Projects' describes the improvements made in this sense.

Energy intensity of the economy

Primary energy intensity is lower than the EU average; in 2010 it was almost 10% lower



Source: EUROSTAT

Directive 2012/27/CE, of 25 of October 2012, on energy efficiency, establishes a common framework of measures for the promotion of energy efficiency within the EU, in order to ensure the achievement of the main target of 20% energy efficiency by 2020 and to pave the way for further energy efficiency improvements beyond that date. Article 3 states that each Member State will set up an indicative national energy efficiency target based on consumption, primary/final savings or energy intensity. The Directive obliges the Member States to report on the progress made in relation to the national energy efficiency targets. Among the indicators to be used are primary or final energy intensity and the intensity per sector.

Energy intensity is a way of evaluating energy efficiency. It analyses whether there has been lower energy consumption while maintaining an equivalent or higher level of economic activities or benefits.

Primary energy efficiency in Spain is lower than the EU average, with the gap widening as of 2007. In 2010 it was 9.9% lower. The trend of Spain's energy intensity was stable up to 2004 (with one one-off decrease in 1996) and decreasing from that year. This decrease was especially significant between 2005 and 2009, while 2010 stabilised at 2009 values.

Improving energy efficiency is one of the most effective ways of improving energy security and reducing the emissions of greenhouse gases and other polluting substances. The use of renewable energy sources guarantees these aspects, while creating direct employment in the



production phase and indirect employment in the research phase. The percentage of Spain's energy production coming from renewable sources is higher than the EU-27 average, although this production is highly influenced by the annual rainfall and the capacity to generate hydro-electric energy. The year 2010 registered the highest percentage of electricity generated from renewable sources so far. In 2011 this was 30.2% in Spain, while the EU average was 20.4%. Only Sweden, Austria, Portugal, Latvia and Denmark had percentages higher than Spain.

Percentage of electricity from renewable sources (%)



NOTES

- This indicator evaluates the energy consumption of an economy and therefore its energy efficiency. It is calculated each year by the ratio of primary energy consumption (expressed in kg of oil equivalent) to GDP (expressed as chain-linked volumes referred to 2005 prices).
- Energy efficiency is understood to mean the use of less energy inputs to maintaining an equivalent level of economic or services activity. By contrast, energy saving is a wider concept that also includes the reduction of consumption through changes in behaviour or a decrease in economic activity.

SOURCES

- Eurostat, 2013. Information from the Eurostat website: Database by themes / Environment and Energy / Energy / Energy statistics – Main Indicators / Energy Intensity of the Economy / Annual data

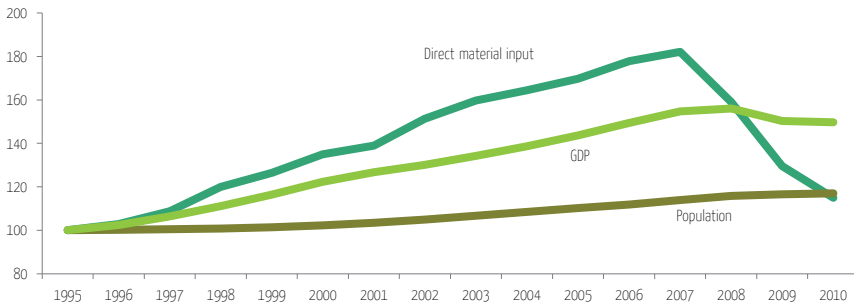
FURTHER INFORMATION

- <http://www.eea.europa.eu/>
- <http://www.idae.es/>

Total material requirement

Material consumption falls, decoupling from GDP and population growth

National consumption of materials (Index; 1995=100)



GDP for 2010 is provisional
Source: INE

The most important natural resources (raw materials, metals, energy, biodiversity, water, etc...) are the basis of economic growth. A basic pillar of the Commission's roadmap towards a more sustainable Europe is efficient consumption of resources, identifying those economic sectors with the highest consumption. The main guidelines to be followed include: competitiveness, growth based on lower resource use (in production and consumption of goods), creation of green jobs and eco-engineering.

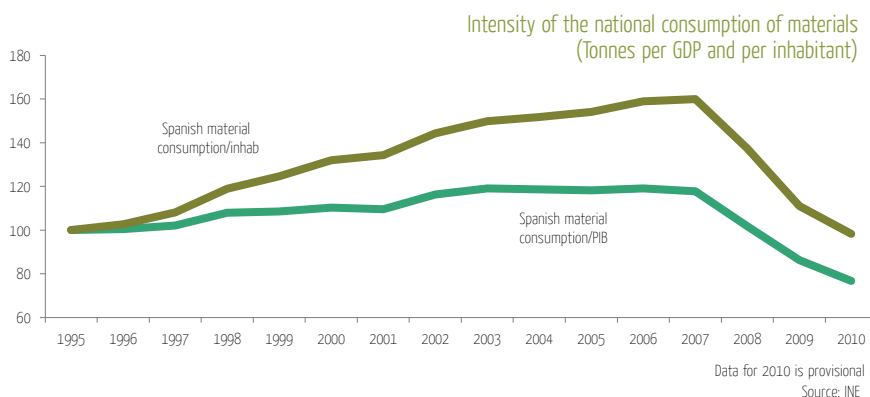
The consumption of materials in Spain reflects the behaviour of the economy. Firstly, coinciding with the phase of economic expansion, growth in the consumption of materials is seen up to 2007, the year which saw the highest level recorded so far: 931,722,370 t. As of then, the fall has been significant, decreasing to 587,422,250 t in 2010. In relative terms, the growth between 1995 and 2007 was 82.2% while the decrease from 2007 to 2010 was 37%. The fall over three years was equal to half of the growth over the previous 12 years.

With respect to GDP and population, the graph shows the decoupling that occurred in recent years between the behaviour of these two variables and the consumption of materials, with the three growing up to 2007, although at different rates, before an abrupt change.



The intensity of the consumption of materials both per inhabitant and per unit of GDP also shows a decreasing trend from 2007 in the case of population and 2006, in the case of GDP. In the first case, the figures show falls of 14%, 19% and 21% in 2008, 2009 and 2010 respectively, and in relation to the previous year. Overall, between 2007 and 2010, the decrease has been 38.6%, meaning that the footprint of consumption of materials per inhabitant has been reduced by that percentage in three years. In fact, while in 2007 20.76 t per inhabitant were consumed, in 2010 the consumption was 12.75 t.

In relation to GDP, in 2006 1,181.64 t per million Euros were consumed, compared to 761.1 t consumed in 2010, a decrease of 35.6%.



In 2009, Spain was the fourth largest country in terms of the consumption of materials in the EU (8.9%). Italy, France and Germany being the three countries with larger consumptions than Spain.

NOTES

- The indicator presents the national consumption of materials as it is calculated by the National Statistics Institute, and it represents the total quantity of materials used directly in economy. The material flow accounts show the physical material inputs that enter the national economic system and the outputs to other economies or to the natural environment. Domestic extraction includes the annual quantity of solid, liquid and gaseous raw materials (excluding water and air) taken from the natural environment to use as material inputs in the economic system. They include biomass, minerals and fossil fuels.

SOURCES

- National Statistics Institute, 2013. Material flow accounts. Series 1995-2010. In INEbase/Entorno físico y medio ambiente/Estadísticas sobre medio ambiente/ Cuentas ambientales / Cuentas de flujos de materiales. Serie 1995-2010 / Principales indicadores de flujos de materiales /

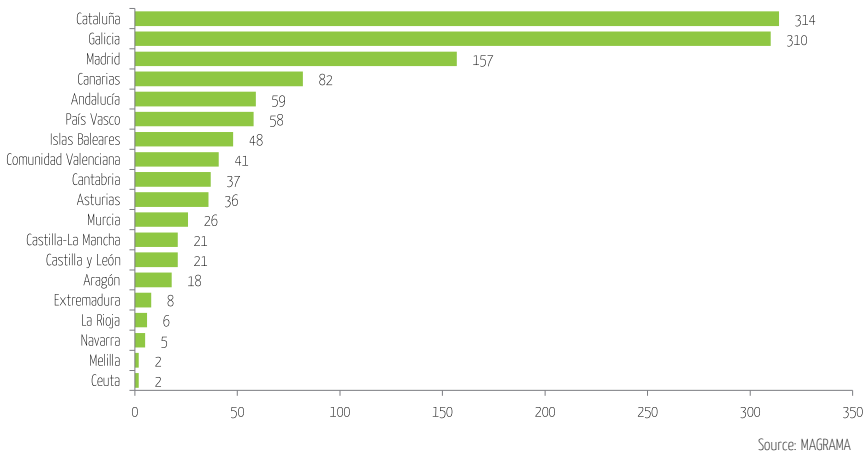
FURTHER INFORMATION

- www.ine.es
- www.unep.org/greeneconomy
- <http://epp.eurostat.ec.europa.eu/>

Organisations with Eco-Management and Audit Scheme (EMAS)

In 2012 the number of organisations in the EMAS system continued to increase, although at a lower rate compared to previous years

Number of Spanish Organizations registered with EMAS. Year 2012



At 31 of December 2012 in Spain there were 1,261 organisations registered in the Eco-Management and Audit Scheme (EMAS), 0.96% more than the previous year, and 1.01% more than in 2010. This data confirms that Spanish companies continue to rely on EMAS as a suitable environmental management system. In terms of distribution by sector, hotels and accommodation make up 31% of the organisations, public administration 25%, while the architecture and engineering sector has 14%. Overall services account for more than the half of the organisations registered in EMAS (68%) while industry has 32%.

In terms of the autonomous communities, the distribution of the number of organisations registered with EMAS is very varied. The autonomous communities with the largest number of organisations registered are Catalonia, Madrid, Galicia and the Canary Islands. For the promotion and support of the implantation of the EMAS Regulation, the different autonomic administrations have given economic, technical and administrative incentives (delivery of regional



prizes for the best environmental statement, delivery of diplomas, workshops, aid to SMEs for the implementation of EMAS co-financed by the European Regional Development Fund, etc.).

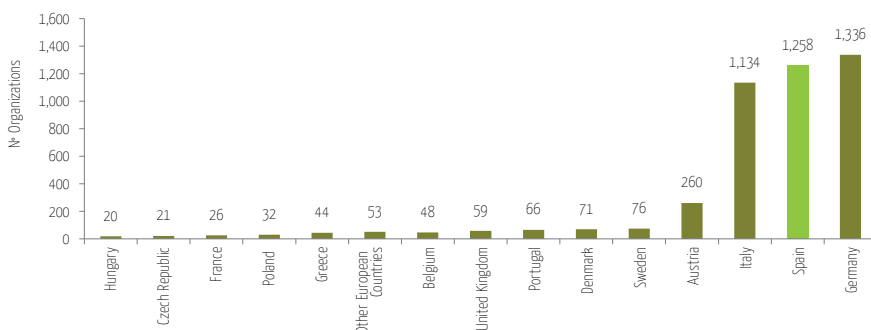
Organizations and sites adhered to EMAS in Spain

Year	Organisations	Sites
2010	1,248	1,612
2011	1,249	1,525
2012	1,261	1,561

Within the European framework, at the end of 2011, 4,511 organisations were EMAS registered. By June 2012 this number had slightly decreased, to 4,504 organisations, with the distribution among countries as seen on the graph. Spain continues to maintain its place as the second leading country among the members of the EU in terms of registrations, with 27.9% of the total, behind Germany, with 29.7%.

Small and medium enterprises, with more than 33% and 26% of the registrations respectively, are the organisations that rely most on the system, compared to large and micro enterprises, which show lower percentages (18% and 23% respectively).

Organisations with Environmental Management Systems (EMAS) in EU countries with over 10 Organisations registered



Source: European Commission

The data for 2013 points towards a reduction in the number of organisations that use the EMAS system. The estimate at 31 of March is for around 3,700 organisations to be registered in Europe. The economic crisis of recent years (provoking the closure of a significant number of companies and driving internal cost reductions at those still operating), the reduction of public subsidies for the development of these systems and the updating and tidying up of the database are some of the main reasons behind the reduction.

NOTES

- EMAS is a voluntary European standard that recognises those organisations that have implemented an Environmental Management System (EMS) and have committed to continuous improvement, verified through independent audits.
- Regulation 1221/2009 (CE) of 25 November (known as EMAS III Regulation) modified the previous Regulation 761/2001 of 19 March 2001. Currently EMAS III extends its scope to all companies no matter what sector they belong to.
- With RD 239/2013, of 5 April, establishing the rules for the application of the Regulation (CE) N 1221/2009 of the European Parliament and the Council, of 25 of November 2009, on the voluntary participation of organisations in a European environmental management and audit system (EMAS), and repealing Regulation (CE) n 761/2011 and the Decisions 2001/681/CE and 2006/193/CE of the Commission, the Secretary of State for the Environment will be in charge of the EMAS Register for organisations with sites in one or several third Countries outside the EU that have established a bilateral agreement with Spain for this purpose.

SOURCES

- European EMAS data: information provided by the EMAS web of the Commission. Available in: European Commission/Environment/EMAS/EMAS documents/Statistics
- Data for Spain: Ministry of Agriculture, Food and Environment, 2013. Directorate-General for Environmental Quality and Assessment and Natural Environment.

FURTHER INFORMATION

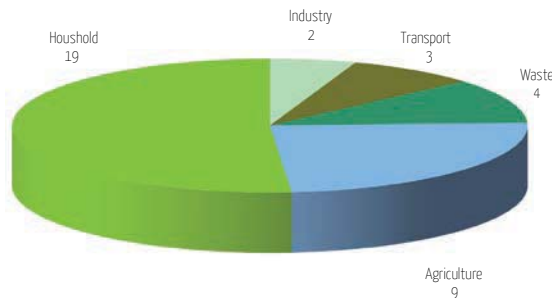
- <http://ec.europa.eu/environment/emas/>
- <http://www.magrama.gob.es/es/>. Available in: Calidad y evaluación ambiental/Sistema Comunitario de Ecogestión y Ecoauditoría: EMAS



Spanish Carbon Fund 'Clima Projects'

Spain has drawn up a domestic strategy for the reduction of greenhouse gas emissions (GHG) through projects in a wide number of sectors.

Sectorial distribution of the 2012 CLIMA projects contracts.
Total 37 projects



Spource: MAGRAMA

The Carbon Fund, created by Law 2/2011, of 4 March, on Sustainable Economy, has been conceived as a new climate finance instrument. The implementation of the fund pursues the target of reducing emissions in Spain through the 'Clima Projects' scheme.

Within the framework of this strategy, this is a useful tool to develop projects carried out in Spain for the reduction of greenhouse gases emissions, through the acquisition of the reductions in GHG emissions that these projects achieve.

There is a twin objective:

- In the first place, to be able to reduce emissions across a wide range of sectors, so as to comply with climate change commitments, and do that through a real reduction in the inventory of Spanish GHG emissions.
- To promote, at the same time, the development of low-carbon economic activity in our country, taking advantage of market niches that create employment and economic activity in line with 'green economy' principles.

As a result of the first invitation for Clima Project proposals, on 11 of February 2012, the purchase of the GHG reductions from the 37 projects that are going to be undertaken was formalised. The selected projects have a wide and balanced regional distribution and will allow a reduction of emissions of up to 800,000 t of CO₂-eq. In terms of the distribution by sectors, it can be confirmed that a wide range of sectors are included, distributed as follows: 19 projects in the residential, commercial and institutional sector, nine in the agriculture sector, four in the waste sector, three in the transport sector and two in the industrial sector.

NOTES

- The indicator evaluates the result of the Clima Projects, developed within the framework of the Carbon Fund. 2012 saw the first invitation for proposals.

SOURCES

- Data provided by the Spanish Office for Climate Change. Ministry of Agriculture, Food and Environment.

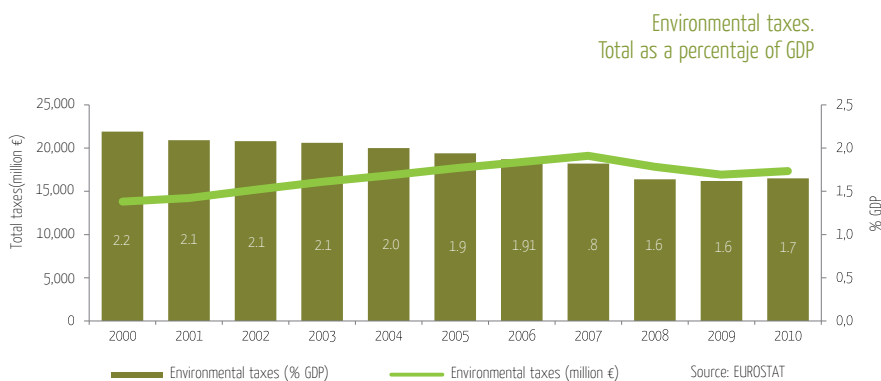
FURTHER INFORMATION

- http://www.magrama.gob.es/es/cambio-climatico/temas/fondo-carbono/Con2013_proy_clima_piloto.aspx/
- RD 1494/2011, of 24 of October, which regulates the Carbon Fund for a Sustainable Economy.



Environmental taxes

In 2010 Spain contributed almost 6% of the environmental taxes of the EU-27, although it was once again the country with the lowest level of environmental taxes in terms of GDP



The EU Commission considers that environmental taxes can act as a tool in achieving established environmental objectives and, at the same time, provide appropriate incentives to reduce harmful emissions, for example of GHG. In fact the revision of countries' tax systems and increases in ecological taxes form part of EU initiatives.

In 2008 and 2009 in Spain there was a decrease in the amount of environmental taxes collected, bucking the upward trend seen up to 2007. Nevertheless, in 2010, there was a 2.34% increase, to reach a total of 17,333 million euros.

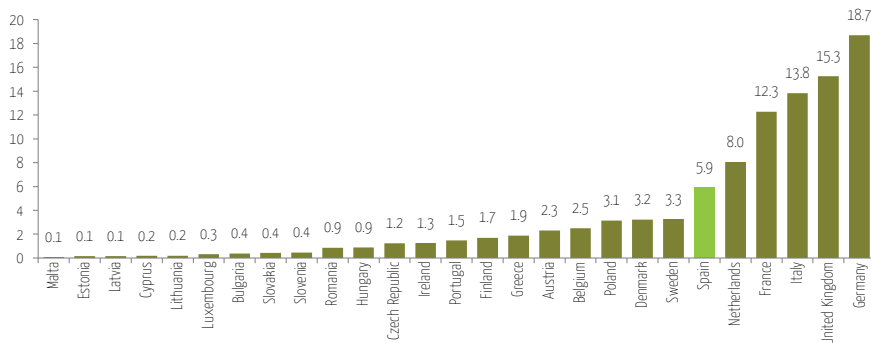
Spain was one of the six countries of the EU-27 in 2010 with the highest contributions, with almost 6%. Germany (18.7%), United Kingdom (15.3%), Italy (13.8%), France (12.3%) and Netherlands (8.0%), were the five countries with the highest contributions for that year.

Nevertheless, as a percentage of GDP, the Spanish contribution was the lowest of the EU-27 countries. In Spain, environmental taxes in 2010 represented only 1.65% of the GDP. The average of the EU-27 was 2.37%, while countries like Denmark and Netherlands had a rate of 4%, the highest of the 27.

The distribution of taxes by activity in 2010 was similar to previous years: close to 82% came from energy, 17% from transport and 1% from pollution.



Contribution of european countries (UE-27).
To environmental taxes by 2010 (%)



Source: EUROSTAT

NOTES

- Under the harmonised statistical framework developed in 1997 jointly by Eurostat, the European Commission, the OECD and the International Energy Agency (IEA), environmental taxes are defined as those applied to a physical unit (or similar) of a material that has a proven and specific negative impact on the environment. These include all taxes on energy and transport but exclude value added tax. The taxes in question are mandatory payments collected by the Government or other administrative bodies, and the benefits to the taxable person are not directly linked to the payment.
- Spain's main environmental taxes are as follows:
 - Energy taxes: Hydrocarbon tax, electricity tax, tax on retail sales of certain hydrocarbons, Canary Islands special tax on oil-based fuel.
 - Transport taxes: special tax on certain means of transport, motor vehicle tax.
 - Pollution taxes: state duty on waste discharge, regional taxes (autonomous community) on pollution, waste dumping and waste discharges into the sea.

SOURCES

- Information from the Eurostat web. Available in: Statistics/Data/Database by themes/Environment and energy/Environment/Monetary flow accounts/Environmental tax revenue
- INE: Environmental taxes. 1995-2010 Series. Available in: INEbase / Entorno físico y medio ambiente/ Estadísticas sobre medio ambiente / Cuentas ambientales / Impuestos ambientales. Serie 1995-2010 / Resultados nacionales

MÁS INFORMACIÓN

- <http://www.ine.es>
- <http://epp.eurostat.ec.europa.eu>
- <http://www.eea.europa.eu/>

ENVIRONMENTAL RESEARCH, DEVELOPMENT AND INNOVATION



2.7

Environmental profile of Spain 2012

Among the flagship initiatives of the European strategy 2020 to achieve its objectives of smart, sustainable and inclusive growth, is the Innovation Union. The goal of this initiative is to improve the conditions and access to financing for research and development in Europe, and ensure that innovative ideas can become products and services that generate growth and employment.

The Innovation Union is focused on citizens' main areas of concern, such as climate change, energy efficiency and healthy life. Its objective is to involve all the parties and all the regions in the innovation cycle.

The 2020 Horizon is the financing instrument for its implementation. It will have a duration of seven years (2014-2020) and its goal is to simplify and support European researchers and innovators in an integrated manner. It will include the current financing programmes: Framework Program on R+D, Framework Program on Competitiveness and Innovation and the European Institute of Innovation and Technology.

In May 2011 the new Law on Science, Technology and Innovation was approved, repealing the Law on Science of 1986. This new law adapts the legislation to the great progress undergone by the Spanish scientific system over the last few years, at the same time as it facilitates a change in the



production model. This law sets out a new Spanish Strategy on Science and Technology and on Innovation 2013-2020 and a new State Plan on Scientific and Technical Research and on Innovation 2013-2016, both approved by the Council of Ministers of 1 February 2013.

The Spanish Strategy on Science and Technology and on Innovation is the framework instrument that establishes the general objectives to be achieved during the period 2013-2020, linked to the promotion and development of R+D+I activities in Spain. These goals are in line with the ones established by the EU within the new framework programme for the financing of R+D+I activities, 2020 Horizon, for the period 2014-2020. For its part, the State Plan on Scientific and Technical Research and on Innovation contains the instruments for the financing of R+D+I activities by the General State Administration during the period 2013-2016, in line with the objectives of the Spanish strategy.

The autonomous communities are in the process of designing their regional plans, conditioned by the concept of smart specialisation, established by the EU as a prior condition for receiving structural funds.

KEY MESSAGES

- Spain is ninth in the world in terms of scientific output in environmental sciences.
- During the period 2008-2011 Spain carried out 2,094 Research, Development and Innovation projects, with total grants amounting to 192.1 million euros.
- Environmental programmes represent 4% of the total of the General State Budget for R&D in 2013.
- 4.6% of the total grants with socioeconomic objectives are related to the environment.

INDICATORS

- Main bibliometric indicators within the field of the environmental sciences.
- Public subsidies for R+D+I
- Public financing for R+D

Main bibliometric indicators in the field of environmental sciences

In the year 2011 Spain was the ninth in the world in terms of scientific production within the field of environmental sciences

Main bibliometric indicators in Spain

Year	Number of Documents	World %	Standardised impact (world average)	% Q1	% of international collaboration	Excellence rating	Leadership rating	Excellence rating with leadership	World ranking
2003	1,498	2.95	1.11	76.44	38.18	12.28	80.77	8.74	11
2004	1,763	3.41	1.20	78.05	33.86	12.54	82.59	9.13	9
2005	1,919	3.30	1.20	74.41	38.35	13.55	79.68	9.59	10
2006	2,299	3.53	1.26	77.99	39.63	13.83	79.86	10.09	10
2007	2,563	3.63	1.26	74.91	38.74	14.44	79.13	9.64	10
2008	2,813	3.80	1.28	71.63	40.70	13.54	78.60	8.92	10
2009	2,949	3.75	1.30	71.35	41.61	14.62	78.77	10.24	10
2010	3,078	3.87	1.30	71.09	44.54	13.22	76.67	9.00	10
2011	3,719	4.24	1.35	70.93	48.13	14.17	74.72	9.73	9

See explanation notes for the definitions.

Source: SCImago & Journal Rank. Elaboration Group SCImago, Institute of Policies and Public Goods (IPP-CCHS) of CSIC (consulted on February 2013) from data Scopus

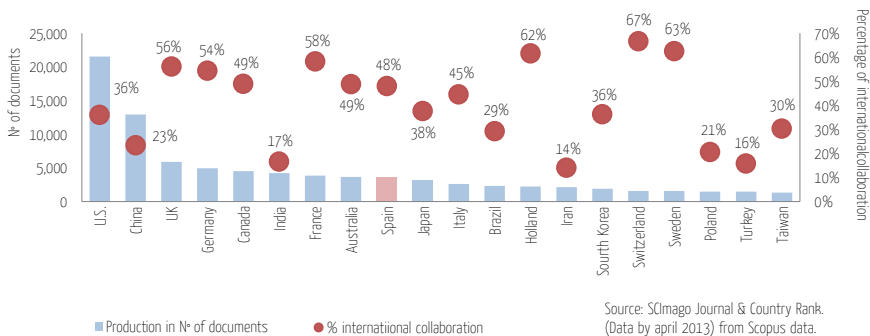
Spanish scientific production in the field of the environmental sciences increased between 2005 and 2011, from 1,919 documents per year to 3,719. For its part, the publications on environmental sciences in Spain are cited 35% more than the average world citation in the same field, while 70.93% of the documents are published in first quartile journals (Q1).

At the same time, 74.7% of the total articles on environmental sciences published in 2011 in Spain were led by a Spanish principle investigator, while the percentage of these publications rated excellent was 9.7%.

In 2011, Spain was ninth in the world ranking of scientific production, up one position with respect to 2010, and behind countries as the United States, China and the United Kingdom. Among EU countries, Spain occupied the third position behind Germany and France, and ahead of countries such as Italy, the Netherlands and Sweden.

In 2011, around 48% of the total Spanish papers were the result of international collaboration. Switzerland is one of the countries with most publications arising from such international collaboration (67% of the total), together with Sweden and the Netherlands.

Scientific production in the 20th first countries concerning environmental science production. Year 2011
Number of documents and percentage of international collaboration



NOTES

- Number of documents: total number of published documents in SCOPUS index journals.
- Standardised impact: the values (in %) show the relationship between the average of the scientific impact of a country or institution compared to the world average (that has a rating of 1); therefore, an IN of 0.8% means that the country or institution is mentioned 20% less than the world average, while a IN of 1.3% means that is mentioned 30% more than the world average.
- High quality publications (% Q1): indicates what percentage of publications of an institution in the magazines are in the first quartile (25%) in its category, ordered according to the quality indicator magazines SJR (SCImago Journal Rank).
- Excellence rating: indicates what percentage of scientific publications of a country or institution is included in the total 10% of the most mentioned articles in its field. It is an indicator of high quality investigation.
- Leadership rating: indicates the percentage of the production of a country or institution as lead contributor, that is, the number of documents in which the main author belongs to that country or institution.
- Excellence rating with leadership: is the synthesis of the two previous indicators and makes reference to the works led by a certain country or institution, and that additionally corresponds to the total production that is in the 10% that is most often mentioned in its category and year.
- World ranking: position in the world ranking according to the production volume.

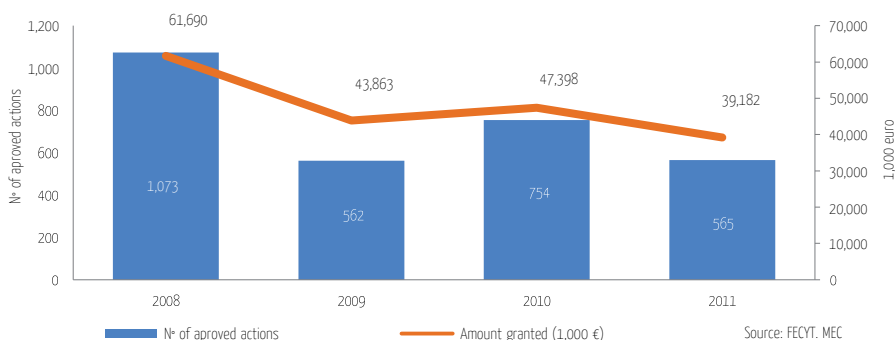
SOURCES

- SCImago Journal & Country Rank. (Consulted in April 2013) from Scopus data.

Public subsidies for R+D+I

During the period 2008-2011 Spain carried out 2,094 R+D+I projects, with total grants amounting to 192.1 million euros

Number of actions approved and amount granted in R+D+I



The data presented makes reference to the old R+D+I National Plan 2008-2011 and to the Innovation State Strategy (e2i) that formed the strategic framework within which the R+D+I activities of the State General Administration (SGA) was developed in that period. The national plan was the tool through which the SGA carried out promotion, coordination and planning activities for scientific and technical research in Spain. For its part, the Innovation State Strategy was the government's policy framework of innovation for contributing to the change of the production model in Spain, through the promotion and creation of structures that would facilitate the best use of scientific knowledge and technological development.

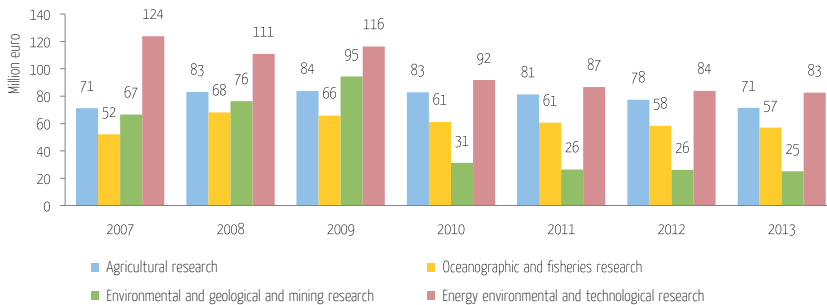
The graph shows the number of actions and financing granted by all the programmes run by the Ministry of Agriculture, Food and Environment, the National Institute of Agriculture and Food Technology and the Centre for Energy, Environmental and Technological Research; this also includes the 'Experimental development projects for the environment and eco-innovation' run by the Centre for Industrial Technological Development.

During the period 2008-2011 a total of 2,094 projects were involved with a total amount granted of 192.1 million of euros, of which 565 projects and 39.2 million euros correspond to 2011.

In 2013 environmental programmes represented 4% of the total of the State General Budget for R+D+i. Expenditure Policy Programmes 46 are considered as environmental projects. These include the following: 467D Agricultural Research and Experimentation; 467E Fisheries and oceanography research; 467F Geological-mining and environmental research; and 467H Energy, environmental and technological research. These four groups of programmes represented 4% of the total R+D+i budget in 2013, with this percentage remaining stable with respect to 2012.

When analysing the evolution of the R+D+i budget in the environment programme, it can be seen that there is a higher budget for energy, environmental and technological research, followed by the agricultural research and experimentation, Fisheries and oceanography research and finally, geological-mining and environmental research.

Budget In R&D Programme 2007-2013



Source: Ministry of Finance and Public Administration, State Budget.

NOTES

- This includes all programmes run by the Ministry of Agriculture, Food and Environment, the National Institute of Agriculture and Food Technology and the Centre for Energy, Environmental and Technological Research; this also includes the 'Experimental development projects for the environment and eco-innovation' run by the Centre for Industrial Technological Development
- The amount corresponds to the multiannual expenditure commitment.

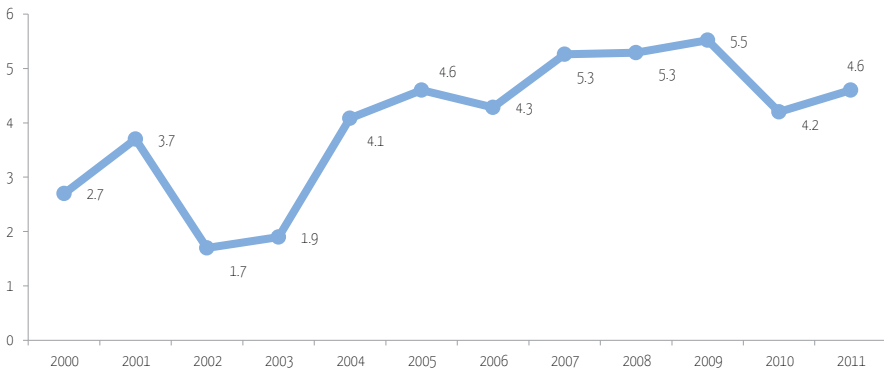
SOURCES

- Prepared by the Metrics Department of the Spanish Science and Technology Foundation from the data provided by the different organising bodies. Ministry of Economy and Competitiveness.
- Data of the R+D+i budget from the Ministry of Finance and Public Administrations, State General Budget.

Public financing for R+D+I

In 2011, 4.6% of initial grants with socioeconomic objectives are related to the environment

Distribution of the final credit by environmental socioeconomic objective (%)



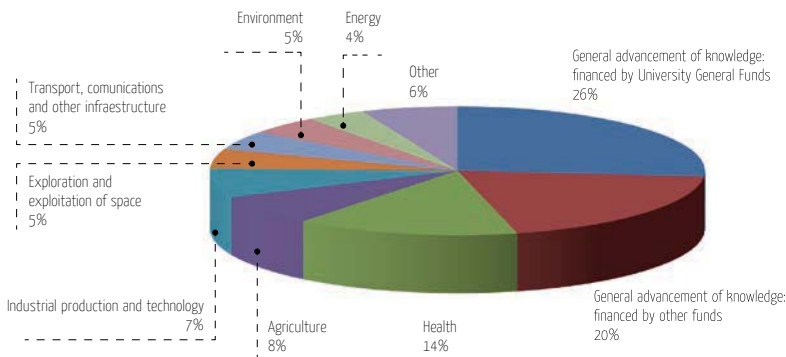
Source: Ministry of Economy and Competitiveness.
Statistics on government budget appropriations for R & D (GBAORD).

The public financing for R+D+I known as GBAORD Statistic (Government budget appropriations or outlays for R&D), has the goal of determining the financing resources that the Public Administrations- central and regional- allocate for R&D activities. It also aims to understand to which socioeconomic objectives governments are orienting their R&D financing policies; to achieve this, the statistics include the budget, identified by NABS socioeconomic objectives (Nomenclature for the Analysis and Comparison of Scientific Programmes and Budgets), the official classification proposed by the EU.

For many years this has been included in the National Strategic Plan and its execution is framed within the statistical information requirements of the OECD and Eurostat. It is carried out by the State Secretariat of Research, Development and Innovation of the Ministry of Economy and Competitiveness.

The indicator shows the distribution of initial credits by socioeconomic objective according to the nomenclature for the analysis and comparison of scientific programmes and budgets, and the evolution of the environmental socioeconomic objective from the year 2007. Of the total final credits, 5% per socioeconomic objective relates to the environment, a percentage that has increased with respect to the year 2002, when it represented 1.7% of the total distribution of the final credits.

Breakdown of final credits by socioeconomic objective (%). Year 2011



Data in NABS base: Nomenclature for the Analysis and Comparison of Scientific Programmes and Budgets (GBAORD, EUROSTAT, 2007).

Source: Ministry of Economy and Competitiveness

NOTES

- FGU: University General Funds

SOURCES

- Ministry for Economy and Competitiveness. Statistic on R+D public budget credits (GBAORD).



WASTE



Eurostat estimates that 2,300 million tonnes of waste were generated in 2010 in the EU-27. Approximately 5% of them came from Spain. Per inhabitant, this amount means, roughly, that during this year each European generated around 4,500 kg of waste, while in Spain this quantity was lower than the European average, with less than 2,451 kg/inhabitant. These figures are, without doubt, very worrying, since landfill is not a sustainable solution and the destruction of waste is highly problematic because of the environmental consequences of the by-products produced.

Reduction in waste generation is the first step in its management, as this avoids having to get rid of it. When is not possible to avoid its generation, the best bet is to recover the materials that makes up the waste in order to reuse them, preferably by recycling them. There are two parts to this: firstly, it is necessary that goods manufacturers improve production methods and, secondly, that consumers adapt their consumption patterns and choose recycled products, more ecological products and those with less packaging.

Municipal wastes are only a small part of the total waste generation, but due to the complexity of their composition and origin (basically coming from each individual household), and their collection and transport, they are a good indicator of the trends in waste generation, as well as of the



effectiveness of waste policies, as they provide the ability to identify if these policies give rise to a decoupling between economic growth and waste generation. Also, municipal waste treatment is an indicator of the compliance of the waste management hierarchy.

Article 22 of Law 22/2011 on Waste and Contaminated Soils, establishes both the objectives for the recycling of domestic and commercial waste, and of the recovery of waste from construction and demolition, that must be achieved before 2020: 50% and 70% respectively. These objectives have been established by the framework Directive 2008/98/CE, with the aim of moving forward towards a recycling society with a high level of efficiency in the use of the resources. These goals must be achieved by the adoption of measures through the plans and programmes implemented by autonomous communities, local bodies, and also by the General Administration of the State.

KEY MESSAGES

- The total production of municipal waste has decreased in recent years. Additionally, the production per inhabitant has also decreased, having reached a maximum in 2000. Between 2000 and 2011 the decrease has been of 19.3%, from 658 kg/inhabitant to 531 kg/inhabitant.
- The quantity of waste deposited in landfills (9% between 2000-2011) has been reduced, although it is still the most common treatment system and around 60% of the municipal waste generated in 2011 ended up in landfill.
- The overall rates for recycling and recovery of packaging waste show an almost constant, increasing trend, above the objectives set out by Spanish legislation.
- Spain is, with a paper and cardboard rate close to 80% in 2011, one of the EU countries that recycles the most.

INDICATORS

- Urban waste generation
- Urban waste management
- Packaging waste recycling and recovery
- Paper and cardboard recycling



Urban waste generation

Municipal waste generation in Spain decreases

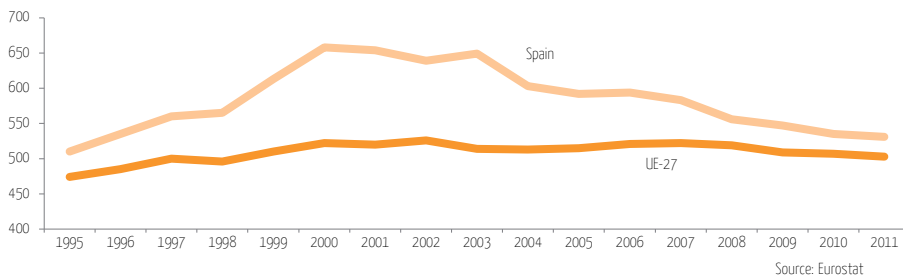
Municipal waste generation in Spain (1,000 tonnes)

2005	2006	2007	2008	2009	2010	2011
25,683.0	26,209.2	26,237.8	25,317.0	25,108.0	23,774.4	22,997.0

Source: MAGRAMA

A decline in municipal waste generation in Spain is evident. In 2011 around 23 million tonnes were collected in the country, 10.5% less than in 2005. 2007 saw the highest municipal waste production of the last six years, with more than 26 million tonnes.

Municipal waste generation (kg/inhab)



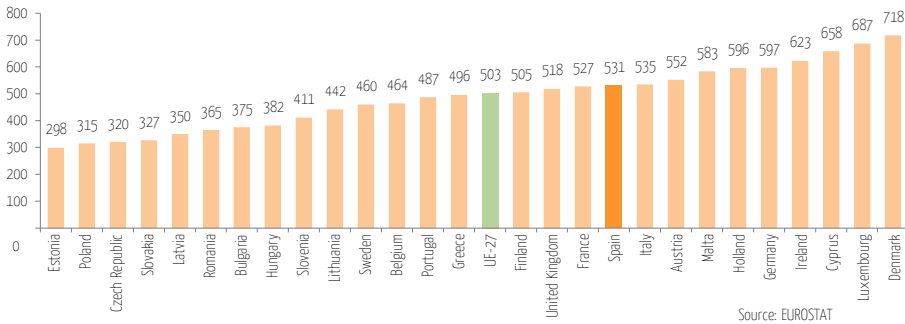
Source: Eurostat

Analysing the quantity per inhabitant within the European context, two trends can clearly be observed in Spain: the increase that occurred between 1995 and 2000, and the decrease that began as of that latter year. In Spain, this fall has been practically continuous, with the exception of an increase experienced in 2003, with the decline reaching 19.3% between 2000 and 2011 and 10.3% between 2005 and 2011.

With respect to the EU, the waste generated was reduced to a lesser extent between 2005 and 2011 (2.3%). Spain offers figures that are slightly higher per inhabitant and per year compared to the European average, although the efforts for reduction made during recent years have been significantly greater. In 2011, Spain generated 9.7% of all the municipal waste of the EU-27, with 531 kg/inhabitant generated. This was slightly higher than the 503 kg/inhabitant generated in the EU-27, and placed Spain tenth among the EU-27 countries.



Municipal waste generation (kg/inhab). Year 2011



NOTES

- The indicator shows municipal waste generation expressed in kilograms per inhabitant (kg/inhabitant) and refers to waste collected by municipal services or by related services contracted by local councils as part of a municipal waste management system. Most of this waste comes from households, although waste from similar sources, such as retail outlets, offices and public institutions, is also included.
- For compliance with the information requirements of the European Commission and under its criteria, the following are not considered municipal waste: construction and demolition wastes, sewage sludge and end-of-life vehicles.
- Law 22/2011 considers as 'waste' any substance or objects that its owner throws away or has either the intention or obligation to throw away. 'Domestic waste' is considered any waste generated in households as a result of domestic activities and those similar to the above generated by services and industries. This category includes waste electrical and electronic equipment, clothing, batteries and accumulators, furniture and fittings, together with waste and rubble from minor building work and household repairs. The waste generated from cleaning streets, parks, recreational areas and beaches, dead domestic animals and abandoned vehicles will also be considered domestic waste.
- National and European legislation on waste does not include a definition for urban or municipal waste, so in order to comply with the information requirements of the European Commission and Eurostat, municipal wastes are considered to be those generated in households, commerce and services, and includes municipal services: cleaning public streets, parks, recreational areas and beaches, dead domestic animals, with its management being a competence of local bodies or provincial councils, according to article 12, paragraph 5 of the Law 22/2011, of 28 of July, on Waste and Contaminated soils.

SOURCES

- Sub-Directorate-General for Waste. Directorate-General for Environmental Quality and Assessment and Natural Environment. Ministry of Agriculture, Food and Environment.
- Eurostat: Sustainable development indicators/Sustainable consumption and production/Resource productivity/ Municipal waste generation and treatment, by type of treatment method.

FURTHER INFORMATION

- <http://www.magrama.es>
- <http://www.ine.es>
- <http://epp.eurostat.ec.europa.eu/portal/page/portal/sdi/indicators/>



Urban waste treatment

During the period 2000-2011 the waste per inhabitant deposited in landfill in Spain has been reduced by around 9%, although it continues to be the most used disposal method

Municipal waste treatment in Spain (1,000 tonnes)

Type of treatment	2005	2006	2007	2008	2009	2010	2011
Landfill	12,584.0	15,656.7	14,921.1	14,797.9	14,539.9	14,788.9	14,518.3
Incineration with energy recovery	1,915.0	2,383.1	2,258.0	2,391.6	2,240.6	2,043.8	1,906.5
Recycling (except composting)		3,646.3	3,904.0	3,728.3	3,811.0	4,174.7	3,855.8
Composting		4,523.2	5,154.7	5,112.2	4,516.5	2,767.1	2,716.4

Source: MAGRAMA

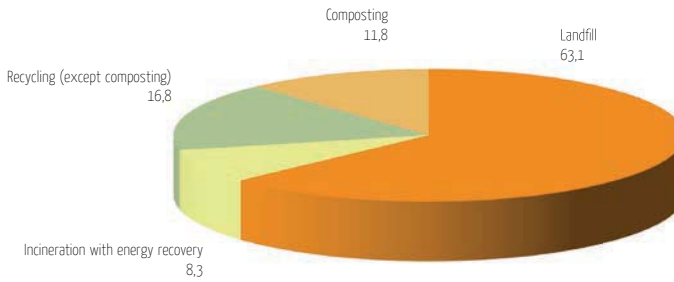
In absolute terms, around 63.1% of the 23 million tonnes of municipal waste generated in Spain in 2011 were sent to landfill. This management system is one of the main challenges being faced in order to decrease this proportion, which over recent years has been around 60%.

Nevertheless, an improvement in waste management through recycling can be seen, increasing from 13.9% of waste in 2006 to 17% in 2011. Composting, as a recycling method, is less in demand and only 12% of municipal waste that year was destined for composting. 28.6% of waste was treated by these two recycling methods, a slightly lower percentage compared to previous years.

For its part, incineration with energy recovery maintained its proportion of total waste seen over recent years (between 9.1% and 8.3%).



Municipal waste treatment. Year 2011 (%)



Source: MAGRAMA

In relative terms (kg/inhabitant), the distribution of municipal waste managed by the different treatment systems shows, according to Eurostat, a situation similar to absolute values, although it does not coincide with the overall situation in which land fill was also the destination for the largest amount of waste per inhabitant.

Distribution of the destination of municipal waste generated in Spain per inhabitant and year (%). 2011

Landfill	57.8
Incineration with energy recovery	9.0
Recycling	15.1
Composting	17.9

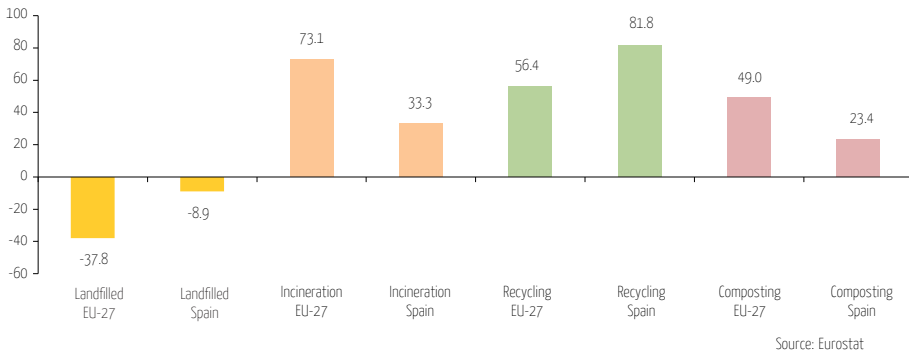
Source: MAGRAMA

The trend seen in the Eurostat figures relating to waste management and treatment per inhabitant is positive. Concerning the period 2000-2011, the municipal waste per inhabitant sent to landfill in Spain decreased almost 9%, a lower amount than the 37.8% reduction experienced as an average within the EU-27. This reduction occurred together



with an increase in the different treatment systems, with the growth of incineration with energy recovery being notable across the EU, increasing by more than 73% and, in Spain, of recycling, which has increased by 81.8%.

Variation of municipal waste treatment within the EU-27 and Spain (kg/inhabitant). 2000-2011



NOTES

- The indicator shows the quantity of waste sent to the different treatment systems in absolute terms. Also the variation during the period 2000-2011 in relative terms per inhabitant referenced to Spain and the EU-27.
- See notes for the previous indicator.

SOURCES

- Sub-Directorate-General for Waste. Directorate-General for Environmental Quality and Assessment and Natural Environment. Ministry of Agriculture, Food and Environment.
- Eurostat: Sustainable development indicators/Sustainable consumption and production/Resource productivity/Municipal waste generation and treatment, by type of treatment method

FURTHER INFORMATION

- <http://www.magrama.es>
- <http://www.ine.es>
- <http://epp.eurostat.ec.europa.eu/portal/page/portal/sdi/indicators>

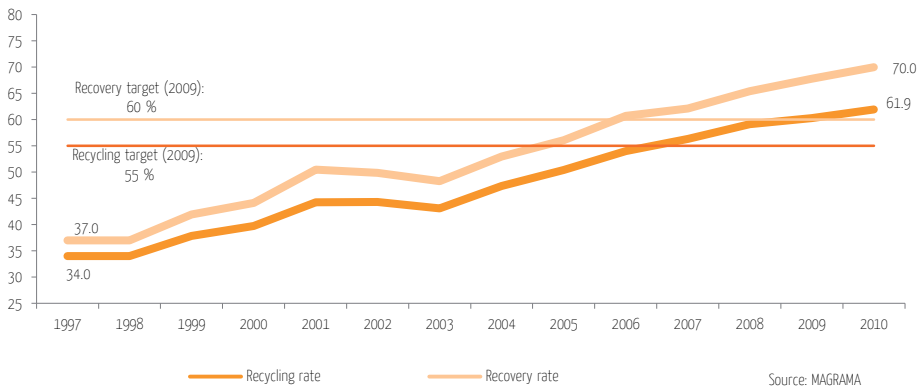




Packaging waste recycling and recovery

Packaging waste recycling and recovery rates are still growing. Since 2007 they have been above the established overall targets

Global rate of recycling and recovery waste packaging (%)



The overall rates for packaging waste recycling and recovery show a practically constant growth trend, being above the targets established by the legislation. In 2006 the recovery rate was 60.7%, with the a target of 60% having been set for no later than 30 June 2008. Therefore, by 2006 this overall target had already been met. In 2010 the rate was 70%.

The recycling rate in 2007 was 56.3%. The target set was for between a minimum of 55% and a maximum of 80% of packaging waste to be recycled by 31 December 2008. Therefore, in 2007 the global target set for the end of 2008 had already been met. Likewise, the recycling rate has continued to grow, reaching 61.9% in 2010.

The recycling and recovery rates in 2010 by material type are shown below. In 2008 the objectives set by the legislation on recycling were met, not only at global level but also for each one of the materials. The recycling rates have continued to increase in a satisfactory manner, with the exception of glass, that in 2010 presented a rate slightly lower than the 60% rate established.



Tasas de reciclado y valorización de residuos de envases (%). 2010

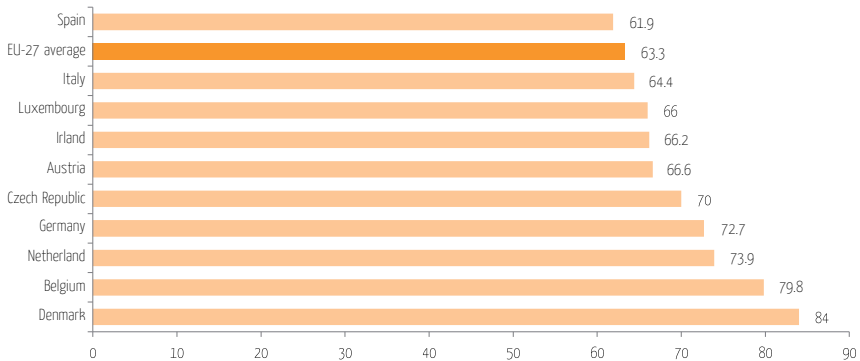
	Glass	Plastic	Paper and board	Metals	Wood	Total
Recycling rate	59.8	29.2	76.1	70.7	56	61.9
Recovery rate	59.8	51.1	81.6	70.7	73.3	70

Source: MAGRAMA

For several years now Spain has been ranked fifth in terms of packaging waste generation, behind Germany, France, Italy and UK and, in 2010, the country generated 9.4% of total EU-27 packaging waste. That year these five countries produced 73.4% of all EU-27 packaging waste.

Concerning the recycling rate, in 2010 Spain occupied the tenth position among the EU-27 countries, with a rate of 61.9%, slightly lower than the EU-27 average of 63.3%. Denmark, with a rate of 84% was the leading country that year.

Packaging waste recycling rate within the EU-27. Year 2010 (%).
Ten countries that recycle the most



Source: EUROSTAT



In 2011 Ecoembes had more than 12,000 companies in its Integrated Management System and managed 1,844,665 t of packaging waste. In general, the main sectors are: principally food, followed by drinks, then hygiene and beauty. 20.8% of the companies in the system were from Catalonia, 13.7% from Valencia, 12.2% from Madrid and 11.7% from Andalusia.

NOTES

- The recycling and recovery rate is calculated by comparing the number of tonnes recycled and recovered for their energy value (measured at the point of entry into the recycling and recovery process) with the total packaging waste generated, taken to be equal to the total amount placed on the market. It is assumed that the quantities of reusable packages from previous years that become waste will balance out the reusable packages placed on the market during that year, but that continue to be reused.
- The data on packaging waste refers to domestic, commercial and industrial packaging.
- Packaging waste is regulated in Spain by Law 11/1997, of 24 of April, on Packaging and Packaging Waste, and Royal Decree 782/1998, of 30 April, approving the Regulation on the development and enforcement of Law 11/1997.
- Targets established:
 - Recovery: no later than 30 June 2008 a minimum of 60% of packaging waste by weight to be recovered or incinerated with energy recovery.
 - Recycling: no later than 31 December 2008 between a minimum of 55% and a maximum of 80% of packaging waste by weight to be recycled.
 - Recycling by materials: no later than 31 December 2008 the following recycling targets for the materials contained in packaging must be met: 60% by weight for glass, 22.5% by weight for plastics, 60% by weight for paper and board, 50% by weight for metals and 15% by weight for wood.
- Ecoembalajes España, S.A (Ecoembes) is a non-profit public limited company whose purpose is to design and implement systems for the selective collection and recovery of used packages and packaging wastes, with the aim of guaranteeing compliance with the reduction, recycling and recovery targets defined in the Law 11/1997.

SOURCES

- Sub-Directorate-General for Waste. General Directorate for Environmental Quality and Assessment. Ministry of Agriculture, Food and Environment.
- Eurostat/Sustainable development indicators/Sustainable consumption and production/Resource productivity/Municipal waste generated/Municipal waste treatment, by type of treatment method.

FURTHER INFORMATION

- <http://www.magrama.es>
- <http://www.ecoembes.com>
- <http://epp.eurostat.ec.europa.eu>

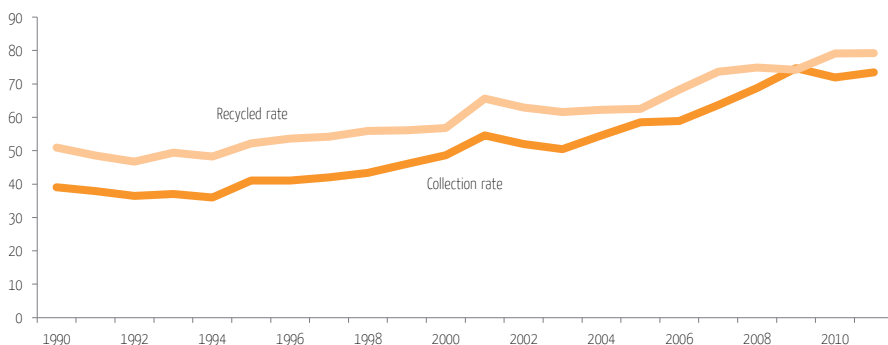




Paper and cardboard recycling

The paper and cardboard collection rate increased in 2011, while the recycling rate was similar to that of 2010

Paper and cardboard collection and recycling rates (%)



Source: ASPAPEL and REPACAR

The 2011 annual monitoring report of the European Recovered Paper Council reported the rate for recycled paper within the EU as being 70.4%. The total quantity of collected and recycled paper was maintained at around 58 million tonnes. Over the period 1998-2011 this increased by 18 million tonnes. In total 13 of the EU-27 countries have a recycling rate over 70% (with Spain being one of them), while 12 are above 60%.

The quantity of paper and cardboard recovered in Spain in 2011 was 4,722 million tonnes, an increase of 1.8% with respect to 2010. The collection rate increased in 2011, to reach 73.5% of the paper consumed in Spain. The recycling rate maintained almost identical values to 2010, with a small increase of 0.1%: going from 79.1% in 2010 to 79.2% in 2011. Spain is one of the leading European countries in relation to the management and recycling of paper and cardboard waste.

The advance figures for 2012 for paper recovery, given by the Spanish Recovered Paper Association, suggest a fall of 3.6% in the recovered paper and cardboard production in Spain, reaching 4,551 million tonnes. It is estimated that the collection rate increased slightly, to



73.9%. Spanish recovered paper production is destined for internal consumption, which in 2012 was 3,841 million tonnes (85% of Spanish production).

The National Statistics Institute estimates that 31.2 kg/inhabitant of paper and board were collected in 2010 (32.9% more than in 2009). Asturias, with 85 kg/inhabitant, is the autonomous community with the highest values of selective collection of paper and cardboard, followed by the Basque Country with 77.8 kg/inhabitant and Catalonia with 60.4 kg/inhabitant.

NOTAS

- The collection rate, which is expressed as a percentage, indicates the ratio between the quantity of paper recovered and the quantity of paper and cardboard consumed. Used paper and cardboard are recovered for recycling by various means: industrial collection (from companies, publishers, printers and large retail outlets), selective collection (through blue containers and 'door to door' collection from small retail outlets) and specific collection (from offices, public building, recycling points, etc.). After being cleaned and sorted into different grades, the recovered paper is used as raw material by the paper industry to produce new paper.
- The recycling rate for waste paper and cardboard is calculated as the ratio between the quantity of paper recovered and apparent consumption of paper and cardboard. Apparent consumption is calculated by adding the quantity imported to the quantity produced and deducting exports.
- The utilisation rate, which is expressed as a percentage, is calculated as the ratio between the quantity of paper recovered and the quantity of paper produced.
- In the Survey on the Collection and Treatment of Waste for 2009 (INE, press release of 26 October 2011), selectively collected waste is defined as the product of the separate collection of fermentable organic materials and recyclable materials, as well as that of any other separate collection system that permits the separation of recoverable materials content in wastes. It does not include waste recovered in screening and sorting plants.

SOURCES

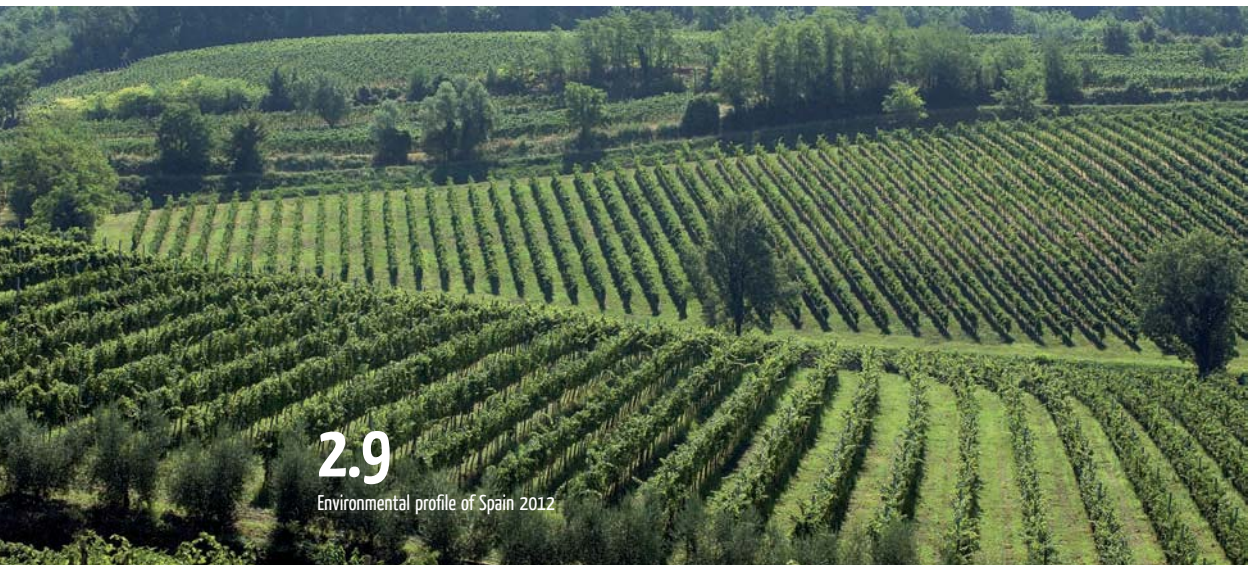
- Spanish Recovered Paper Association, 2012. Activities memorandum REPACAR 2011.

FURTHER INFORMATION

- <http://www.magrama.es>
- <http://www.ine.es>
- <http://www.repacar.org>
- <http://www.aspapel.es>
- <http://www.paperrecovery.org/>
- <http://www.cepi.org/>



AGRICULTURE



2.9

Environmental profile of Spain 2012

The agricultural sector has to be able to meet global food demand, as well as ensuring the economic, social and environmental sustainability of rural areas.

The maintenance of a solid Common Agricultural Policy (CAP), with an adequate budget that adapts to the diversity and particularities of Spanish agriculture, and supports the food sector in the modernisation and revitalisation process, is a priority of current policy management.

The CAP, which had a stable framework up to 2013, will have a new horizon as of 2015, once health check on it has been completed and the final revisions have been agreed and put in place. A new debate, known as 'CAP Horizon 2020' has already started regarding the CAP after 2015.

'The CAP towards 2020: meeting the food, natural resources and territorial challenges of the future', COM(2010) 672, advocates for a strong common policy based on two pillars: a greener and more equitably distributed first pillar and a second pillar focussing more on competitiveness and innovation, climate change and the environment.

The CAP reform process pursues three specific objectives: viable food production, sustainable management and balanced territorial development.



Food production that contributes to agricultural income and limits that income's variability while improving the competitiveness of the agricultural sector; sustainable management of natural resources and climate action through the application of sustainable production practices stimulating green growth through innovation, and pursuing climate change mitigation and adaptation actions; and balanced territorial development to support rural employment and maintain the social fabric of rural areas, that improves the rural economy and promotes the diversification of farming systems.

KEY MESSAGES

- In 2011 the consumption of fertiliser per hectare (expressed as nutrients) decreased by 8.1%, to 102 kg/hectare.
- Phytosanitary product consumption, expressed in kg of active ingredient per hectare, has declined by 5.4% in 2011.
- Spain, for the fourth consecutive year, is the EU's leading country in terms of the area dedicated to ecological agriculture, with 1,845,039 hectares.
- There were a total of 6,074 ecological farms, almost one thousand more compared to 2010. In terms of farm type, 49.1% were cattle farms.
- The total irrigated area in Spain was 3,522,616 hectares, approximately 16% of the total cultivated area.
- In 2011 there was a decrease in the GAV and in the consumption of fertilisers and phytosanitary products, while the irrigated area increased slightly.

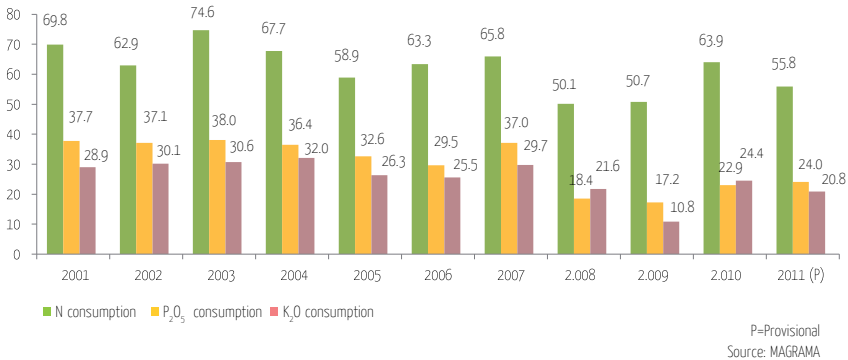
INDICATORS

- Fertiliser consumption
- Phytosanitary products consumption
- Organic farming
- Organic livestock farming
- Irrigated area
- Environmental efficiency in the agriculture

Fertiliser consumption

In 2011, fertiliser consumption fell by 8.1%, compared to the previous year

Fertilisers consumption (kg nutrient/hectare)



Currently, agriculture is focussed on the production of quality food and the preservation of the environment and natural resources. Among these resources is the soil fertility. Fertility improvement must meet two fundamental requirements, agronomic effectiveness and the absence of harmful effects for health and the environment. In 2011, according to the most updated provisional data provided by the Directorate-General of Agricultural Production and Markets, mineral fertiliser consumption per hectare (expressed as a total of nutrients)

Fertiliser consumption

In commercial product (thousands of tonnes)	2007/08	2008/09	2009/10	2010/11	2011/12
Simple nitrogen	2,368	2,027	2,060	2,455	1,994
Simple phosphate	251	70	101	206	196
Simple potash	246	90	149	212	190
Complex fertilisers	2,281	978	1,458	1,851	1,648
Total fertilisers	5,146	3,165	3,768	4,724	4,028
In fertilisers (thousands of tonnes)	2007/08	2008/09	2009/10	2010/11	2011/12
Total N	973	720	811	965	805
Total P ₂ O ₅	527	153	342	390	355
Total K ₂ O	432	181	267	356	291

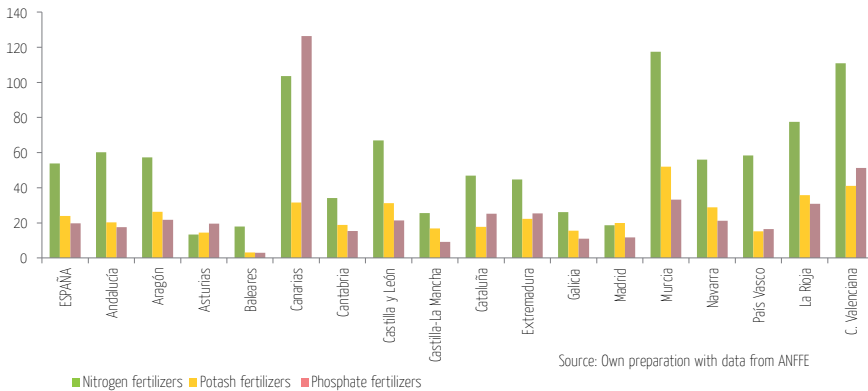
Source: MAGRAMA

declined by 8.1% with respect to 2010, standing at around 100.6 kg/hectare. Although there was a decrease in consumption, this was not uniform across the three main types. Therefore, while N and K₂O use diminished by 11.3% and 13.5%, respectively, the consumption of P₂O₅ increased by 6.1%.

By agricultural year, the provisional data for mineral fertilisers consumed during the 2011/2012 campaign, the period that runs from July 2011 to June 2012, show a decrease in consumption of 14.7% with respect to the previous agricultural year. The consumption of the different fertilisers fell, although at different rates: while N and K₂O decreased by 16.6% and 18.3%, respectively, P₂O₅ consumption decreased by 9.8%.

Similarly, in terms of fertiliser type used (as a commercial product) a general but differing decrease in consumption can be observed: the consumption of simple nitrogen fertilisers declined by 18.8%; simple potash fertilisers by 10.4%; simple phosphate fertilisers by 4.8%; and complex fertiliser consumption fell by 11% during the most recent agricultural year.

Fertilizers consumption (kg/ha). 2011/2012



The autonomous communities with the greatest consumption of fertilisers are the Canary Islands (261.6 kg/hectare), Valencia (203.1 kg/hectare), Murcia (202.8 kg/hectare) and La Rioja (144.3 kg/hectare), being regions with a greater concentration of intensive agriculture with crops with high nutrient demand.



NOTES

- The fertilisable area is defined as arable land (excluding fallow and other unoccupied land) and natural grasslands, according to the Annual Statistical Agri-food Report 2012. Ministry of Agriculture, Food and Environment.
- Fertiliser: product mainly intended to provide nutrients to plants.
- Inorganic or mineral fertiliser: fertiliser obtained by extraction or by physical or chemical industrial processes whose declared nutrients are present in mineral form.
- Simple fertiliser: nitrogen, phosphate or potash fertiliser with a declared content of a single main nutrient.
- Complex fertiliser: compound fertiliser obtained by chemical reaction, in solution or solid form as granules, with a declared content of at least two main nutrients. In solid form, each granule contains all the nutrients in its declared composition (as per the definitions established by Royal Decree 824/2005 of 8 July, on fertiliser products).
- The period used to determine fertilisers consumption runs from July to June of the following year.

SOURCES

- National Association of Fertiliser Manufacturers
- Annual Statistical Agri-food Report, 2012. MAGRAMA
- Survey on Areas and Crop Yields, 2012. MAGRAMA

FURTHER INFORMATION

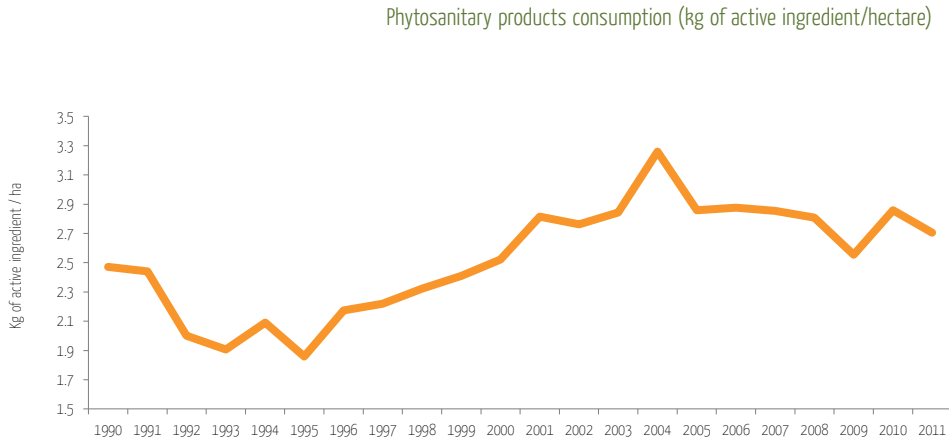
- www.magrama.es
- www.anffe.com





Phytosanitary products consumption

In 2011 the consumption of plant protection products, expressed in kg of active ingredient per hectare, has declined by 5.4%



Source: Own preparation with data from AEPLA and MAGRAMA

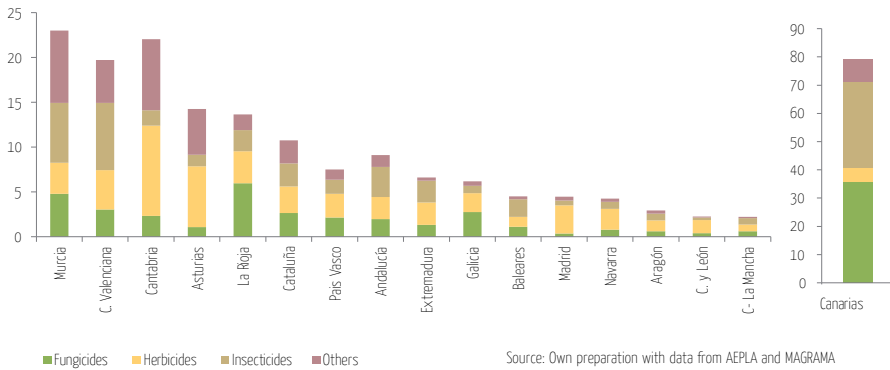
In Spain, the consumption of phytosanitary products for crop protection has increased gradually from the mid-nineties. Nevertheless, in 2011, the economic situation and the meteorological conditions during the spring gave rise to uncertainty among farmers that led to a 5.4% reduction in phytosanitary product consumption, expressed in kg of active ingredients per hectare. This annual variation bucks the trend seen in the previous year, when consumption rose by 12%, and takes consumption back to similar levels to the ones experienced in 2005, 2006 and 2007, the years prior to the current economic instability.

The use of phytosanitary products can have undesired effects and it is essential that these are not at any time dangerous to human health, or present high levels of risk for the environment. In this respect, the recently approved Royal Decree 1311/2012, has the objective of establishing the framework for action to achieve sustainable phytosanitary product use by means of a reduction of the risks and the effects of their use on human health and the environment. Furthermore, the RD also aims to promote integrated pest management along with alternative approaches and techniques, such as non-chemical methods.

In terms of the most highly used types of phytosanitary products in 2011, according to the data provided by the Trade Association for Plant Protection, the most used are insecticides, acaricides and nematocides (31.2%), followed by herbicides (30.2%) and fungicides (22.4%). With respect to 2010, there was a decrease in the consumption of fungicides and insecticides of 7.6% and 4.6% respectively, while herbicide consumption experienced a slight increase of 0.5%.

In 2011, the autonomous communities with the highest use of phytosanitary products per hectare are the Canary Islands, with 79.2 kg/hectare, followed by Murcia (23.0 kg/ha), Cantabria (22.1 kg/ha), Valencia (22.1 kg/ha), Valencia (19.7 kg/ha) and Asturias (14.2 kg/ha), while the communities with the lowest consumption were Castile-La Mancha (2.2 kg/ha), Castile-Leon (2.3 kg/ha) and Aragon (2.9 kg/ha).

Phytosanitary products consumption (kg/hectare).2011



Source: Own preparation with data from AEPLA and MAGRAMA

NOTES

- In calculating the indicator, 'area treated with phytosanitary products' is taken as the total area of arable land, excluding fallow and other unoccupied land (i.e. the area devoted solely to herbaceous and ligneous crops).

SOURCES

- Phytosanitary products: Trade Association for the Plant Protection.
- Treated area:
 - Survey on Areas and Crop Yields, 2012. MAGRAMA
 - Annual Statistical Agri-food Report, 2012. MAGRAMA

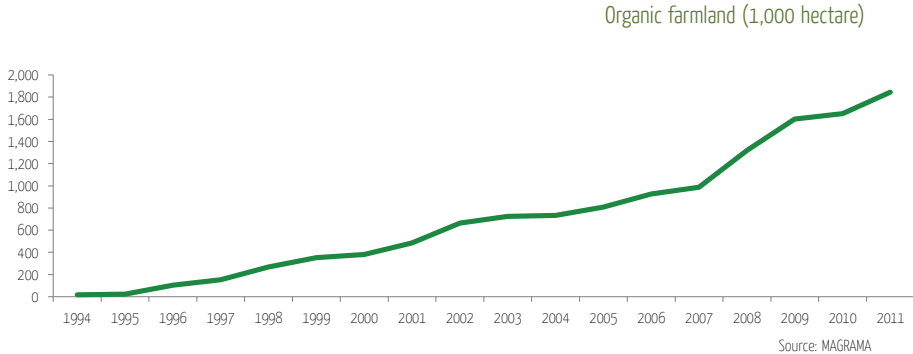
FURTHER INFORMATION

- <http://www.magrama.es>
- <http://www.aepla.es>



Organic farming

The area devoted to organic farming in Spain during 2011 has increased by 11.8%

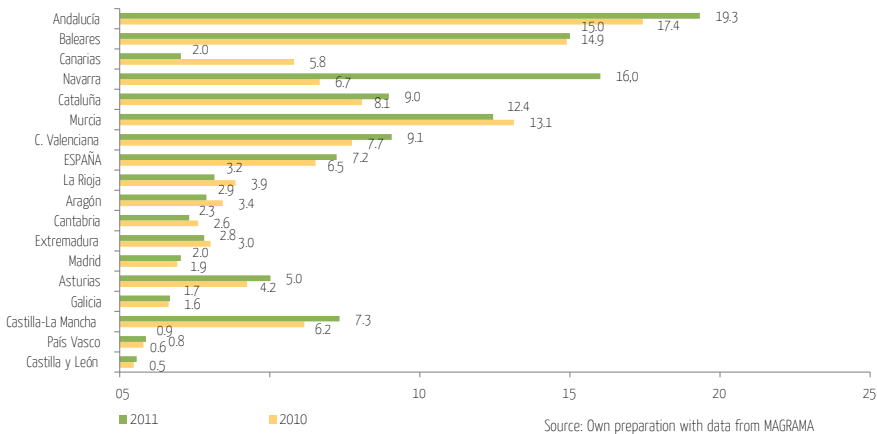


Organic farming can be defined as a compendium of agricultural techniques that excludes the use of synthetic chemical products such as fertilisers, pesticides, antibiotics, etc., with the aim of preserving the environment, maintaining or increasing the fertility of the soil and providing food with all its natural properties.

The growth of organic farming is creating new employment opportunities and wealth for rural economies, contributing, additionally, to the maintenance and improvement of the rural landscape. At the same time, organic farming takes into consideration local and regional harmony and promotes the use of the resources in situ. Spain's conditions allow for the development of this kind of agriculture, due to its favourable climate and the extensive production systems applied to a great number of crops. According to the data compiled in the report 'Organic Farming in Spain. Statistics 2011', the area devoted to organic farming in our country during 2011 increased by 11.8%, totalling 1,845,039 ha, compared to 1,650,899 ha in 2010. Based on this data, and other provisional figures provided by several European countries, Spain, for the fourth consecutive year, sits atop the EU ranking in terms of the number of hectares devoted to organic farming.

Likewise, the number of operators in the sector has increased by 18.3% having reached 32,837 in 2011, compared to 27,767 in 2010. Of the total number of operators, 32,206 were producers (primary activity) and 2,729 were manufacturers and/or processors (secondary activity).

Organic farmland as proportion of utilised agricultural area (%)



If we analyse the annual evolution of the area devoted to organic farming by autonomous community, it can be seen that, although there was a notable increase in overall terms, there are communities in which the area fell. The increase in area registered in Navarre, from 30,771 ha to a total of 73,432 ha is worth highlighting.

Regarding types of farming, the area devoted to pasture, grassland and foraging covered 913,786 ha in 2011, 49.5% of the total. In terms of organic crops, the areas devoted to cereals (224,059 hectares), 12.1% of the total, and olive groves, occupying 168,619 hectares, 9.1% of the area, should be noted.

NOTAS

- Utilised Agricultural Area (UAA): Sum of farmland and permanent grassland and pastures. Data from the 'Survey on Areas and Crop Yields' Ministry of Agriculture, Food and Environment.
- The legislative framework governing organic farming in Spain since 1989 comprises the Regulation on Generic Organic Labelling and, at European level, Regulation (EC) 834/2007 of 28 June 2007, on organic production and labelling of organic products, which repealed Regulation (ECC) 2092/91 (Official Journal of the EU 20/07/2007).

SOURCES

- Survey on Areas and Crop Yields, 2010 and 2011. MAGRAMA
- Statistics 2011. Organic agriculture, Spain. MAGRAMA

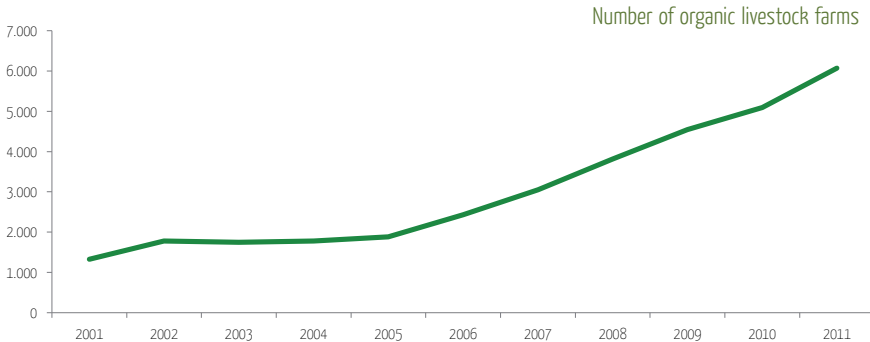
FURTHER INFORMATION

- <http://www.magrama.gob.es/es/alimentacion/temas/la-agricultura-ecologica/>



Organic livestock farming

In 2011 the number of organic livestock farms increased by 19.3%



Source: MAGRAMA

Organic livestock farming is an alternative livestock production system, that is more respectful of the animals, and that promotes their health and well-being, and that contributes to biological diversity and the preservation of species and natural habitats. Organic livestock farming systems produce high quality food from animals that is free of substances such as hormones, antibiotics and other synthetic medicinal products.

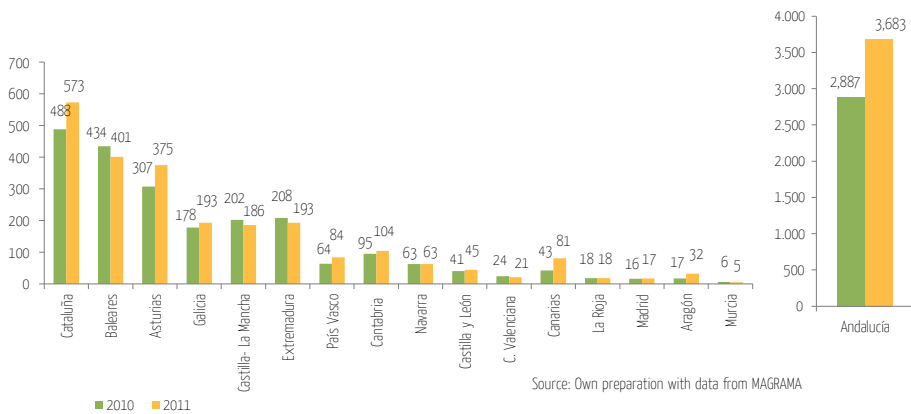
As is the case for organic farming, the demand from consumers for organic products is growing, and consequently there are new business opportunities for all sectors in the food supply chain, creating new opportunities of employment and wealth in rural economies. In light of this, according to the report 'Organic Farming in Spain. Statistics 2011', in Spain there were 6,074 organic livestock farms that year, almost a thousand new farms compared to 2010, when there were 5,091 farms.

In terms of farm type, 49.1% were cattle, 28.5% sheep, 10% goats, 3.5% poultry, 3.2% horses, 3% bee-keeping, 2.5% pig farming and 2% other types of farms. There are 2,983 cattle farms (2,898 meat and 85 milk), 1,730 sheep farms (1,679 meat and 51 milk), 604 goat farms (556 milk and 48 meat) and 154 pig farms.

If we analyse the annual trends, it can be observed that there was growth in all types of farms. Goat farms with a growth of 27.7%, followed by pig farms with an increase of 26.2% and sheep farms with 23.7%, registered the largest increases in 2011.

Regarding the distribution by autonomous communities of organic livestock farms, Andalusia occupies first place with 3,686 farms (60.6% of the total), followed by Catalonia with 573 farms (9.4%), the Balearic Islands with 401 farms (6.6 %) and Asturias with 375 (6.2%). The communities with the lowest number of farms in 2011 were Murcia (5 farms), Madrid (17 farms), La Rioja (18 farms) and Valencia (21 farms).

Number of organic livestock farms



NOTES

- The legislative framework governing organic agriculture in Spain since 1989 comprises the Regulation on Generic Organic Labelling and, at European level, Regulation (EC) 834/2007 of 28 June 2007, on organic production and labelling of organic products, which repealed Regulation (ECC) 2092/91 (Official Journal of the EU 20/07/2007).

SOURCES

- Annual Statistical Agri-food Report, 2012. MAGRAMA
- Statistics 2012. Organic agriculture, Spain. MAGRAMA

FURTHER INFORMATION

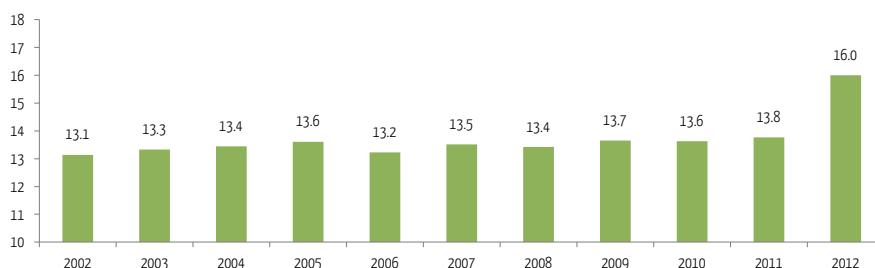
- <http://www.magrama.es>
- <http://www.magrama.gob.es/es/alimentacion/temas/la-agricultura-ecologica/>



Irrigated area

In 2012 the area of irrigated land in terms of total agricultural land reached 16%

Irrigation area with respect to the total agricultural area (%)



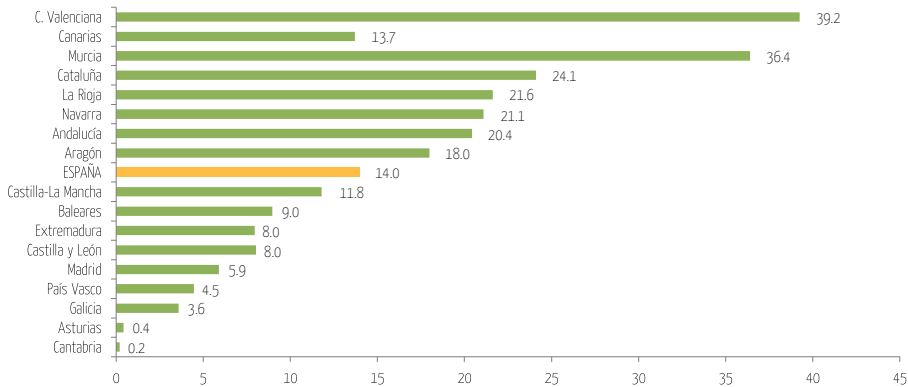
Source: MAGRAMA

The evolution and development of irrigation has a vital role in Spain's agricultural economy. In order to understand the contribution of irrigation to farms, it can be observed that, on average, one hectare of irrigated land produces six times more than a non-irrigated hectare and generates four times the income. Irrigation not only allows for higher incomes but these incomes are also more certain, due to greater crop diversity (avoiding non-irrigated monocultures), and a reduction in climatic risk caused by the variability of annual and seasonal precipitations.

In 2012 the irrigated area in Spain, according to the 'Survey on Areas and Crop Yields 2012', was 3,522,616 hectares, 1.4% more than in 2011. This area, approximately 16% of the total cultivated land, produces 65% of final agricultural production (2010 data from the Agricultural Statistical Annual Report 2011, MAGRAMA).

Another element to take into account in valuing the importance of irrigation is its role in rural land-use planning. Where there is irrigation this allows for the build up of important agribusiness complexes that have had a key role in the generation of income and employment in the rural environment. By autonomous communities, Valencia and Murcia have the highest irrigation area with relation to the total agriculture surface, with the 39.2% and 36.4% of the area respectively. On the other hand, the communities with the lowest percentage of irrigated land in relation to the total agricultural area are Cantabria and Asturias, with 0.2% and 0.4% respectively.

Irrigation areas with respect to the total agricultural surface per autonomous communities (%). 2012



Source: MAGRAMA

Furthermore, this is a dynamic sector that is continuously modernising. In this regard, year after year there is progress made concerning the use of technologies that allows for more rational, efficient water use. In 2012, the number of hectares irrigated by localised irrigation systems was 1,662,847, 0.3% more than in 2011, and which represents 47.2% of the total irrigated area. Sprinkling and automated systems irrigated 541,150 and 297,149 hectares respectively, representing 15.4% and 8.4% of the irrigated area, an increase of 8.7% and 4.4% compared to the previous year.

At the same time, the use of less efficient irrigation systems once again experienced a decline: in 2012 the number of gravity-fed systems fell by 1.1% with respect to 2011, covering 1,020,406 hectares.

NOTES

- Irrigated area refers to the area devoted to crop production or pasture improvement that is supplied with water, irrespective of the number of times irrigation is performed per year.
- Total agricultural area refers to arable and fallow land, greenhouses and family smallholdings.

FUENTES

- Survey on Areas and Crop Yields, several years. MAGRAMA

FURTHER INFORMATION

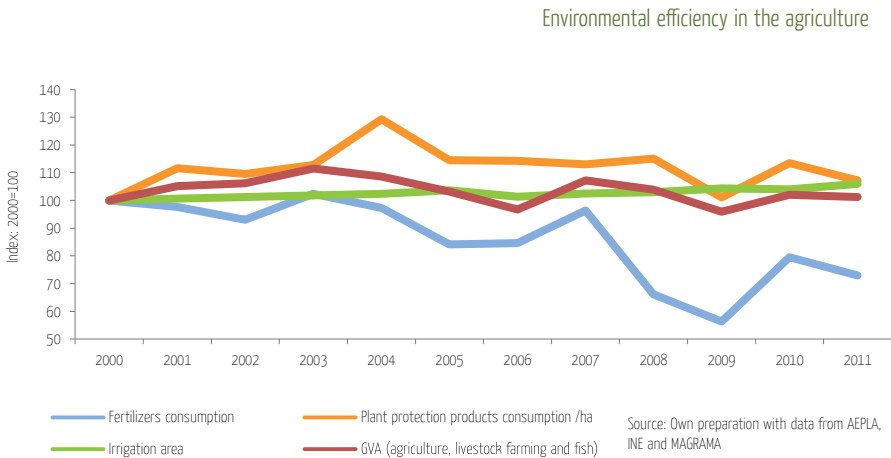
- <http://www.magrama.es>



Environmental efficiency in the agriculture

2011 saw a decline in the GVA and in the consumption of fertilisers and phytosanitary products, while the irrigated area slightly increased

En la gráfica se muestra la eficiencia ambiental del sector agrario, analizada mediante la comparación de la evolución de su crecimiento económico y el de las presiones más importantes que genera, para el periodo 2000-2011. Esta gráfica presenta un comportamiento desigual.



Si se analiza la evolución del Valor Añadido Bruto (VAB) de la agricultura, la ganadería y la pesca para el periodo de referencia 2000-2011, el VAB ha experimentado un incremento del 1,3%. Sin embargo, en el último año analizado, ha registrado un valor ligeramente inferior al obtenido en 2010 (-0,7%).

El comportamiento del consumo de productos fitosanitarios presenta una evolución similar a la del VAB, aunque a diferente escala. Constata, en este sentido, que el consumo de productos fitosanitarios para el periodo de referencia 2000-2011 se ha incrementado un 7,3%, mientras que para el último año analizado el incremento ha sido al igual que el VAB negativo (-5,4%).



La evolución del consumo de elementos nutrientes por hectárea ha experimentado en 2011 una importante reducción (8,1%), debida principalmente a la climatología del año agrícola, al precio de los productos fertilizantes y a la situación de inestabilidad económica. En la evolución del consumo, se observa como el consumo de fertilizantes acumula un decrecimiento desde el inicio del periodo de referencia (2000-2011) del 27,1%.

Por otra parte, la superficie de regadío ha mantenido durante todo el periodo 2000-2011, ligeros incrementos anuales. En 2011, el incremento anual ha sido del 1,9%, mientras que el incremento acumulado desde el inicio del periodo es del 6%.

NOTES

- The GVA in the sector refers to agriculture, fishing, hunting and forestry.
- For the purpose of calculating the indicator, eco-efficiency is considered positive when the trend in the sector's economic growth is decoupled (contrary and divergent) from that of the pressures it exerts on the environment.

SOURCES

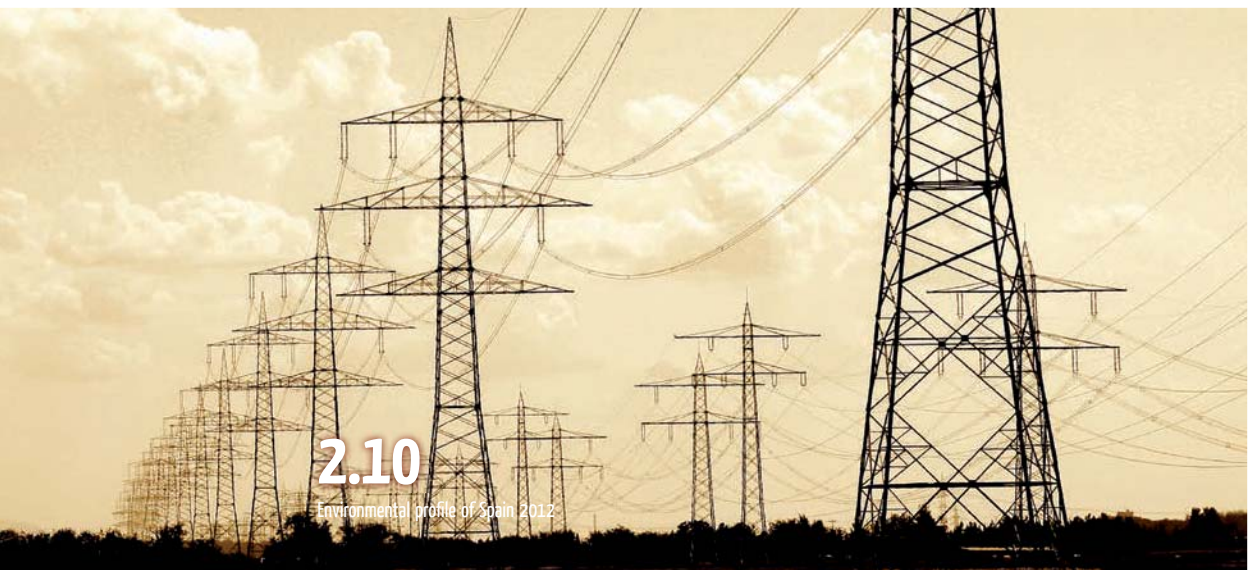
- National Statistics Institute. Spanish National Accounts. Base year 2000. 1995-2010 Accounting series. GDP at market prices (GVA for agriculture).
- Fertiliser consumption: Statistical Annual Agri-food Report, 2012. MAGRAMA
- Plant protection products consumption:
 - Trade Association for the Plants Protection
 - Annual Statistical Agri-food Report, 2012. MAGRAMA
 - Survey on Areas and Crop Yields, several years. MAGRAMA
- Irrigated area: Survey on Areas and Crop Yields, several years. MAGRAMA

MÁS INFORMACIÓN

- <http://www.magrama.es>
- <http://www.anffe.com>
- <http://www.aepla.es>
- <http://www.ine.es>



ENERGY



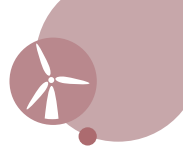
2.10

Environmental profile of Spain 2012

According to the data of the United Nations, one out of every five people do not have access to domestic electricity and almost 40% of the world population depend on wood, coal or animal waste for cooking. Furthermore, only 15% of world energy is generated by renewable energy.

With the aim of ‘ensuring universal access to modern energy services; reducing global energy intensity by 40%; and increasing the use of renewable energy at global level by 30%”, the UN General Assembly launched in 2011 the initiative Sustainable Energy for All headed by the UN General Secretary Ban Ki-moon. This initiative aims to mobilise governments, the private sector and civil society across the world to achieve these objectives. The European Commission, within the framework of Sustainable Energy for All, announced in April 2012 a new European initiative called Energising Development, which aims to bring sustainable energy to 500 million people in developing countries by 2030.

Within the framework of the initiative, the UN General Assembly declared 2012 as the International Year of Sustainable Energy for All, with the objective of raising awareness about the importance of sustainable energy and at the same time increasing access to energy and energy efficiency at local, national, regional and international level. In Spain, during 2012, to commemorate this International Year, initiatives led by the Spanish National



Research Council (CSIC) were carried out in order to raise awareness of energy related topics. A specific website was created (<http://www.energia2012.es>), containing educational resources to promote knowledge of energy, and an exhibition called 'The energy moves us. Science for a cleaner, more sustainable and more accessible energy' was created.

Regarding European policy, in April 2013 the Commission launched a consultation on the framework for future energy policies and the climate for the year 2030. This consultation aims to gather the points of view of the member states, institutions and other stakeholders, in relation to the framework of future policies on climate and energy policies within that timeframe. As a starting document for the consultation, the Commission drew up a 'green paper', which set out the current framework and the goals achieved up to now, as well as establishing the key points for the consultation and proposing questions to guide the contributions from interested parties.

KEY MESSAGES

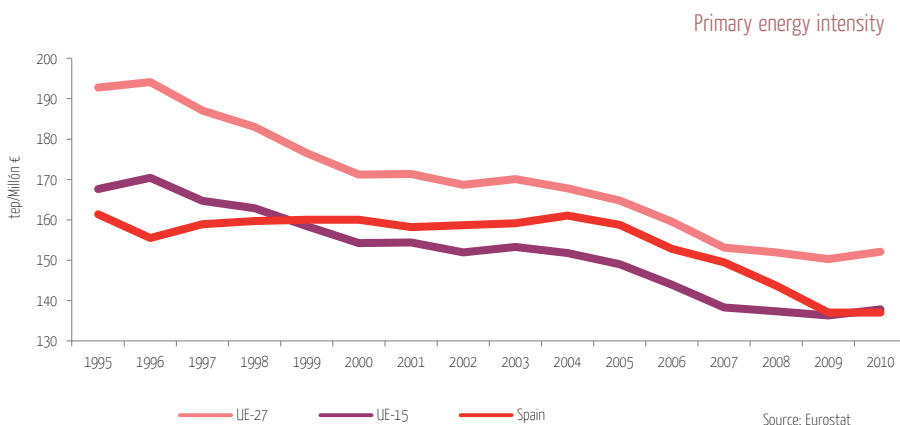
- In 2010 Spain had the sixth lowest primary energy intensity of the EU-27, according to Eurostat.
- For the first time since 2005 there was an increase in energy-related GHG emissions intensity, with these being 17.64% higher than in 2010.
- Renewable energy still occupies an important place in the primary energy demand structure, although in 2011 this suffered a decrease of 1.85% in its contribution to the total. Spain is the sixth leading country in terms of the generation of electricity from renewable sources.
- Between 1990 and 2011, the energy sector improved its eco-efficiency, decoupling economic growth from energy consumption and in terms of integrating renewables into its economic structures, thereby reducing GHG emissions.

INDICATORS

- Primary energy intensity
- Energy-related GHG emissions intensity
- Renewable energy
- Environmental efficiency in energy

Primary energy intensity

In 2010 Spain had the sixth lowest primary energy intensity of the EU-27, according to Eurostat

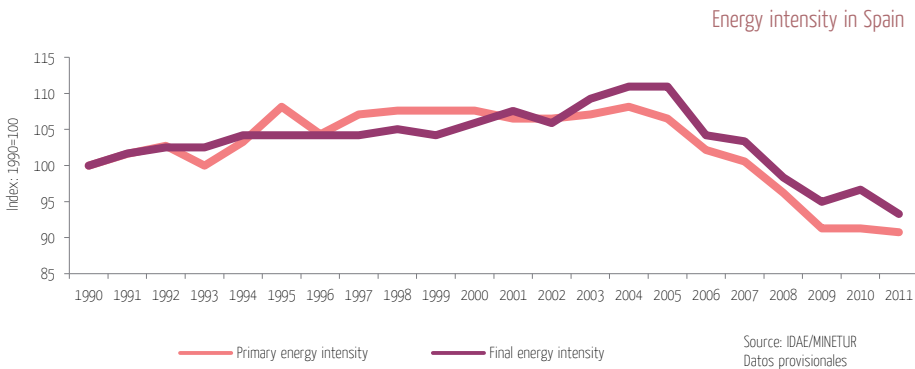


According to Eurostat data, in 2010 the primary energy intensity in Spain maintained almost the same levels as the previous year: around 137 toe/million euros.

The energy intensity of the Spanish economy has decreased at a significant rate since 2005, to reach the minimum value in the Eurostat series (1990-2010), 137.02 toe/million euros. In other words, in Spain, to produce one unit of wealth, increasingly less energy is needed.

With respect to the European average, Spain continues, as in previous years, to be below the value for the EU-27 and, for the first time since 1998, below the EU-15 average, although the difference is very small (0.8 toe/million euros). At an individual level, five countries had a primary energy intensity below the Spanish figures: Ireland, Denmark, United Kingdom, Italy and Austria.

If we compare 2010 values with those for 2000, the primary energy intensity of Spain decreased by 14.4%, the EU-27 by 11.2% and the EU-15 by 10.7%. The Annual Report of Energy Indicators (Relevant Indicators. Year 2011) of IDAE, gives provisional data concerning energy intensity, both primary and final, for the 1990-2011 series. Taking 1990 as a base 1990 (index 1990=100), it can be seen that both energy intensities decrease, but



final energy intensity does so after increasing 1.77% in 2010 and primary energy intensity does so having stayed the same, with no movement, that year. Therefore, in 2011 the values of both intensities in 2011 are similar, as a direct consequence of the higher decrease in final energy intensity. In this process the change in the structure of electricity generation has been fundamental, as indicated by the publication *Energy in Spain, 2011*, with greater contribution of energy from fossil fuels and less efficiency in transformation.

NOTES

- IDAE calculates the global intensities, expressed in constant currency of the year 2000, from GDP figures published by the National Statistics Institute in February 2013, in the National Accounts of Spain (CNE) base 2008, in conformity with the new European System of Accounts and in line with the Regulation 715/2010 of the Commission, modifying Regulation (CE) 2223/96 of the Council concerning the adaptations of the national accounts.

SOURCES

- EUROSTAT, 2013. Energy Intensity of the Economy- annual data (nrg_ind_332a). Information from the web page. Available in: Statistics/Statistics per theme/Environment and Energy/Energy
- Institute for Diversification and Energy Saving (IDAE). Ministry of Industry, Energy and Tourism. Annual Report of Energetic Indicators. Main Indicators. Year 2011. Available in: IDAE/Eficiencia y Renovables: informes y estadísticas.
- Ministry of Industry, Energy and Tourism, 2012. The Energy in Spain 2011.

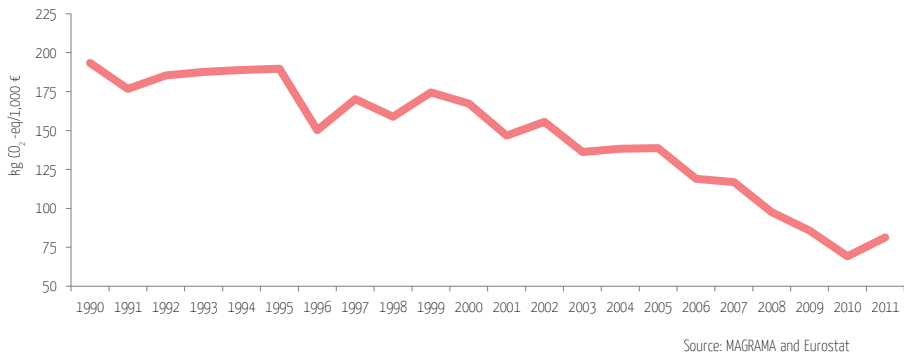
FURTHER INFORMATION

- <http://epp.eurostat.ec.europa.eu>
- <http://www.minetur.es>
- <http://www.idae.es>

Energy-related GHG emissions intensity

Energy-related GHG emissions intensity increased for the first time since 2005, being 17.64% higher than in 2010

Intensity of energy-related GHG emissions



In 2011 GHG emissions from energy production increased by 19.26%, from 72,551.37 to 86,526.04 Gg equivalent of CO₂. This increase in emissions is related to the behaviour of the primary energy intensity indicator analysed above. In 2011 there was a change in the structure of electricity generation in Spain, with greater use of fossil fuels such as coal and less efficiency in transformation. As indicated by Energy in Spain 2011, in this year 7.4% more coal was consumed than in 2010 as a primary energy source, with a total of 12,456 ktoe. This increase in the use of coal by thermal power plants is, to a large extent, responsible for the increase in GHG emissions and is related to the fall in renewable energy production from the two largest sources, hydro-electric and wind, due to the fall in the available hydro-electric and wind energies in 2011 (Energy in Spain 2011).

At the same time, GDP at current prices in Spain has increased to a lesser extent than emissions, 1.38%. The GDP in 2011 was 1,063,355 million euros, according to Eurostat data, and 1,048,883 million euros in 2010. This increase, although modest, was larger than the one experienced during the period 2009-2010, a period in which it barely moved (0.08%).

The ratio between the quantity of energy-related GHG and the GDP gives the GHG emissions intensity indicator shown on the graph. It can be seen that, as in 2011, the GHG emissions



intensity of the energy production industry has increased, as the generation of 1000 euros of wealth requires more emissions than in the previous year. In particular, in 2011 the emissions intensity was 81.37 kg of CO₂-eq for each 1,000 euros of GDP, which is 17.64% more than in 2010, when the emissions intensity reached the lowest level of the series analysed, at 69.17 kg of CO₂-eq/1,000 euros.

In 2011, the intensity of the energy-related GHG emissions was 57.91% less than in 1990, the reference year for the comparison of emissions and the year which registered the maximum intensity of the series (193.32 kg of CO₂-eq/1000 euros). With respect to 2005 it was 41.34% lower.

NOTES

- For the purpose of calculating this indicator, the emissions of GHG used are the total emissions from combustion in the energy-sector industries included under the Energy heading (as per the IPCC categories). These emissions comprise the six GHG covered by the Kyoto Protocol and are expressed as CO₂-equivalent. The combustion activities covered by the energy category include energy generation, combustion at refineries and transformation of combustible fuels, as well as combustion in mining. The emissions considered are those in the '1.1. Group of Energy Industries', according to the CRF classification, which includes thermal power stations, oil refineries and fuel transformation.
- The six main GHG covered by the Kyoto Protocol are, in order of importance: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O) and fluorinated gases, which include perfluorocarbons (PFC), hydrofluorocarbons (HFC) and sulphur hexafluoride (SF₆), although this latter have no impact in the energy sector as they are only emitted in industrial processes.
- The GDP data are at market prices, calculated at current prices.

SOURCES

- Emission data: MAGRAMA, 2013. Inventory on GHG Emissions in Spain. Years 1990-2011. Communication to the Secretariat of the Framework Convention on Climate Change and Kyoto Protocol. Directorate-General of Environmental Quality and Assessment and Natural Environment. MAGRAMA. Available in: Eionet/Reportnet/CDR Repository/Spain/United Nations (UN)/UNFCCC-GHG Inventories/Spain GHG Inventory.
- GDP data: Eurostat, 2013. GDP and main components- Current prices (nama_gdp_c). Information from the web page. Available in: statistics/statistics per theme/National accounts (including GDP).
- Ministry of Industry, Energy and Tourism (MINETUR), 2012. The energy in Spain 2011

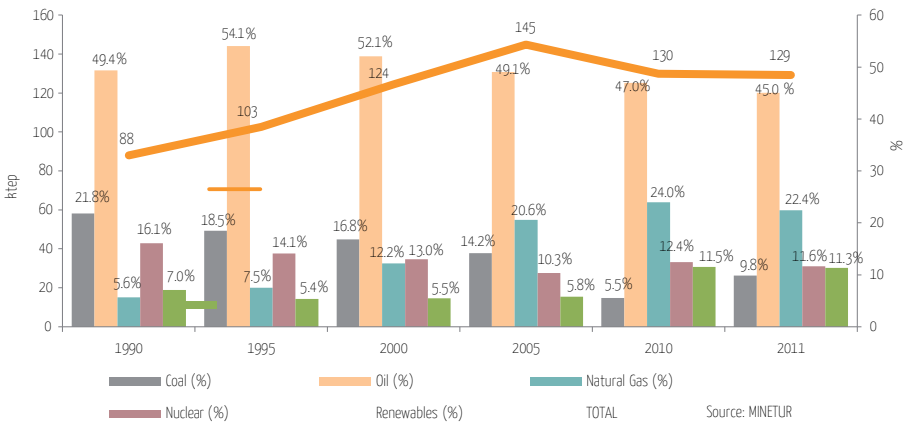
FURTHER INFORMATION

- <http://www.eionet.europa.eu>
- <http://www.magrama.es>
- <http://epp.eurostat.ec.europa.eu>
- <http://www.idae.es>
- <http://www.minetur.es>

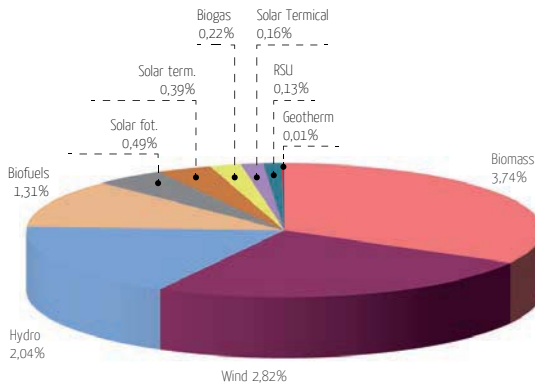
Renewable energy

Although there was a slight decrease in 2011, renewable energy still has a significant role in the structure of primary energy consumption, and puts Spain sixth in terms of electricity generation from renewable sources.

Primary energy consumption and distribution per type of source



Renewables. Year 2011 (%)





In 2011, primary energy consumption in Spain decreased by 0.41% compared to the previous year, standing at 129,298 ktoe. With respect to 1990 levels, the primary energy demand in 2011 was 47% higher; nevertheless, from 2005, the trend has been downward, with a reduction of 10.78% with respect to that year.

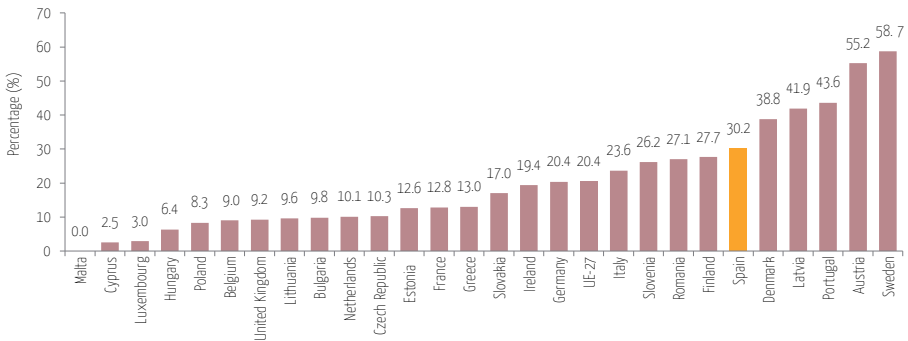
In the distribution of primary energy consumption by source type, a change can be observed with respect to 2010. The energy consumption from coal increased by 77.41%, making up 9.8% of the total. At the same time, the conventional energy sources, oil, natural gas and nuclear energy, contributed less. Despite the decline, oil and natural gas still hold first and second places in terms of their contribution to primary energy demand, representing respectively 45.04% and 22.4%. Nuclear energy is the third largest source, providing 11.6%.

For renewable energy, according to data from MINETUR, in 2011 14,666.9 ktoe were consumed from these primary energy sources, 1.85% less than in the previous year. The contribution with respect to the total primary energy consumed in Spain also fell, from 11.5% in 2010 to 11.3% in 2011. In comparison with 1990 levels, renewable energy has increased its contribution by 4.29 points in terms of the structure of primary energy demand.

In terms of types of renewable energy source, the largest decrease in primary demand was seen in hydro-electric, with a fall of 27.68%, going from 2.8% in 2010 to 2.04% of the total primary energy consumed in 2011. Counteracting this reduction in hydro-electric primary energy consumption, there was an increase in the other types of renewable energy. The group made up of wind, solar and geothermal power grew its demand by 3.21%, from 4,858.1 ktoe to 5,014 ktoe, increasing by 0.14 percentage points its contributions to the primary energy structure. The group comprising biomass, biofuels and wastes saw even greater growth, increasing its demand from 6,447.4 ktoe to 7,021.5 ktoe, representing an increase of 8.90% and an improvement of 0.5 points, to stand at 5.4%.

At an individual level, according to data provided by IDAE, the renewable sources of primary energy with the greatest representation in 2011, in addition to hydro-electric were, in this order: biomass, wind, biofuels and solar (including photovoltaic, thermoelectric and thermal). Out of these, biomass, biofuels and solar improved their representation in the energy mix by 0.23, 0.22 and 0.25 percentage points, respectively, over the previous year. Wind energy, on the other hand, fell 0.11 points. The use of biogas increased by 0.01 its contribution, while waste and geothermal practically maintained their 2010 levels.

Percentage of electricity from renewable energies within EU-27. Year 2011



Source: Eurostat

Analysing the structure of electricity generation in Spain, we can see, according to the information provided by IDAE, a decrease in renewable energy from 32.43% to 29.55%, due mainly to the reduction in hydro-electric. Despite this decrease, renewables maintained their position as the leading electricity-generating source, above even natural gas (28.97%) and coal (15.4%), taking into consideration that this latter increased its contribution by 6.67 percentage points from 2010 to 2011. These figures put Spain in sixth place in terms of electricity-generation from renewables within the EU, according to Eurostat data

NOTES

- The sources included as renewable are: biomass, biofuels, wastes, wind, solar, geothermal and hydro-electric.

SOURCES

- Primary energy consumption: MINETUR, 2013. Quarterly Bulletin on the Energy Situation. Fourth quarter 2012. Available on the web site.
- Contribution of renewable energy and structure of electric generation: data provided by the Department of General Coordination of the Institute for the Diversification and Energy Saving, IDAE. MINETUR, 2013.
- EUROSTAT 2013. Electricity generated from renewable sources (nrg_ind_333a). Information provided by the web page. Available in: Data base per theme/Environment and energy/Energy/Main indicators-Energy statistics/Energy statistics-Structural indicators in energy-annual data.

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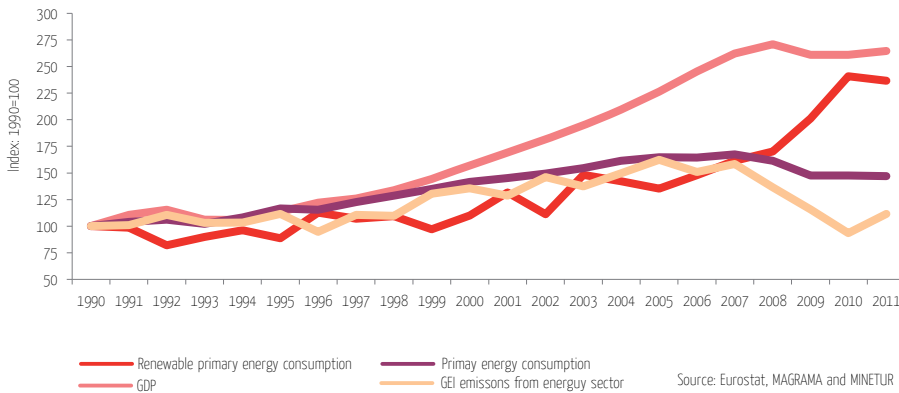
- <http://www.idae.es>
- <http://www.minetur.es>
- <http://epp.eurostat.ec.europa.eu>



Environmental efficiency in energy

Between 1990 and 2011, the energy sector improved its environmental efficiency, decoupling economic growth and energy consumption and integrating renewable energy into its production structure, thereby reducing GHG emissions

Environmental efficiency in the energy sector



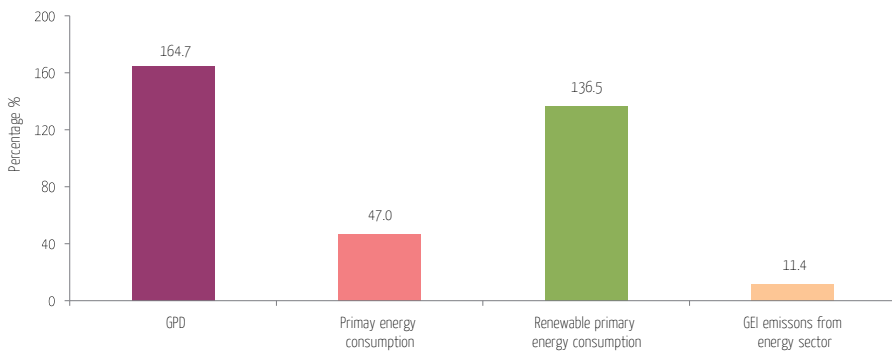
Economic growth in Spain, represented here by GDP (at current prices), can be grouped within the series studied into three different periods: 1990-1995; 1996-2008 and 2009-2011.

Between 1990 and 1995 GDP grows moderately, as do primary energy demand and GHG emissions. From 1996 up to 2008, the economy underwent strong growth, as seen by the curve on the line representing GDP at current prices. In 2008, GDP was 70.81% above 1990 values. In line with this, the primary energy demand also grew between 1996 and 2007, but at a slower rate and with a loosening of the trend over the period, in spite of the continuous growth of GDP at current prices. Along with primary energy demand, GHG emissions of the energy-production sector also increased, though it rose and fell throughout the series. In 2007, primary energy demand was 67.38% above 1990 values, and GHG emissions 58.57%. At the same time, there is a growing overall trend for renewable primary energy consumption to rise when GHG emissions fall, and vice versa.



The third and last period would be between 2009 and 2011. In 2009, GDP declined by 3.65% falling to 1,048,060 million euros; in 2010 it stayed at practically the same level as in 2009, and in 2011 it saw a small upturn to reach 1,063,355 million euros. The change in energy consumption trends is produced one year before that of GDP. Already in 2008 a drop in the primary energy consumption can be seen, that continues in 2009, with a fall over these two years of 11.77% with respect to 2007. In 2010 and 2011, primary energy consumption stabilised at around 129,000 ktoe. Although there was variable behaviour in terms of energy consumption between 2007 and 2011, GHG emissions saw a constant fall up to the year 2010, with a slight increase in 2011. Renewable primary energy consumption followed the opposite trend, growing between 2008 and 2010 and falling in 2011. The behaviour seen on the graph during the years 2009, 2010 and 2011 should be highlighted because, although primary energy consumption stayed constant, some variations were produced in terms of renewable primary energy consumption and therefore GHG emissions. This confirms the effect these sources have on the environmental efficiency of the energy sector.

Environmental efficiency of the energy sector. Changes between 1990-2011



Source: MAGRAMA, MINETUR, IDAE



An overall assessment of the period 1990-2011 shows that GDP at current prices grew by 164.7%, while primary energy demand increased by 47% and GHG emissions by 11.4%. Renewable-related primary energy consumption experienced a net growth of 136.5% with respect to 1990.

NOTAS

- Las emisiones de Gases de Efecto Invernadero contempladas para calcular el indicador se refieren a las emisiones totales de las actividades de combustión de combustibles de las industrias del sector energético incluidas dentro del procesado de la energía (según categorías IPCC) y originadas por los seis GEI contemplados en el Protocolo de Kioto, expresadas como CO₂ equivalente. Las emisiones consideradas se corresponden con el grupo "1.A.1 Industrias del sector energético" según la nomenclatura CRF, que incluye las centrales térmicas, las refinerías de petróleo y la transformación de combustibles.

FUENTES

- Datos de emisiones: Eionet, 2013. *Inventario de Emisiones de Gases de Efecto Invernadero de España. Años 1990-2011*. Comunicación a la Secretaria del Convenio Marco sobre Cambio Climático y Protocolo de Kioto. Dirección General de Calidad y Evaluación Ambiental y Medio Natural. MAGRAMA. Consultable en: Eionet/Reportnet/CDR Repository/Spain/United Nations (UN)/UNFCCC-GHG Inventories/Spain GHG Inventory.
- Datos PIB: EUROSTAT, 2013. *GDP and main components - Current prices (nama_gdp_c)*. Información procedente de la página web. Disponible en: Estadísticas/Estadísticas por temas/National accounts (including GDP).
- Consumo de energía primaria: MINETUR, 2013. *Boletín trimestral de coyuntura energética. Cuarto trimestre 2012*. Consultable en página web.

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- <http://www.magrama.es>
- <http://www.minetur.es>
- <http://www.idae.es>

INDUSTRY



In the past, the most common form of thinking was: “produce dirty, clean up later if they find out. We believe today that you can achieve green growth, green industrialisation, while you are also clean”. These were the words of the Director-General of the United Nations Industrial Development Organization (UNIDO), Kandeh K. Yumkella, during the official presentation of the Green Industry Platform, within the context of the United Nations Conference on Sustainable Development (Rio+20) in Rio de Janeiro, Brazil. 2012 was, in fact, a key year for industry at global level. The launch of this platform by UNIDO and UNEP, supported by the European Commission among other organisations, aims to be a forum to catalyse, mobilise and mainstream action on Green Industry around the world.

Within the European context, 2012 was also an important year for industry, with the publication in October of the European Commission’s Communication on the review of EU Industrial policy, within the framework of the Europe 2020 Strategy. This review of industrial policy is intended to increase the importance of European industry within the economy of the Union, from 16% of GDP in 2011 to 20% in 2020. Therefore, the development of industry within the EU framework is seen as an important means of achieving sustainable growth and a fortified way out of the crisis. All this must be



necessarily accompanied by an industrial development that is sustainable to ensure efficient use of energy and resources, and minimise emissions and waste.

In a national context, Spain backed the Communication on the revised EU industrial policy, in the Competitiveness Council held in December 2012. Furthermore, in 2013, Law 5/2013, of 11 June, modifying Law 16/2002 on Integrated Pollution Prevention and Control and Law 22/2011 on Waste and Contaminated soil, was approved. This law, which will be further developed by a Royal Decree, transposes part of Directive 2010/75/EU, of 24 November, on Industrial Emissions (IED) into our legislation. Other measure that will affect the sustainable growth of industry will be the Renewable Energy Plan 2011-2020 approved in November 2011, which aims to hit the EU imposed target of 20% of gross final energy demand coming from renewable resources by 2020. Another example of the commitment of industry to sustainable development is the take up of environmental management systems, such as EMAS. In 2012, 32% of the 1,261 registered organisations were from the industrial sector.

KEY MESSAGES

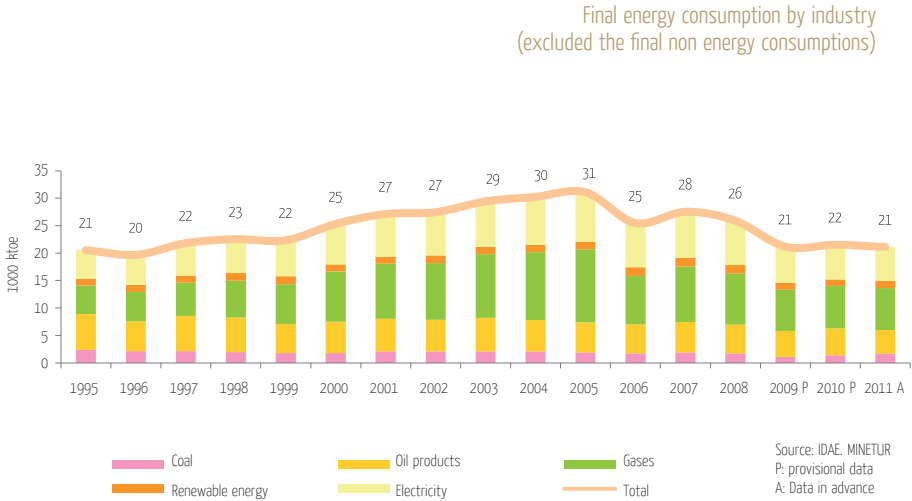
- Industry consumed 21,094 ktoe of final energy in 2011, 2% less than the previous year, and the lowest level of the last 15 years.
- In 2011 N2O emissions again fell in Spain, to 62% below 1990 values.
- In 2010, industrial waste production grew 26% with respect to the previous year.
- In 2011 environmental efficiency improved as gross added value increased, at the same time as energy consumption and CO2 emissions decreased.

INDICATORS

- Energy consumption by industry
- Emissions of air pollutants by industry
- Waste generation by industry
- Environmental efficiency in industry

Energy consumption by industry

Final energy consumption by industry was 21,094 ktoe in 2011, 2% less than the previous year, and the lowest level of the last 15 years

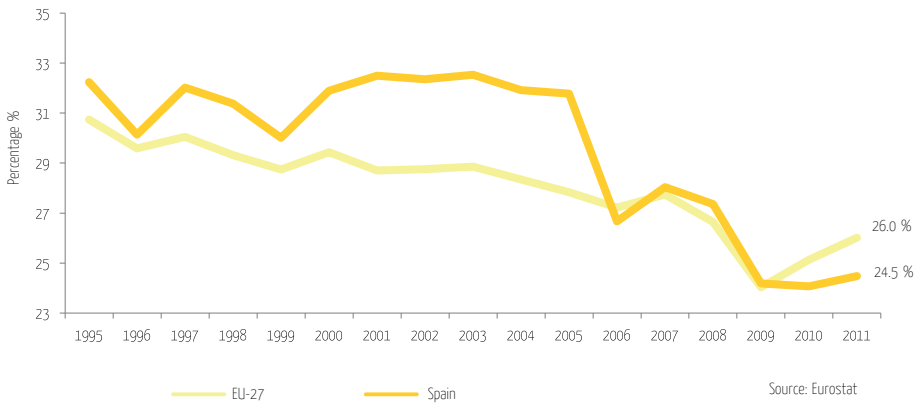


According to the Annual Energy Register published by the IDAE for the period 1990-2011, the provisional figures for 2011 show a decrease in final energy consumption by industry (excluding non-energy consumption) with respect to 2010's provisional data. Specifically, the demand was 422 ktoe less than in the previous year, a decrease of 2% in the final demand in the sector. The highest decrease was seen in petroleum products, with 11.4% lower demand, followed by gas and electricity, which decreased by 1.7% and 2% respectively. At the same time, industry consumed 20.5% and 9.5% more final energy from coal and renewable energy respectively.

In global terms, the final energy demand in Spain in 2011 (excluding non-energy consumption), was 86,062 ktoe, 25% of which was for industry. The previous year consumption was 88,827 ktoe, 3.21% more than in 2011. Nevertheless, consumption by industry represented 24%, 1% less than in 2011. This decrease in the total final energy consumption in 2011 arose due to the continuing economic stagnation, as is indicated by the publication 'Energy in Spain 2011'.

The decline in final energy consumption by industry coincides with lower industrial output (1.8% lower) registered in 2011 with respect to the previous year, as reported in a press release from the National Statistics Institute (INE) regarding the Industrial Production Index at December 2011.

Final energy consumption by industry as a proportion of total energy consumption (%)



According to Eurostat data, there was a decrease in 2011, at EU level, of final energy consumption by industry. Across the EU-27, industry consumed a total of 287,065 ktoe, 0.9% less than the previous year, an insignificant decrease in comparison with that experienced by the total final demand including all sectors (4.3%), with 1,103,260 ktoe. Final energy consumption by industry is 26% of total final energy consumption, 0.9% less than in the previous year. In Spain this percentage, according to Eurostat, was 24.5%, 0.4% less than in 2010. Therefore, the divergent trend, initiated in 2009, between the European average and Spanish values for the final energy consumption by industry compared to total consumption, continues. In 2011, the gap between the European series and the Spanish series was 1.5%, while in 2010 the difference was 1.1%.



NOTES

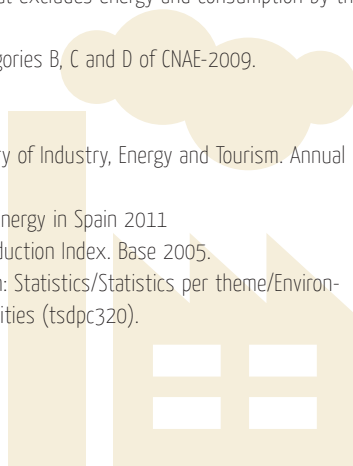
- The data on final energy consumption by industry from MINETUR and IDAE exclude non-energy consumption, that is, those products used by industry as raw material, whose purpose is not directly the generation of energy.
- In the case of industry, final consumption data from Eurostat excludes energy and consumption by the energy and transformation sectors.
- The Industrial Production Index. Base 2005, considers categories B, C and D of CNAE-2009.

SOURCES

- Institute for Energy Diversification and Saving (IDAE). Ministry of Industry, Energy and Tourism. Annual Energy Register. Period: 1990-2011.
- Ministry of Industry, Energy and Tourism (MINETUR), 2013. Energy in Spain 2011
- INE, 2013. Press release of 8 February 2012. Industrial Production Index. Base 2005.
- EUROSTAT, 2013, information from the web page. Available in: Statistics/Statistics per theme/Environment and Energy/Energy/Data base/Energy statistics- quantities (tsdpc320).

FURTHER INFORMATION

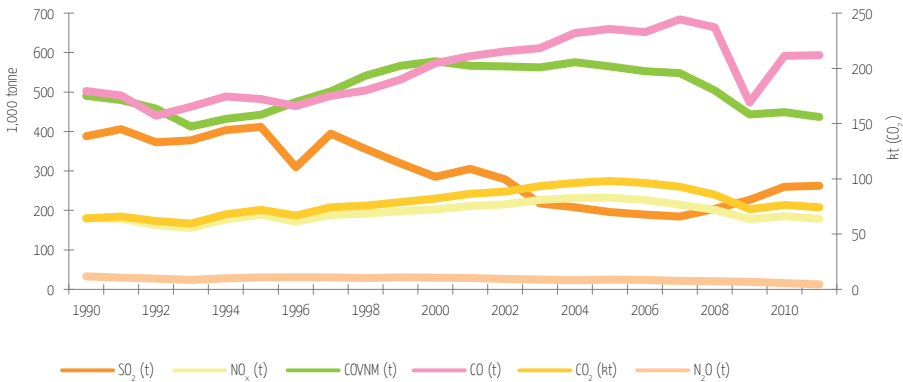
- <http://www.minetur.gob.es>
- <http://www.idae.es/>
- <http://epp.eurostat.ec.europa.eu>



Emissions of air pollutants by industry

In 2011 emissions of N_2O in Spain decreased, falling to 62% below 1990 values

EMISSIONS OF AIR POLLUTANTS BY INDUSTRY



Source: MAGRAMA

After an increase in 2010 of the total quantity of air pollutants emitted by industry analysed here (SO₂, NO_x, NMVOC, CO₂, CO, N₂O and fluorinated gases), 2011 was characterised by a 2.6% drop in emissions (78,854,765 tonnes), accompanied by a lower final energy consumption by industry, as previously mentioned. Nevertheless, although a generalised decrease of the total emissions considered took place, given that each pollutant has different effects on the environment, it is necessary to analyse the trend of each of the gases separately.

The gases that experienced a decrease in 2011 were NO_x, NMVOC, CO₂ and NO₂:

- NO₂ is the pollutant that saw the largest decrease in emissions between 2010 and 2011, with a reduction of 19.6% and a total of 4,449 t released. This quantity represents 5.7% of all NO₂ emissions, which were also reduced by 5.7%. The group of activities seeing the biggest decrease in 2011 was 'Industrial processes (with no combustion)'. Industrial emissions for 2011 were the lowest for the entire series analysed (1990-2011).



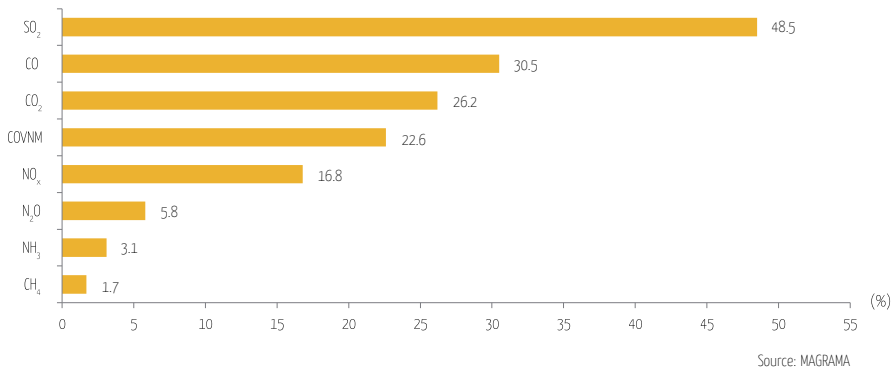
- Second in terms of the percentage reduction in 2011 are other nitrogen compounds, NO_x . The emission of these pollutants fell by 3.5% for industry as a whole, to 178,879 t, representing 16.9% of all NO_x emissions, which grew overall 3.6%.
- Next on the list are non-methane volatile organic compounds (NMVOC). The industrial emissions of these pollutants decreased from 449,321 t in 2010 to 436,492 t in 2011, a drop of 2.9%. Industrial NMVOC, which in 2011 represented 22.6% of the total emissions of these compounds, are 11% below 1990 levels.
- With a similar percentage fall to NMVOC, industry's CO_2 emissions decreased in 2011 by 2.6%. Nevertheless, the total carbon dioxide emissions increased by 1.2%. In total 26.2% of the 284,407 tonnes of carbon dioxide released in 2011 were emitted by industry.

On the contrary, the fluorinated gases, as well as SO_2 and CO_2 experienced an increase in their emissions from industry:

- Fluorinated gases increased in 2011 by 6%, from 3,755 t to 3,975 t. The HFCs saw the biggest increase in the gases in this group emitted by industry.
- Sulphur dioxide emissions (SO_2) by industry also increased, although in a more moderate manner (11%) in comparison with the period 2009-2010 (14.3%). There was a larger rise in total SO_2 emissions (10.4%); in 2011 almost 50% of these were emitted by industry
- Finally, as regards CO, emissions by industry remain practically unchanged (an increase of 0.2%), with 593,000 t emitted, after a drop in 2009 and subsequent rebound in 2010 (with an increase of 25%). Emissions by industry of CO represented, in 2011, 30.5% of the entire amount of CO released in Spain, a figure very similar to the previous year.

As regards the contribution of industry to pollutant emission, it can be seen from the graph below that industry is responsible for almost half of all SO_2 released and of 30% of CO. Nevertheless, only 1.7% of methane is attributable to industry.

Industrial emissions with respect to total emissions. Year 2011


NOTES

- For the purpose of calculating emissions of air pollutants, the following groups or sectors (SNAP classification) are considered to form part of the industrial sector: industrial combustion plants; production processes; and solvents and other products use. The combustion in energy and energy transformation categories are not included, since these emissions are covered by the chapter on energy. Likewise, emissions generated by the extraction and distribution of fossil fuels and geothermal energy are also not included.
- For reasons of scale, the indicator does not include emissions of fluorinated gases, although their origin is 100% industrial. Emissions of these gases from 1990 until 2011 was as follows:

	1990	1995	2000	2005	2010	2011
SF6	2,800	4,533	8,561	11,363	15,840	16,500
HFC	205,400	399,168	1,564,341	2,414,444	3,673,157	3,913,149
PFC	131,825	123,961	64,620	42,177	43,850	45,201

SOURCES

- Ministry of Agriculture, Food and Environment, 2013. GHG Emissions Inventory in Spain. Years 1990-2011. Directorate-General of Environmental Quality and Assessment and Natural Environment.

FURTHER INFORMATION

- <http://www.magrama.gob.es/es/calidad-y-evaluacion-ambiental/temas/sistema-espanol-de-inventario-sei/>



Waste generation by industry

In 2010, the waste generation by industry increased by 26% with respect to the previous year

Waste generation by the industry



Source: INE

If 2009 was characterised by a generalised drop in industrial activity, and with that an accompanying fall in waste generation, in 2010 industry slightly recovered, as shown by the 1% increase in the annual average value of the industrial production index, and at the same time waste generation by industry also rose.

In 2010, according to the survey on Waste Generation by the National Statistics Institute, the industrial sector generated 1.4 million tonnes of dangerous waste (1% more than the previous year) and 49.2 million tonnes of non-dangerous waste (27% more than in 2009), giving a total of 50.6 million tonnes. This represents an average increase of 26% concerning the waste generation by industry.

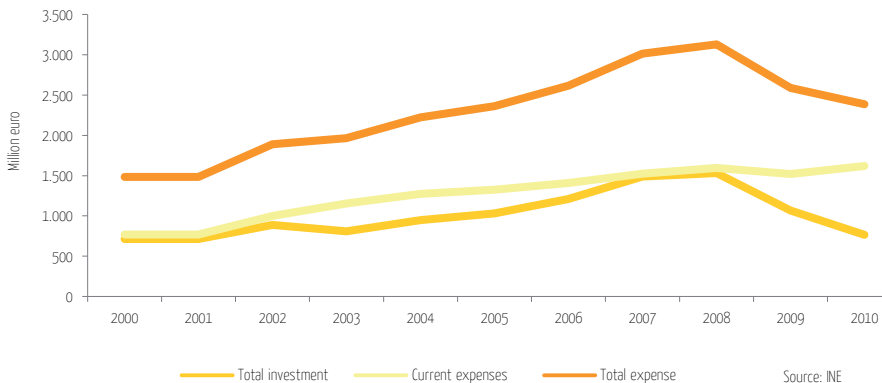
Extraction industries were responsible for the largest amount of waste generation, with almost 32,000 t, most of which (99%) was non-dangerous. In relation to dangerous waste, manufacturing industry was greatest generator of such waste, with 1,365 t, representing 98% of dangerous waste generated by industry as a whole. In comparison with the previous year, the biggest increases were experienced by the extraction industries, with

44% more non-dangerous waste generated, and the greatest decreases by the energy and gas industries, generating 30% and 20% less non-dangerous and dangerous wastes respectively.

In terms of waste categories, the largest part of non-dangerous waste was mineral waste (75%) and combustion waste (8%). For dangerous waste, of the 1.4 million tonnes generated, chemical and combustion wastes represented 29% each, and acid, alkaline or saline wastes 21%.

In relation to the increase in industrial production in 2010 and the rise in waste and emissions, the 'Survey on Company Expenditure on Environmental Protection' by the National Statistics Institute reflects how, during that year, companies' current expenses destined for environmental protection grew by 6.5%, up to 1,620 million euros. In contrast, there was a fall in the investment of equipment and installations, both independent and integrated, of 28.1%. This data led to a figure of total industry expenditure of 2,384.7 million euros (7.8% less than in 2009). The largest total investments were dedicated to the reduction of emissions of air pollutants and to the management of waste water. In terms of the distribution by sectors, electricity was in 2010 again the largest investor in environmental protection, even though its investment fell by 51.9% with respect to 2009.

Expenditure in environmental protection of the industry





For waste, industry has reduced by 23% its investment in independent equipment and by 18.2% in integrated equipment (20.5% in the total investment). In 2010, the industrial sector invested 91,205.4 million euros in waste equipment, approximately 12% of the total investment.

NOTES

- The indicator also includes data for the energy industry. The first survey of the National Statistics Institute aimed to quantify waste generated in economic activities whose main activity is included within sections B, C or D of the National Classification for Economical Activities (CNAE- 2009). The objective of the second survey of the National Statistics Institute is to assess industrial enterprises' expenditures on reducing or eliminating emissions of air pollutants and noise pollution, waste water treatment and solid waste generated, as well as investments made to be able to use less polluting raw materials or the same ones but in lower quantities.

SOURCES

- National Statistics Institute, 2013. Survey on the generation of waste in the industrial sector: year 2010. Accessible at: INEbase/Entorno físico y medio ambiente/Estadísticas sobre medio ambiente.
- National Statistics Institute, 2013. Press release of 1 August 2012. Survey on Environment in Industry. Results relative to the generation of waste in industry. Year 2010.
- National Statistics Institute, 2013. Survey on the industry expenditures on environmental protection: 2010. Accessible at: INEbase/Entorno físico y medio ambiente/Estadísticas sobre medio ambiente.
- National Statistics Institute, 2013. Press release of 18 July 2012. Survey on environment in industry. Results relative to the company expenditures on environmental protection. Year 2010

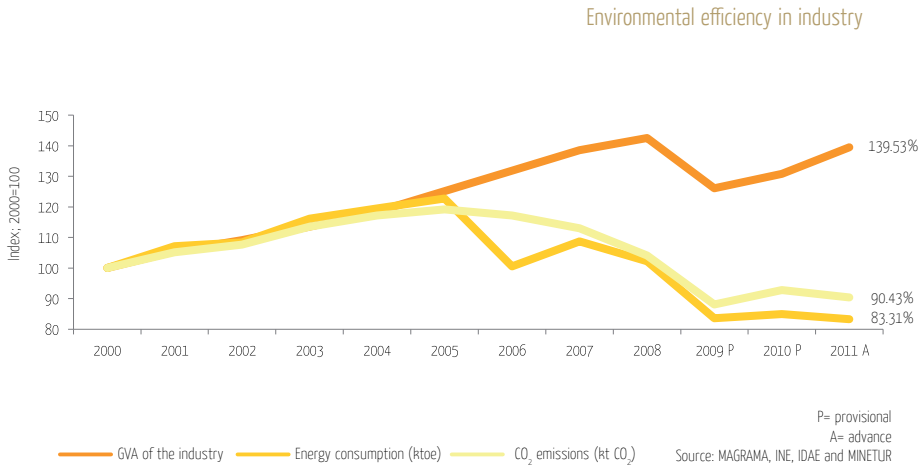
FURTHER INFORMATION

- <http://www.ine.es>



Environmental efficiency in industry

The eco-efficiency in industry in 2011 improved, increasing gross value added while at the same time energy consumption and CO₂ emissions fell



Industry's gross value added (GVA), categories C to E CNAE-2009, increased in 2011 by 6.64% with respect to the previous year, from 154,770 to 165,051 million euros. In 2011, manufacturing represented 80% of the total GVA of the industry with 132,038 million euros, with net sales that increased by 5.1%, to 465,399.24 million euros, according to a press release from the National Statistics Institute on the Industrial Survey for Enterprises 2011. Of this amount 32.2% was sold overseas, 2.1% more than the previous year. In terms of branches of manufacturing activity, the food sector, motor vehicles and the oil industry were the most active, with 18.3%, 11.4% and 10.5% of total sales respectively. If we take the 2000 index as a GVA reference value (index 2000=100), it can be observed that the figure for 2011 was almost 40% higher than for 2000.

This increase in the GVA contrasts with the fall in industrial activity during 2011 (1.8% of the Industrial Production Index). One explanation may be found in the overseas sales of the manufacturing industry, as well as in the increase of exports that improved the sector's net sales, meaning there was lower production activity but higher overseas sales than in the previous year, and those sales gave rise to a greater GVA for the sector.



In contrast, and as mentioned in previous chapters, in 2011 there was a decrease of almost 2% of final energy consumption in the manufacturing sector related to the decline of industrial production activity, reaching 9.57% below year 2000 values. This decrease was accompanied, to the same extent, by a fall in CO₂ emissions (2.60%).

Taking all the above into account, and looking only at the trend shown on the graph, a divergence between energy demand/CO₂ emissions and GVA can be seen. This could be understood as an improvement in the eco-efficiency of industry, as in order to obtain one unit of wealth a lower consumption of energy and a lower quantity of CO₂ released was required.

Considering all the data series over time, and taking the year 2000 as the reference, an improvement in eco-efficiency of industry can be observed, as GVA and energy consumption are ever-more separated, which indicates that the trends of each are more highly decoupled. Up to 2005 there was a direct relationship between the three variables analysed; from 2006, the trend changes and the decoupling between GVA and energy consumption increases. This behaviour would correspond with the decoupling concept between economic growth and the use of the resources and their environmental impact, promoted by the UNEP and the International Resource Panel in its 2011 report “Decoupling natural resource use and environmental impacts from economic growth”.



NOTES

- For the calculation of GVA, the National Statistics Institute considers industrial activities to be those listed in sections B (extractive industries); D (electric energy, gas, steam and air conditioning supply) and E (water, sewerage, waste management and remediation activities) of the CNAE-2009. This therefore excludes crop and livestock farming and forestry, as well as the construction and service industries.
- The final energy consumption by industry covers the activities mentioned in the notes included in the relevant indicator.
- The data in the graph are expressed in reference to values for the year 2000, which were used as a basis (100%).

SOURCES

- GVA: National Statistics Institute, 2013. Available for consultation in: INEbase/Economía/Cuentas económicas/Contabilidad nacional de España. Base 2008. Cuadros contables 2000-2011/Aggregados por ramas de actividad.
- IPI: National Statistics Institute, 2013. Press release of 8 February 2012. Industrial Production Index (IPI). Base 2005
- National Statistics Institute, 2013. Press release of 11 December 2012. Industrial Survey for Enterprises 2011.
- National Statistics Institute, 2013. Press release of 27 August 2012. Spanish National Accounting. Base 2008. Update of the accounting series 2008-2011.
- Spanish Economic and Social Council. Economy, work and Society. Memory on the socioeconomic and labour situation. Spain 2011. Summarized edition.
- Final energy consumption by industry: Institute for the Diversification and Energy Saving (IDAE). Ministry of Industry, Energy and Tourism. Annual energetic balances. Period: 1990-2011.
- CO₂ emissions: Ministry of Agriculture, Food and Environment, 2013. GHG Emissions Inventory in Spain. Years: 1990-2011. General Directorate of Environmental Quality and Assessment and Natural Environment.
- UNEP (2011). Decoupling natural resource use and environmental impacts from economic growth. Report of the working group on decoupling of the International Resource Panel.

FURTHER INFORMATION

- <http://www.magrama.gob.es>
- <http://www.minetur.gob.es>
- <http://www.idae.es>
- <http://www.ine.es>
- <http://www.unep.org>



FISHING



2.12

Environmental Profile of Spain 2012

Spain maintains a close relationship with the sea and its natural resources, especially with fishing. Spain leads the EU in terms of fleet tonnage, volume and value of fish landed, number of fishers and aquaculture production.

Likewise, fishing is part of common EU policy, subject to continuous development that seeks conditions that will provide a better future not only for fish resources and fishing itself but also of the marine environment upon which it relies. The scope of policy application includes conservation and management as well as the exploitation of live aquatic resources and aquaculture, together with the transformation and commercialisation of fish and aquaculture products.

The reform of the Common Fisheries Policy (CFP) is aimed at solving the challenges faced by fishing in the EU.

On 13 July 2011, the European Commission presented its reform proposals for the CFP and, on 2 December of the same year, proposed a new fund for European maritime and fisheries policies during the period 2014-2020: the European Maritime and Fisheries Fund (EMFF). Sustainability is the core component of the proposed reform, and the aim is that the fishing sector is sustainable from an ecological, economic and social point of view. The reform is in favour of restoring sustainability to fish stocks and, therefore, to be



able to offer a stable, certain food supply, while at the same time dimensioning the fishing sector in order to end instability and the dependence on subsidies. This will create new employment opportunities and growth in coastal areas.

At the same time, the new CFP will promote the responsibility of the sector with respect to good management of the sea. In this sense, the Commission proposes that, by 2015, stocks are exploited at acceptable levels generating the maximum sustainable yield.

Aquaculture, being the farmed production of fish, shellfish and aquatic plants, as well as algae, is one of the fastest growing subsectors, and provides almost half the fish consumed on the planet. Nevertheless, in Europe, aquaculture only represents 20% of fish production. The development of aquaculture that is more competitive and ecological is a primary objective for the EU.

KEY MESSAGES

- The Spanish fishing fleet catch (in live weight) increased in 2011 by 11.9%, from 768,691 t in 2010 to 860,221 t caught in 2011.
- The total aquaculture production in Spain in 2011 experienced a year-on-year increase of 3.3%, reaching 291,235 t. This increase is mainly due to the recovery of mussel production, which in the most recent year grew by 0.5%.
- In 2011 the trend of a reduction in the capacity of the Spanish fishing fleet continued.

INDICATORS

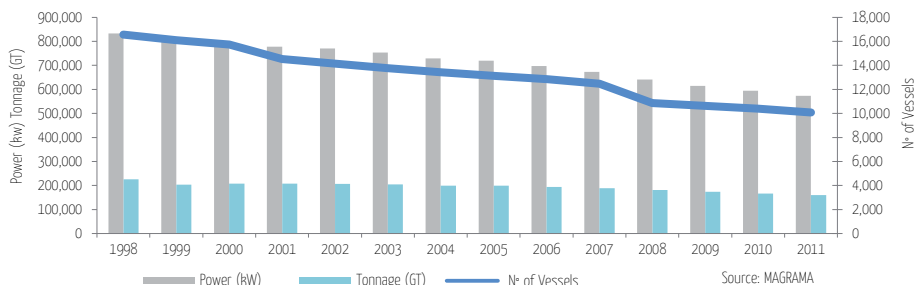
- Number of vessels and fishing fleet capacity
- Fishing fleet catches
- Aquaculture production
- Environmental efficiency in fishing and aquaculture



Number of vessels and fishing fleet capacity

The trend of a reduction in the number of vessels and the capacity of the Spanish fishing fleet continues

Number of vessels and fishing fleet capacity (domestic fishing grounds)

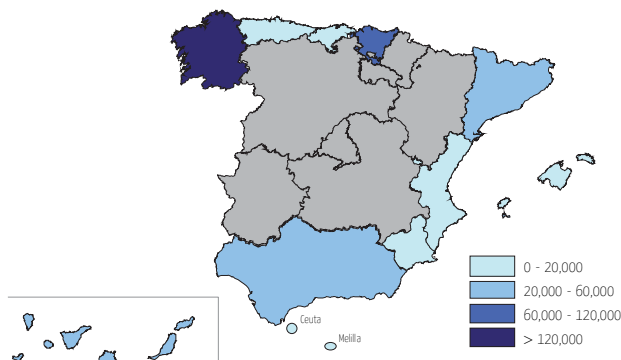


In 2011 the structural adjustment to Spain's fishing fleet continued, and, as in previous years there was a year-on-year decrease, of almost 3.1%, from 10,847 vessels in 2010 to 10,505 vessels in 2011. 96% of this fishing fleet (10,084 vessels) fished in Spain's domestic fishing grounds.

Analysing the evolution of the fishing fleet, through the number of vessels, tonnage and engine power, we can see how during the period 1998-2011 the Spanish fishing fleet has decreased in terms of the number of ships by 39.1%, tonnage by 29.2%, and engine power (kW) by 35.5%. By autonomous community, Galicia, the Basque Country and Andalusia had the largest fishing fleets.

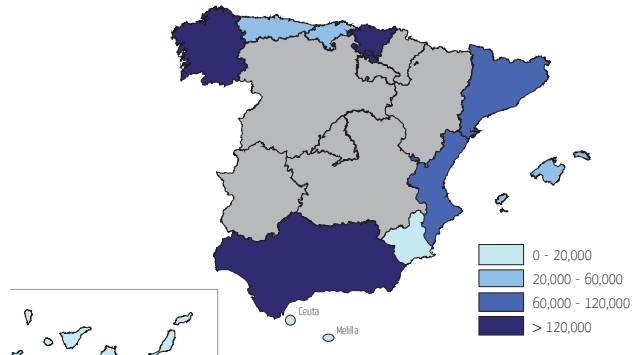
Tonnage of the fishing fleet. Year 2011 (GT)

Autonomous communities	Tonnage (GT)
Andalucía	47,473
Asturias	7,424
Baleares	3,780
Canarias	25,429
Cantabria	8,722
Cataluña	23,766
Ceuta	11,543
Galicia	167,657
Murcia	3,277
País Vasco	80,859
C. Valenciana	18,970



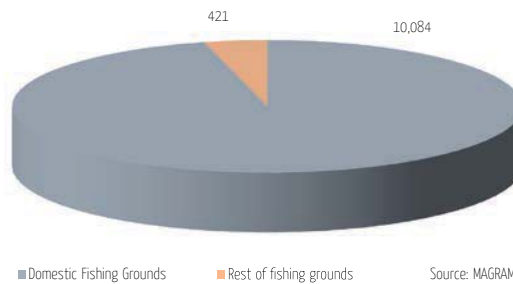
Autonomous communities	Power (kW)
Andalucía	137,874
Asturias	20,868
Baleares	21,633
Canarias	58,759
Cantabria	21,250
Cataluña	105,824
Ceuta	15,038
Galicia	304,453
Murcia	12,435
País Vasco	134,197
C. Valenciana	67,642

Fishing fleet power. Year 2011 (kW)



Source: Fishing Fleet Statistic. MAGRAMA

Number of vessels of the spanish fishing fleet per fishing grounds. Year 2011



Source: MAGRAMA

NOTES

- The indicator refers to the vessels on List 3 of Spain's General Vessel Register that make up the Statistical Register of Fishing Vessels, in service on 31 December each year. Over the course of a year, some of the vessels may move between fishing grounds, meaning that the total figure may vary depending on the date in question. A significant number of vessels operate in small-scale fisheries and some even lack a built-in engine.
- For the purpose of calculating the indicator, fishing capacity, in accordance with the Council Regulation (EC) 2371/2002, is stated in terms of power, measured in kilowatts (kW), and carrying capacity (tonnage), measured in Gross Tonnes (GT). This latter unit has replaced gross registered tonnage (GRT) since 1998.

SOURCES

- Data provided by:
 - General Secretary for the Sea. Ministry of Agriculture, Food and Environment.
 - Fishing Fleet Statistic. Ministry of Agriculture, Food and Environment.

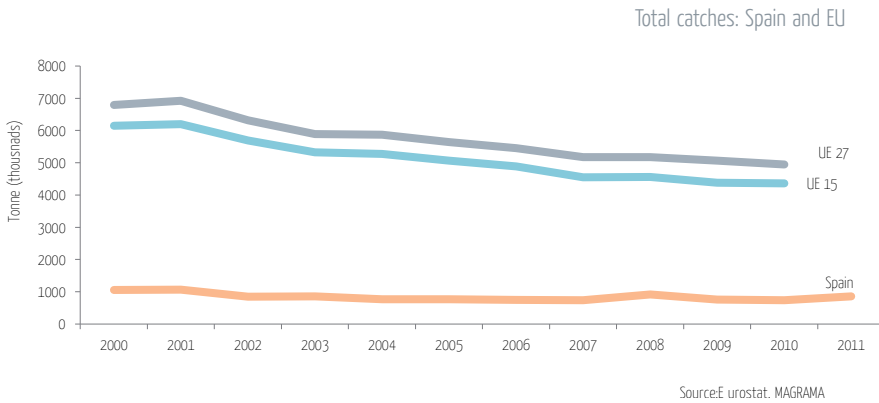
FURTHER INFORMATION

- <http://www.magrama.es>
- <http://epp.eurostat.ec.europa.eu/>

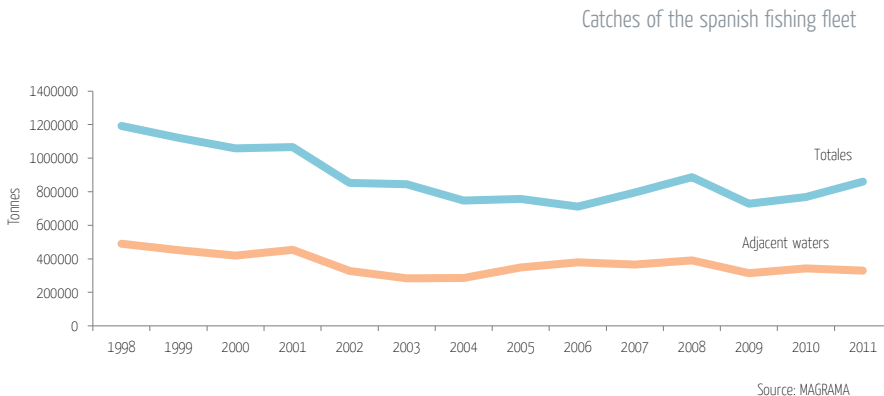


Fishing fleet catches

The total catch landed by the Spanish fishing fleet increased by 11.9% during the last year

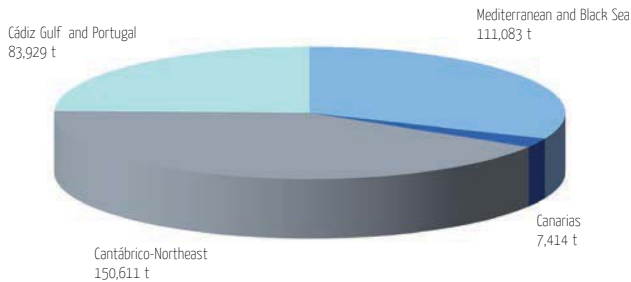


Fishing in Spain is an active sector that makes a major contribution to the national economy. The importance of this sector can be analysed through the Sea Fishing Catch and Landing Statistics, an annual report on the catches made in all fishing grounds and fishing areas where Spanish-flagged vessels carry out their activity. According to this report, in 2011, the total catches made (referring to live weight) increased by 11.9%, rising from 768,691 t in 2010 to reach 860,221 t caught in 2011.



However, the analysis of the catches made in adjacent waters shows that during the most recent year there was a slight fall, specifically of 3.7%, from 342,182 t in 2010 to 329,472 t caught in 2011

Catches in adjacent waters per geographical areas, 2011



Source: MAGRAMA

The distribution of these catches in adjacent waters by geographical areas shows a similar behaviour, although to a different extent: all of them register lower catches than in the previous year. Total catches in the Bay of Biscay suffered the highest fall (8.7%): in 2011 the catches amounted to 137,546 t while in 2010 they were 150,611 t. A significant decrease in the volume of catches also occurred in the Mediterranean, with a decline of 6.8%, from 111,083 t in 2010 to 103,505 t in 2011.

To a lesser extent, the Gulf of Cadiz and Canary Islands have registered less significant decreases in their catches. In the Gulf of Cadiz there was a decline of 3.4%, from 83,929 t in 2010 to 81,088 t in 2011, while in the Canary Islands the reduction was 1.1%, that is, from 7,414 t in 2010 to 7,333 t in 2011.

NOTES

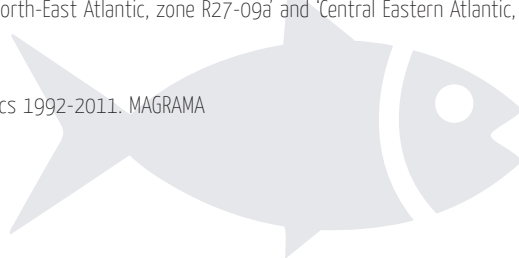
- The data used for the Mediterranean, Bay of Biscay-Northwest, Gulf of Cadiz and Canary Islands fishing grounds respectively, has been taken from the Eurostat figures for the 'Mediterranean and Black Sea', 'North-East Atlantic, Zone R27-08c', 'North-East Atlantic, zone R27-09a' and 'Central Eastern Atlantic, zone 34.1.2'.

SOURCES

- Sea Fishing Catch and Landing Statistics 1992-2011. MAGRAMA
- EUROSTAT, Data, Fisheries

FURTHER INFORMATION

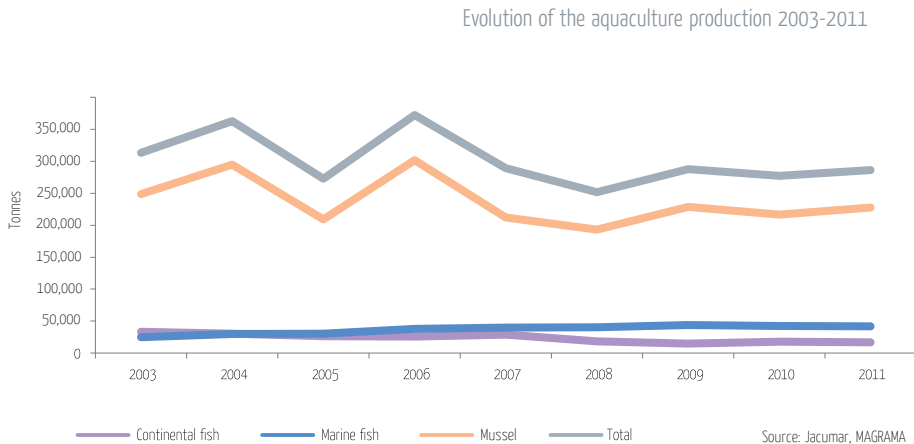
- www.magrama.es
- <http://epp.eurostat.ec.eu.int/>





Aquaculture production

Aquaculture production increased by 3.2% last year



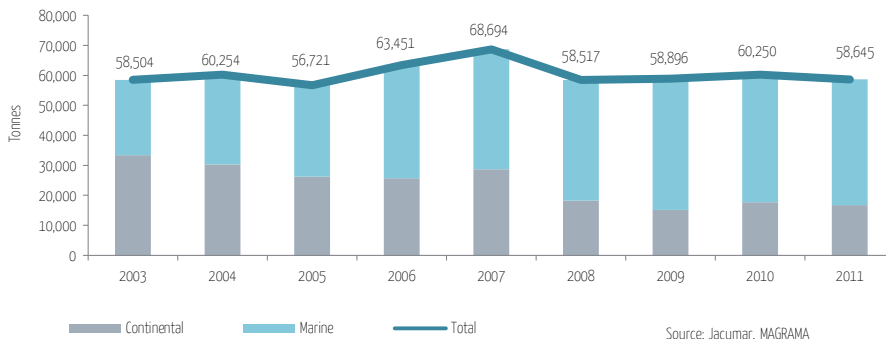
Aquaculture is the farming of aquatic organisms such as fish, shellfish, crustaceans and plants. Spain's geographical situation, ample coastline and the quality of some of the inland waters favour the existence of a wide range of areas that are suitable for the farming of these species, both marine and freshwater. This has allowed the development of multiple production systems that have encouraged the farming of different species of fish, shellfish and crustaceans. Currently, Spain is one of the top 20 aquaculture producers in the world, and has consolidated its position as the second largest within the EU.

According to the data offered by the National Sea Harvest Advisory Board (JACUMAR), in charge of facilitating the coordination and cooperation between the central and autonomic administrations regarding aquaculture, in Spain, in 2011, the total aquaculture production experienced a year-on-year increase of 3.3%, reaching 291,235 t. This increase is mainly due to the recovery of mussel production, which in the most recent year increased by 5.0%, from 216,745 t in 2010 to 227,589 t in 2011, registering values close to those recorded in 2009, when production reached 228,596 t.

However, if we analyze inland and marine, fish aquaculture production, is observed, in both cases, an evident downturn. In 2011, with an annual decrease 4.4% in inland aquaculture, production stood at 16,919 t, while marine aquaculture, with a decrease of 1.6%, stood at 41,876 t.

The trend in production by species is different. In the case of inland aquaculture rainbow trout, which represents 99% of the inland production, has experienced a year-on-year reduction of 4.1%, falling to 16,769.8 t in 2011. For marine aquaculture, the species with the largest production are gilt-head sea-bream and the European seabass; the change in production in 2011 was different for the two species with European seabass production increasing 27.7% to reach 14,876 t, and the gilt-head sea-bream production falling 16.0%, to 16,032 t in 2011.

Marine and continental aquaculture: Fish production



Aquaculture in Spain is concentrated in the Mediterranean, south Atlantic and the Canary Islands, where there are marine farms for the cultivation of gilt-head sea-bream, European seabass, meagre and tuna, estuary farms and rafts for shellfish cultivation. In the north there are land-based farms for the cultivation of turbot, sole and red bream, as well as rafts for the cultivation of shellfish. In inland areas there are farms for trout, sturgeon, tench and salmon.

Spanish aquaculture in 2012 was made up of 5,120 establishments; 4,937 in marine waters and 183 in inland waters. Overall, the total number of establishments decreased by 0.9% last year.

SOURCES

- JACUMAR, National Advisory Board for Marine Crops. Ministry of Agriculture, Food and Environment
- Official Statistics on Fisheries and Aquaculture 2011. Ministry of Agriculture, Food and Environment

FURTHER INFORMATION

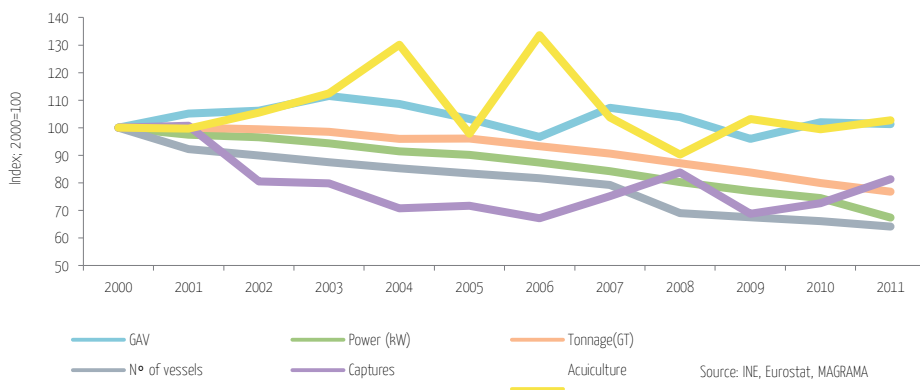
- www.magrama.es



Environmental efficiency in fishing and aquiculture

Fleet capacity continued to decrease in 2011, although catches and aquaculture production increase

Environmental efficiency in the fishing sector and the aquiculture



The analysis of the economic profitability of the sector and the pressure on resources utilised, allow us to analyse in part how the sector has evolved in terms of its environmental efficiency.

The number of vessels, power (measured in kW) and tonnage (GT) of the fishing fleet, have seen a significant decline over the reference period 2000-2011. The fall in the number of vessels, power and tonnage during that period were 35.9%, 32.6% and 23.2% respectively. Last year, the number of vessels declined by 3.1%, from 10,404 ships in 2009 to 10,084 in 2011; power declined 9.5%, from 594,219 kW to 537,807 kW in 2011 and tonnage fell 3.9%, from 166,058 GT to 159,580 GT in 2011. These declines can be attributed to the implementation of the CFP's sustainable guidelines and the aim of achieving a balance between fish stocks and fishing capacity.

In terms of catches, the trend has been variable over the reference period, with catches decreasing by 17.8%, however last year they experienced a recovery of 5.6%, from 276,995 t in 2010 to 286,236 t in 2011.

Aquaculture is an alternative to the exploitation of fish stocks, and is becoming highly important as a sector. Although last year inland aquaculture declined 3.7% with respect to the previous year, in the overall period studied (2000-2011) it grew 2.7%. The large variations the sector



experiences year-on-year are mainly due to fluctuations in mussel production.

At the same time, in economic terms, during 2011 there was a slight decrease in GVA of Agriculture, Livestock and Fisheries, both overall and at current prices of 0.7%. In 2010 the value was 24,554 million euros, while in 2011 it was 24,383 million euros. Nevertheless, for the period 2000-2011, the trend has been upward (1.3%), albeit with slight fluctuations over the years under consideration.

NOTES

- It was not possible to obtain a breakdown of data for Agriculture, Livestock, Forestry and Fisheries to calculate GVA in 2010. For this reason, GVA data at basic prices (total industry), provided by the National Statistics Institute have been used to analyse the indicator.

SOURCES

- GVA: Spanish National Accounts. INE
- Number of vessels, power and tonnage. General Secretary for the Sea. Ministry of Agriculture, Food and Environment
- Catches: Eurostat data, Fisheries.
- Marine aquaculture: Jacumar, General Secretary for the Sea. Ministry of Agriculture, Food and Environment

FURTHER INFORMATION

- <http://www.magrama.es>
- <http://www.ine.es>
- <http://epp.eurostat.ec.europa.eu/>



TOURISM

2.13

Environmental Profile of Spain 2012

According to the provisional data of the latest UNWTO World Tourism Barometer, the number of global international tourists rose 3.8% in 2012, reaching 1,035 million. Emerging economies once again grew faster than developed countries, with the Asia and Pacific region having the best results.

Main inbound world tourism data- 2011 and 2012

Tourist destination	Number of tourists 2011 (million)	Number of tourists 2012 (million)c	Increase 2012/2011 (%)
Europa	517.5	534.8	3.3
Asia y el Pacífico	218.1	232.9	6.8
América (Norte y Sur)	156.3	162.1	3.7
Oriente Medio	55.3	52.6	-4.9
África	49.2	52.3	6.3
TOTAL mundial	996	1.035	3.8

Source: World Tourism Organization. World WTO Tourism Barometer

With 39 million more international tourists than the 996 million of 2011, arrivals were above one thousand million (1,035 million) for the first time in history.



By tourist destination, Asia and Pacific saw the largest growth (6.8%), followed by Africa (6.3%), while by sub-region, Southeast Asian, the North of Africa (both with increases of around 9%) and Central and Eastern Europe (around 8%) headed the list. The arrival of international tourists to Europe, the most visited region in the world, increased by 3%; a highly positive result given the situation of economic instability in Europe. Overall, there were 535 million visitors to Europe, 17 million more than in 2011.

In 2012, growth was more significant in the emerging economies (4.1%) compared to the advanced ones (3.6%), a trend of recent years.

In this chapter several indicators are used to provide information on the state and the trends of tourism in Spain.

KEY MESSAGES

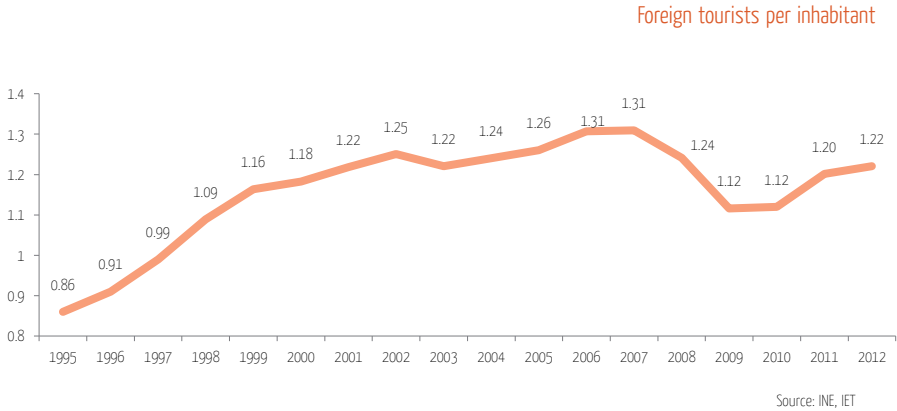
- In 2012 Spain received a total of 57.7 million foreign tourists, 1.8% more than the previous year, the equivalent of 1.22 tourists per inhabitant.
- In 2012 a total of 51.3 million foreign tourists visited the coast. These tourists represent 86.4% of foreign tourism received. The number of foreign tourists per km of coast registered an increase of 2.6%, an average of 6,515 tourists per km.
- The 10 destinations with the highest number of overnight hotel stays reached 165.1 million in 2012, a figure that, expressed in Tourist Population Equivalent, would be equivalent to 452,471 people residing permanently in these destinations.
- In 2012 the number of visitors to the National parks saw a generalised decrease of 6.3%, with 9,535,808 visitors, compared to the 10,181,164 of 2011.
- According to provisional data, in 2012 the number of establishments and the number of beds increased by 2.3% and 3.2% respectively, while the number of tourists and overnight stays declined by 2% and 2.5% respectively.
- In 2012 the variables used to analyse the state of Spanish tourism showed stable trends.

INDICATORS

- Number of foreign tourists per inhabitant
- Number of foreign tourists per kilometre of coast
- Tourist Population Equivalent (TPE) in the areas with the highest number of overnight stays in hotels
- Number of visitors to National Parks
- Rural tourism: accommodations, capacity, tourists and overnight stays
- Trends in the main variables affecting tourism in Spain

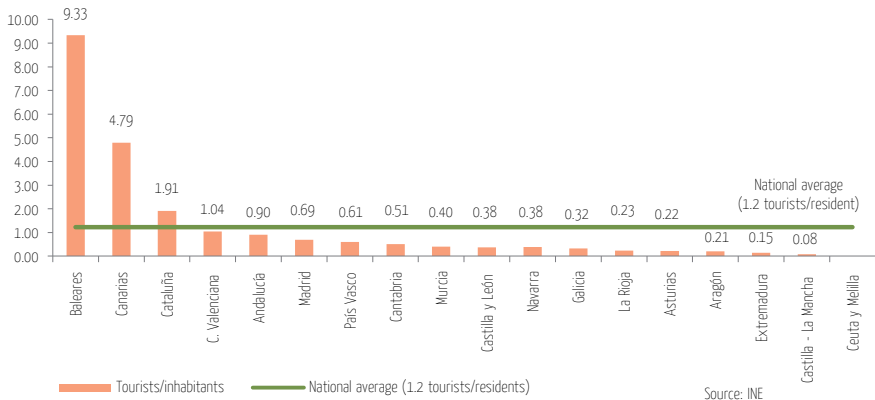
Number of foreign tourists per inhabitant

The number of foreign tourists per inhabitant rose in 2012 to a ratio of 1.22 tourists per resident



During 2012 a total of 57.7 million foreign tourists visited Spain, giving an increase of 1.8% compared to 2011. At the same time, in 2012 the population increased by 0.4%, to a total of 47.3 million inhabitants. As shown by the graph, which illustrates annual movement in the number of foreign tourists per inhabitant, an upward trend is once again observed, with the ratio standing at 1.22 tourists per inhabitant.

Number of tourists per inhabitant by autonomous communities (2012)



The distribution of the number of tourists per inhabitant between the different autonomous communities is very unequal. Only the autonomous communities of the Balearic Islands, with 9.33 tourists/inhabitant; the Canary Islands, with 4.79 tourists/inhabitant and Catalonia, with 1.91 tourists/inhabitant, are above average. The communities with the lowest rate are Castile-La Mancha, with 0.1 tourists/inhabitant and Extremadura with 0.2 tourists/inhabitant.

In absolute terms, Catalonia, with 25% of the total arrivals was the main destination of international tourists in 2012 with 14,447,814 tourists, followed by the Balearic Islands with 18.1% and 1,0442,837 tourists, and the Canary Islands with 17.6% and 10,143,135 tourists.

Number of tourists by mode of entry

	2002	2011	2012	Variation 2011-2012 (%)	Variation 2002-2012 (%)
Airport	34,946,554	44,635,883	46,159,427	3.4	32.1
Road	13,872,392	10,483,708	10,190,611	-2.8	-26.5
Sea	3,049,755	1,434,379	1,222,779	-14.8	-59.9
Rail	458,066	140,328	127,896	-8.9	-72.1
TOTAL	52,326,767	56,694,298	57,700,713	1.8	10.3

Source: Tourism studies Institute

The airport was the main mode of transport used by non-resident tourists in 2012 to arrive: 80% of tourists used it compared with 17.7% that came by road. Only 2.1% came by sea and 0.2% by rail.

In analysing the trends in the mode of entry for tourists, we can see that, apart from air transport that increased by 32.1%, for the period 2002-2012, the other modes of entry saw decreases: 72.2% in the case of rail, 59.9% in the case of sea and 26.5% in the case of car. On a year-on-year basis (2011-2012), this trend was maintained, with airport access increasing by 3.4%, while the other modes of entry decreased, in this case by 14.8% for sea, 8.9% for rail and 2.8 for road.

NOTES

- The indicator measures the relationship between the number of foreign tourists and the resident population. Its value lies in its capacity to show the burden borne by tourist destinations, as in order to ensure the sector's sustainability it is desirable to maintain an appropriate ratio between the number of visitors and the resident population. Nationally, the rate is lower than in neighbouring countries, such as France and Italy, but it rises significantly on the Mediterranean coast, and particularly in the three autonomous communities mentioned above.
- Tourist: any person travelling to a place other than his/her usual place of residence, who stays at least one night for a purpose other than the exercise of paid activity.
- Carrying capacity of an area: concept used to assess tourism's sustainability. According to the UNEP, this is the maximum number of tourists that can visit a tourist destination at the same time, without this causing economic, socio-cultural or environmental damage and without a decrease in the visitors' satisfaction. Carrying capacity is established for a destination in accordance with a desirable quality of life.
- According to the UNEP, sustainable tourism will play a vital role in developing a green economy: "While the growth in tourism has been accompanied by significant challenges- for instance, in terms of GHG emissions, water consumption, discharge of untreated water, waste generation, damage to local terrestrial and marine biodiversity, and threats to the survival of local cultures and traditions- tourist are driving the greening of the sector, as shown by the 20% annual growth rate of the ecotourism, about six times the rate of growth of the whole sector. "UNEP, 2011: Towards a green economy. Pathways to Sustainable Development and Poverty Eradication".

SOURCES

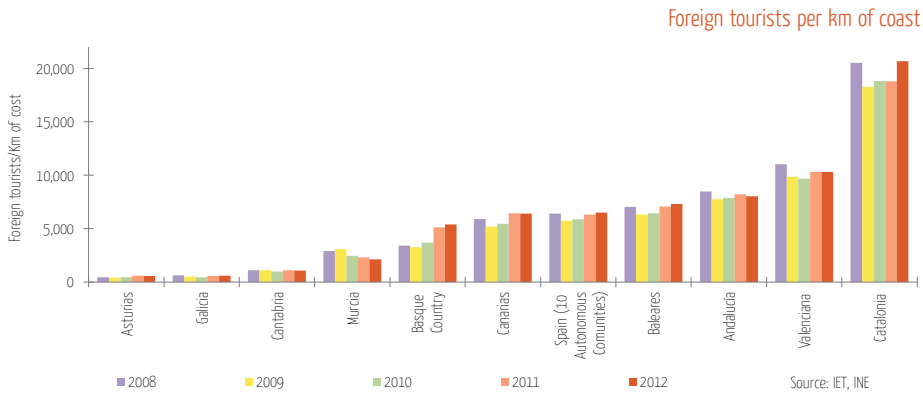
- Tourism studies Institute. Spanish Border Survey of Inbound Tourism (FRONTUR). 2012 (provisional data).

FURTHER INFORMATION

- <http://www.iet.tourspain.es>
- <http://www.ine.es>

Number of foreign tourists per kilometre of coast

In 2012, there were 6,515 tourists per km of coast, 2.6% higher than in 2011



In 2012 a total of 51.3 million foreign tourists visited our coasts. These tourists made up 86.4% of total foreign tourism received.

In absolute terms, 68.2% of foreign tourism is concentrated in three of the coastal autonomous communities: Catalonia, with 14,447,814 foreign tourists; the Balearic Islands, with 10,442,837 tourists and the Canary Islands, with 10,143,135, are the preferred destinations. At the same time, the coastal autonomous communities with the lowest numbers of foreign tourists were Asturias and Cantabria, with 231,737 and 302,813, respectively.

In relative terms, this is equivalent of an average of 6,515 tourists per kilometre of coast, with a year-on-year increase of 2.9%. Catalonia is the community with the highest quantity of tourists per km of coast (20,669), followed by Valencia (10,322), Andalusia (8,028) and the Balearic Islands (7,313); all of these are above the average rate.

The year-on-year trend of the number of foreign tourists per km of coast is quite varied. Again, Catalonia is the autonomous community with the largest increase, 9.9%; other communities that have experienced significant increases are Galicia and the Basque Country, each showing growth of 5.7%. At the same time, the Communities that have suffered the largest declines in tourists per km of coast are Murcia and Asturias, with negative rates of 7.7% and 4.2%, respectively.

Foreign tourists per km of coast

Autonomous communities	2011	2012	Variation 2012/2011 (%)
Asturias	603	578	-4.2
Galicia	568	601	5.7
Cantabria	1,107	1,066	-3.7
Murcia	2,305	2,128	-7.7
País Vasco	5,116	5,407	5.7
Canarias	6,450	6,408	-0.7
Baleares	7,081	7,313	3.3
Andalucía	8,217	8,028	-2.3
C. Valenciana	10,304	10,322	0.2
Cataluña	18,803	20,669	9.9
España (10 ACs)	6,331	6,515	2.9

The Cantabrian and Galician coasts received 2.7 million foreign tourists (5.4% of the total) compared to the 34.4 million tourist who visited the Mediterranean coast (74.8% of the total) and the 10.1 million who visited the Canary Islands (19.8% of the total). These figures yield a ratio of 1,138 tourists per km of coast in the north, 9,940 in the southeast and 6,408 for the Canary Islands.

NOTES

- This indicator establishes the ratio between the number of foreign tourists who visit the Spanish coast and the length of coastline.
- The data on length of coastline used to calculate the indicator was provided by the National Statistics Institute (length of the Spanish coast by province) and are based on 2008 figures provided by the Geographical National Institute. The total length of the coastline of the provinces included stands at 7,876 km (excluding islands and islets belonging to provinces on the peninsula).
- The same authority also provides data on the following sections of coastline: Bay of Biscay: 1,583 km; Atlantic coast: 1,728 km; Mediterranean coast: 2,058 km; Balearic Islands: 1,428 km; Canary Islands: 1,583 km; Ceuta, Melilla, Chafarinas and islets: 32. Total: 7,915 km

FUENTES

- Tourism Studies Institute. Spanish Border Survey of Inbound Tourism (FRONTUR), 2012 (provisional figures).
- National Statistics Institute. Physical environment. Length of the coasts and borders. Length of the Spanish coast by province, 2012

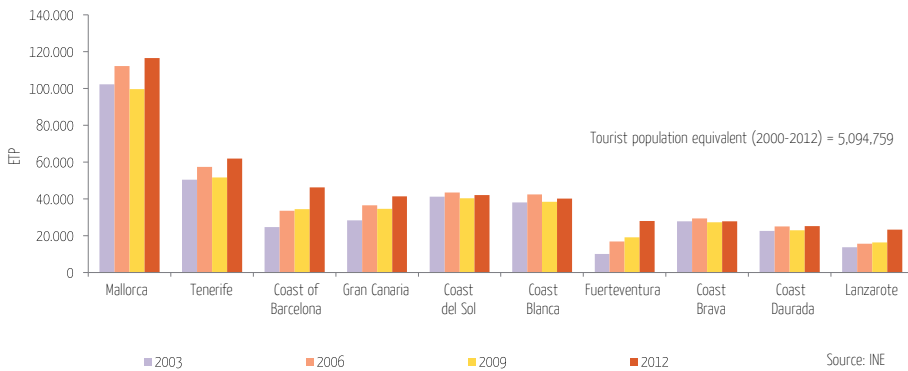
FURTHER INFORMATION

- <http://www.magrama.es>
- <http://www.iet.tourspain.es>

Tourist Population Equivalent in the areas with the highest number of overnight stays in hotels

In 2012 the Tourist Population Equivalent in the areas with the highest number of overnight stays was 452,471 persons.

Equivalent tourist population (ETP) in the areas with the major number of overnight stays



Every year, the National Statistics Institute publishes the Hotel Occupancy Survey, which, among other variables, contains the figure for overnight stays in the 38 main tourism areas. The 10 areas with the highest number of tourists have been selected, with the trends of these over the period 2003-2012 being shown in the graph.

In this period, there were 1,859.6 million overnight stays, which in Tourist Population Equivalent (persons residing permanently in these destinations), would be equal to an additional 5,094,759 inhabitants. As in previous years, all 10 areas included are on the coast. In 2012, the tourist destination of Lanzarote has pushed Ibiza-Formentera into eleventh place on the survey. Among all the tourist destinations covered, the only non-coastal area included is the Pyrenees, which received a total of 2,783,712 overnight stays, 7,627 in Tourist Population Equivalent.

Tourist population equivalent in the 10 areas with the highest
number of overnight hotel stays

	2000	2001	2002	2003	2004	2005	2006
Tourist population equivalent	363,443	364,260	346,733	358,709	356,312	372,199	412,118
Index	100.0	100.2	95.4	98.7	102.8	107.3	118.9
	2007	2008	2009	2010	2011	2012	
Tourist population equivalent	410,352	410,338	384,227	410,620	452,976	452,471	
Index	118.3	118.3	110.8	118.4	130.6	130.5	

An analysis of the trend in Tourist Population Equivalent over the period 2000-2012 reveals that the areas with the highest growth in tourism in terms of the number of overnight stays has been Fuerteventura (157.3%), the coast of Barcelona (99.2), and, some way behind, Lanzarote (66.1%), while the areas that saw a decline during this period were the Costa Brava (6.6%) and Ibiza-Formentera (4.7%).

Last year there were no major increases in the number of overnight stays in the main tourist destinations, and for many of them the number declined. In this respect, the highest annual growth rate was registered by Mallorca with an increase of 2.5%, followed by the Costa Daurada (1.4%), the Costa del Sol and Tenerife (0.6% each). At the same time, the destinations that have experienced the greatest declines in terms of the number of overnight stays were Fuerteventura (8.5%), Ibiza-Formentera (4.1%) and the Costa Brava (2.4%). The rest of the tourist destinations analysed saw increases or decreases of less than 1%.

NOTES

- The Tourist Population Equivalent provides a clear view of the pressure exerted by the sector by converting the number of overnight stays into the equivalent number of people living in that location all year round. From an environmental point of view, the indicator's value lies in its ability to a) highlight the areas whose hotels receive the greatest numbers of tourists (both resident and non-residents), and b) monitor trends in these areas over time. The indicator is calculated by dividing the number of overnight stays by 365 days.
- Spain's principal tourist destinations are generally well-established and include the 10 areas selected for this indicator. These areas require special treatment from stakeholders if they are to be steered towards sustainability. Sustainability tourism has been encouraged by the Spanish government through the MITyC's FuturE Plan (approved in 2009), which promotes sustainability and eco-efficiency in the tourism sector. Its aims are to consolidate Spanish leading position in the sector and to position it at the forefront as regards rational energy use, renewable energy use, water footprint reduction and waste management.
- Other noteworthy initiatives to improve Spain's tourism offering and its sustainability include: A) the 'Q' for Tourist Quality Standard, awarded by the ICTE, under which establishments are audited to confirm they provide a high-quality service (at present, 2,204 establishments have been awarded this status); B) The EUROPARC Federation's European Charter for Sustainable Tourism in Protected Areas (ECST), which ultimately aims to promote the development of sustainable tourism in Europe's protected areas. Commitment and adherence to the ECST is voluntary and it is aimed at managers of protected areas and related business and is intended to provide a partnership framework within which to define strategy; C) The Plan for the International Promotion of Cultural Tourism 2010-2012, developed by three ministries. Its goal is to raise the international profile of Spain's cultural offering and to encourage more tourists to visit the country for cultural reasons. The aim is to diversify the tourism offering by promoting tourist destinations other than the traditional 'sun-and-sea' venues; D) The Spanish tourism portal (<http://www.spain.info/es/>), which publishes listings of cultural events taking place throughout Spain.

SOURCES

- INE: Hotel Occupancy Survey (EOH) 2000-2012

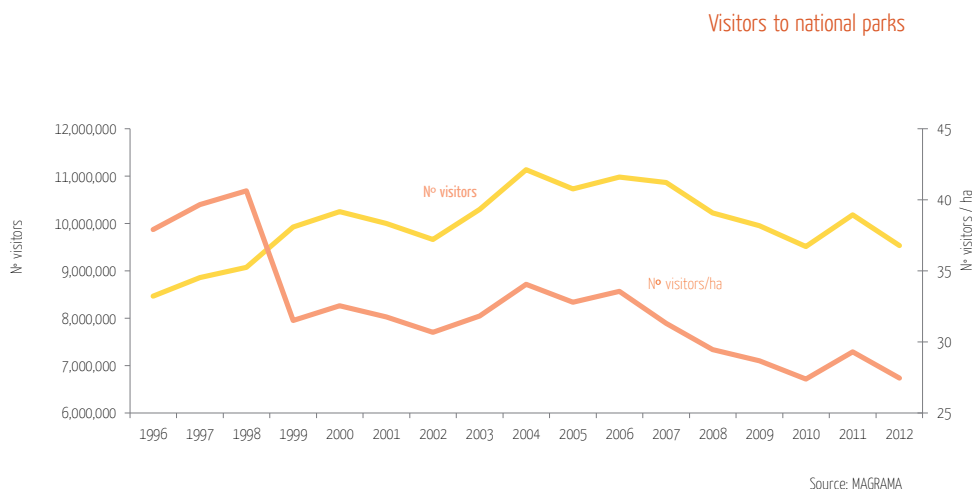
FURTHER INFORMATION

- <http://www.ine.es>



Number of visitors to National Parks

In 2012 the number of visitors to National Parks fell by 4.8% in relation to the previous year



In 2012 there were 9,535,808 visitors to National Parks (NP) a decline of 6.3% compared to the 10,181,164 visitors in 2011. This decline in the number of visitors was generalised, and all the National Parks, with the exception of the 'Cabrera Archipelago' National Park have recorded, to varying extents, a lower number of visits.

The biggest fall in the number of visits occurred in the Tablas de Daimiel National Park, which has seen a 33.6% reduction in visits, from 204,314 visitors in 2011 to 135,611 in 2012. This is followed by the Caldera de Taburiente National Park and Doñana National Park, with a decrease in visitor numbers of 16.5% and 13.2% respectively.

As mentioned, the Cabrera Archipelago National Park is the only park that in 2012 had an increase in the number of visits, with a rise of 43.2%: from 75,444 in 2011 to 108,188 visitors in 2012. It should be taken into account that Cabrera Archipelago National Park and Cabañeros National Park are the parks that receive least visitors, with their share of the total number of visitors to parks in 2012 being 1.1% and 0.8% respectively.

In absolute terms, in 2012, Teide National Park with 2,660,854 visitors is the national park with the highest number of visits during the year, followed by the Picos de Europa National

Park with 1,566,124 visitors and the Timanfaya National Park with 1,474,383. In these three parks the decrease in the number of visitors was 2.6%, 8.8% and 4.8% respectively.

Likewise, if the indicator for the 'number of visitors to national parks' is analysed in relation to the area of the park, in 2012 there was an average of 27.5 visitors/hectare, which is lower than the figure for the previous year (29.3 visitors/hectare). The national parks with most visitors per hectare were Timanfaya (288.7 visitors/hectare), followed by Garajonay (186.8 visitors/hectare) and Teide National Park (140.1 visitors/hectare). The parks that received least visitors per hectare were Cabañeros (2.0 visitors/hectare), Doñana (5.2 visitors/hectare) and the Sierra Nevada National Park (7.9 visitors/hectare).

Visitors to national parks 2011-2012

National Park	Area (hectare)	2011		2012	
		Visitors	Visitors/ha	Visitors	Visitors/ha
Aigüestortes i Estany de S. Maurici	14,119	322,572	22.8	299,658	21.2
Cabrera Archipelago	10,021	75,544	7.5	108,188	10.8
Cabañeros	40,829	92,038	2.3	81,150	2.0
Caldera de Taburiente	4,690	424,832	90.4	354,901	75.7
Doñana	54,252	326,013	6.0	282,817	5.2
Garajonay	3,984	825,638	207.2	744,304	186.8
Atlantic Islands of Galicia	8,480	322,396	38.0	280,798	33.1
Monfragüe	18,396	296,219	16.1	259,408	14.1
Ordesa & Monte Perdido	15,608	612,500	39.2	607,450	38.9
Picos de Europa	64,660	1,717,728	26.6	1,566,124	24.2
Sierra Nevada	85,833	680,883	7.9	680,162	7.9
Tablas de Daimiel	1,928	204,314	106.0	135,611	70.3
Teide	18,990	2,731,484	143.8	2,660,854	140.1
Timanfaya	5,107	1,549,003	303.3	1,474,383	288.7
TOTAL	346,897	10,181,164	29.3	9,535,808	27.5

Source: National Parks Organism, MAGRAMA, 2012

Notes: size of the Atlantic Islands National Park: 7282.2 maritime hectares and 1,194.8 ha terrestrial.

Size of Cabrera National Park: 8,703 maritime hectares and 1,318 terrestrial.

NOTES

- The indicator shows the number of visitors to National Parks, as well as the number of visitors per hectare. While the first variable reveals a rising trend up to 2008, the latter declined as a result of the increase in the area of Spain's National Parks, which now cover 347,306 hectares (INE, 2011). Moreover, the protected environment around National Parks now stands at 265,856 hectares.
- The sharp decreases observed in the graph (1999,2003 and 2007) correspond to the enlargement of the National Parks Network to include the Sierra Nevada, Atlantic Islands of Galicia and Monfragüe National Parks, respectively. The latter was incorporated by Law 1/2007, of 2 March, declaring the creation of a National Park (BOE number 54, of 3 March 2007), and increased the size of the National Parks Network by 5.22%.
- The land within national parks may be publicly or privately owned. In two cases (Cabrera Archipelago and Garajonay) the entire National Park is publicly owned. In five other cases (Aigüestortes, Ordesa, Tablas de Daimiel, Teide and Timanfaya) over 90% of the area is publicly owned. The Caldera de Taburiente (86%), Monfragüe (69.58%), Islas Atlánticas (27%), Sierra Nevada (23.72%) and Doñana (15.6%) National Parks contain the largest area of privately owned land.

SOURCES

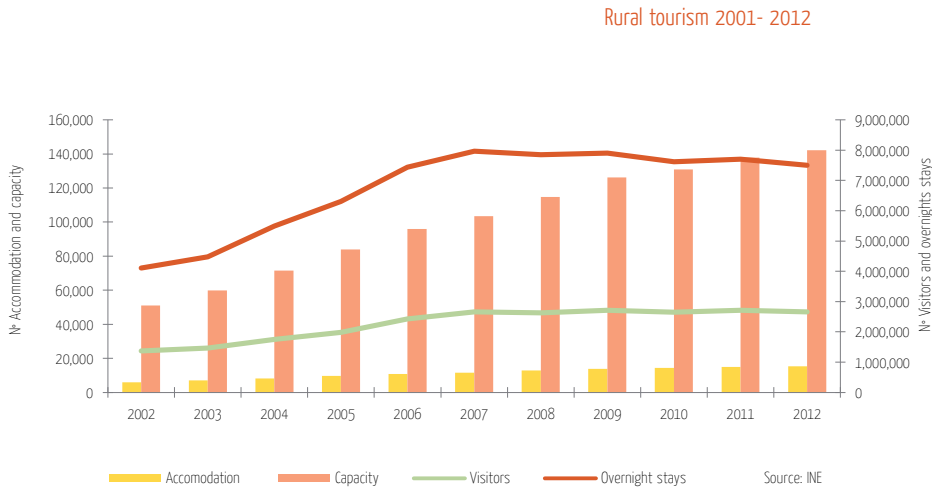
- Data provided by the Documentation Service at the Autonomous Body of National Parks (2012).
- National Statistics Institute. National Parks by situation, area and ownership, 2012.

FURTHER INFORMATION

- <http://www.magrama.es>
- <http://reddeparquesnacionales.mma.es/parques/index.htm>
- <http://www.ine.es>

Rural tourism: accommodation, capacity, tourists and overnight stays

In 2012, accommodation and capacity increased while the number of tourists and overnight stays decreased



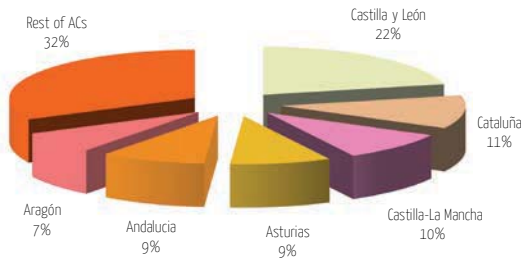
Tourism is an important economic alternative in rural areas, as an additional source of income and an alternative to the agricultural model and other traditional activities. The development of rural and nature tourism, modalities that are supported by the development of the rural accommodation and by companies offering complementary activities of nature tourism and active tourism, provide a means to maintain the population in these areas that, during recent decades, have seen a significant decline.

In 2012, the trends related to rural tourism, accommodation, capacity, number of tourists and overnight stays have been variable. On the one hand, the capacity and the amount of rural tourism accommodation has increased and, on the other hand, the number of tourists and overnight stays has decreased. According to provisional figures, in 2012 there were 15,389 establishments offering rural tourism accommodation, with a year-on-year increase of 2.3%. Likewise, the capacity offered has increased by 3.2%, to reach 142,209 beds. On the other hand, and with decreasing year-on-year rates of 2% and 2.5% respectively, the amount of visitors in 2012 was 2,662,671 and overnight stays 7,504,079.



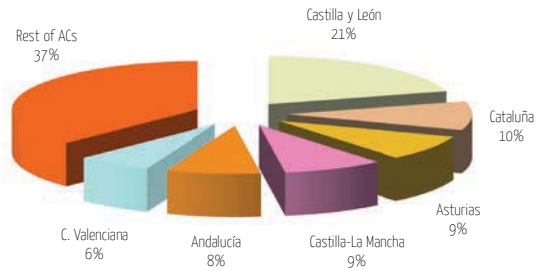
According to the Tourism Accommodations Register, in 2012 the autonomous communities with the largest tourist infrastructures, with more than a thousand active establishments, are: Castile-Leon with 3,303 establishments (21.5%), followed by Catalonia (1,722), Castile-La Mancha (1,498), Andalusia (1,410), Asturias (1,351) and Aragon (1,125). These communities make up 67.6% of the total (10,411 establishments).

Rural Tourism Accommodations Distribution. 2012



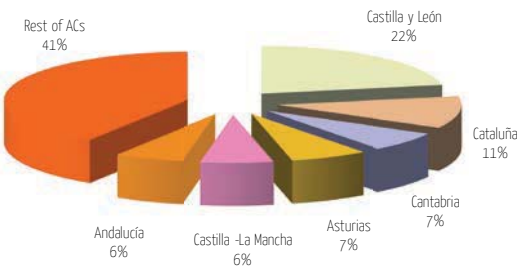
Number of Rural Tourism Vacancies. 2012

Source: INE



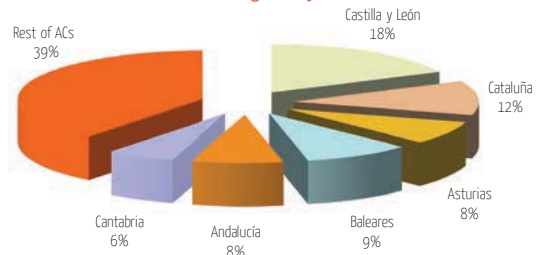
Source: INE

Number of Travelers. Rural Tourism. 2012



Source:

Number of Overnight Stays. Rural Tourism. 2012



Source: INE

Analysis of the other variables in terms of accommodation offered, by autonomous community, reveals that Castile-Leon has the greatest number of beds on offer (29,360), followed by Catalonia (13,844) and Castile-La Mancha (12,422); the autonomous communities offering the least number of beds are La Rioja (1,041) and Murcia (2,900).

By number of tourists received, Castile-Leon once again led the ranking, receiving more with 587,798, followed by Catalonia (290,931) and Asturias (181,261). Again, La Rioja (28,964) and Murcia (38,162) are the communities with the lowest number of visitors. Finally, if the number of overnight stays is analysed, again Castile-Leon has the greatest number registered, with 1,350,090, followed by Catalonia (860,858) and Asturias (705,061).

Finally, the average stay in these establishments was 2.8 days in 2012, similar number to the previous year, and the sector created 21,634 new jobs, 1.62% less than the previous year.

NOTES

- Rural tourism accommodation refers to establishments or houses that charge for tourist accommodation (with or without other complementary services) and that are listed in the Tourist Accommodation Register maintained in each autonomous community. These establishments tend to share several common features, such as being located in buildings typical of the local architectural style or on working farms (agro-tourism).
- Law 45/2007, of 13 December, on sustainable development of the rural environment, promotes rural tourism by managing supply and encouraging demand. Particular attention is paid to sustainable tourism in priority rural areas and to agro-tourism or tourism linked to agricultural activity. The sustainable rural development Programme for 2010-2014 is now being implemented and is putting into practice the principles of Law 45/2007.

SOURCES

- National Statistics Institute. Survey of Tourist Accommodation Occupancy, 2012.

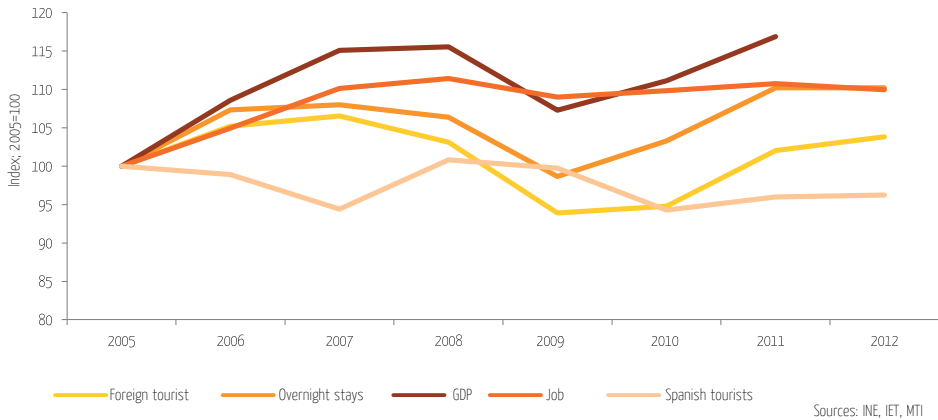
FURTHER INFORMATION

- <http://www.magrama.es>
- <http://www.ine.es>

Trends in the main variables affecting tourism in Spain

The figures for 2012 show general stability of the main tourism variables in line with the previous year

Trends of the main tourism variables



The contribution to GDP of all the tourism activities at current prices for the period 2005-2011 has been analysed taking into account the accounting series (base 2000) for the years 2005 to 2008, and the accounting series (base 2008) for the years 2009 to 2011. In this period, a progressive increase can be seen, interrupted only in 2009, a year in which GDP contracted by 7.2% with respect to the previous year, before growing again in 2010 and 2011 to reach the highest values of the series. In 2011 the contribution of tourism to GDP increased by 5.5% compared to 2010 (advance figures provided by the National Statistics Institute). In absolute figures, the contribution went from 109,325 million euro in 2010 to 114,965 million euro in 2011.

Taking into account GDP trends, along with the situation of world economic instability, the main variables affecting tourism analysed in the graph show stable behaviour over the last year. 2012 was the third best year in terms of the arrival of tourists to Spain, after 2006 (58.4 million) and 2007 (59.2 million), with an increase in expenditure and the number of overnight stays.

Spain was the destination for 57.7 million international tourists, a growth of 1.78% with respect to the previous year that saw 56.7 million tourists. Total expenditure was 55,777 mi-



lillion euro (with an annual increase of 5.9%). Average expenditure per person grew by 2.7%, to 968.80 euro.

As regards domestic tourism, the number of trips made by Spaniards stayed nearly constant, with an increase of 0.3% in 2012, a figure that reflects the uncertainties created by economic instability and the fragility of the national labour market.

At the same time, the creation of employment related to the tourism is the only variable studied that declined over the past year. In 2012, the number of individuals registered with the social security fell by 0.7% in the year-on-year rate for the overall year. The number of social security registrations in 2012 was 1,934,542, compared to 1,948,374 of the previous year.

NOTES

- GDP figures (absolute value) for 2010 are provisional, while those for 2011 are an advance estimate.
- For GDP the accounting data series Base 2000 for the years 2005 to 2008 and the accounting series Base 2008 for the years 2009 to 2011 have been used.
- The travel figures for Spanish nationals (2012) are taken from the monthly reports up to November published as part of the FAMILITUR survey carried out by the Tourism Studies Institute. In order to have the annual figures, the trips made in the month of December have been estimated (not available at the time the indicator was calculated) based on the previous year's data.
- The number of overnight stays was calculated taking into account the number of overnight stays of residents in Spain and abroad in the surveys of hotel, campsite, short-stay apartment and rural tourism accommodation occupancy for the 2005-2012 data series.

SOURCES

- National Statistics Institute: GDP at constant prices. Tourism satellite account of Spain. Base 2000.
- National Statistics Institute: GDP at constant prices. Tourism satellite account of Spain. Base 2008.
- National Statistics Institute: domestic tourism (overnight stays by tourists resident in Spain).
- National Statistics Institute: occupancy surveys (overnight stays by foreign tourists).
- National Statistics Institute: inbound tourism (number of foreign tourists).
- Ministry of Labour and Immigration (quoted by the Tourism Studies Institute): number of employees in all tourism activities making social security contributions.
- Tourism Studies Institute: FAMILITUR (journeys by Spanish nationals up to November 2011, and estimate for December).

FURTHER INFORMATION

- <http://www.iet.tourspain.es>
- <http://www.ine.es>

TRANSPORT



2.14

Environmental Profile of Spain 2012

Transport is a crucial sector for social and economic development. In Europe it provides direct employment to 10 million people and represents around 5% of the GDP. In Spain, the Gross Added Value (GAV) of 'Transport and storage' sector activities in 2011 was 5.1% of the total, slightly higher than the proportion in 2010, of 4.8%, and previous years. Between 1990 and 2012 employment in the transport sector increased by almost 22.1%. This growth was continuous from 1994 up to 2007 when there were 890,000 employees, at which time it began to fall, a trend that has seen employment fall to 728,000 persons in 2012 (a decrease of 5.7%).

From a household point of view transport is a significant cost burden. The 2011 Survey on Households Budgets, carried out by the National Statistics Institute, found that the budget for transport was 12% of the total, being 3,530 euro. It decreased by 3.1% with respect to 2010. According to Eurostat, an average European household allocates 13.2% of its budget to transport goods and services.

From an environmental point of view, transport is responsible for almost one quarter of total GHG emissions (24.9% in 2011). More than 90% of these emissions come from road transport. Furthermore, the development of transport systems' linear infrastructures has a significant impact on natural habitats (surface loss, barrier effect, accidents, etc.), as well as on people, both due to



respiratory problems and acoustic pollution from traffic congestion, and from traffic accidents. These have been reduced in recent years, but continue to be a societal problem.

The Infrastructure, Transport and Housing Plan 2012-2014 developed by the Ministry of Development and presented to the public in September 2012, is a further step in management and financing models for public investment. In part its configuration revolves around the cooperation between the public and private sector. The Plan has as one of its principles the promotion of sustainable transport.

KEY MESSAGES

- A decoupling was observed between the economic growth of transport (growth of 78% between 2000 and 2011) and some of the main variables such as the transport of interurban freight (which fell 8.6%) and passenger transport, and energy consumed (both of which increased 11% during that period). The GAV is the only variable that has continued to grow over recent years, compared to decreases in transport demand and energy consumption.
- The structure of the passenger car fleet has changed to have more diesel vehicles; in 2011 there were 47.1% petrol vehicles and 52.9% diesel vehicles. At the same time the emergence of hybrid passenger vehicles can be observed, with approximately 20,700 vehicles registered in 2011. In 2011, 65.8% of passenger vehicles complied with the EURO III standard and subsequent, and 36.8% with EURO IV and subsequent.
- The EU has passed legislation in relation to emissions for new passenger vehicles, as part of its integrated approach to reduce CO₂ vehicles emissions. In Spain, in 2011, a total of 809,930 passenger vehicles were sold, with a nominal average emission of 133.8 g of CO₂/km.
- The energy consumption of transport has increased by 84% between 1990 and 2011, with continuous growth up to 2007. National transport consumed 69.5% of all the energy used by the sector, with road transport almost 92%. Diesel was used for the production of almost 70% of the energy consumed in 2011.
- There was a reduction in the quantity of pollutants emitted per energy unit used in transport, especially of ozone and acidifying precursors and, to a lesser extent, of particulate matter and GHG. The renewal of the vehicle fleet, with cars that are continually more efficient and consume less, is one of the main causes.

INDICATORS

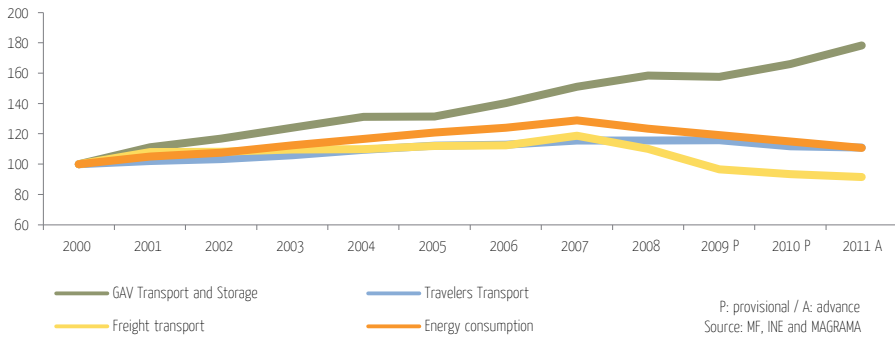
- Main transport variables
- Passenger vehicle fleet by fuel type
- Specific emissions of new passenger vehicles
- Energy consumption of transport
- Intensity of air pollutants emissions from transport



Main transport variables

The economic growth of transport is decoupled from energy consumption and from the demand of travellers and freight transport

Main variables of transport: travelers and freight transport, energy consumption and GAV of the sector (Index 2000=100)



The transport sector is one of the most important in a country's development, both in itself and for its contributions to other sectors. The sector's contribution to the GAV of the Spanish economy (measured in current prices) in 2011 was 5.1%, a value similar though slightly higher, to that of previous years (4.8% in 2010, 4.5% in 2005 and 4.9% in 2000). During the period 2000-2011, the growth of this variable was 78.3%, higher than other figures that help to measure the sector, such as demand for transport and energy consumption.

Transport energy consumption, which has a direct relationship with the emission of air pollutants, reached its maximum in 2007, with a declining trend starting in that year. In 2011, energy consumption was 10.7% higher than in 2000, while in 2007 it was almost a 30% higher. By types of transport, road transport consumes the largest amount of energy (91% in 2011, referring only to domestic road transport). Domestic maritime transport consumed around 4%, air 3.6% and rail 1.4% (both with reference to domestic traffic). Compared with the distribution of the year 2000, a slight increase in the consumption rate of maritime and rail transport can be seen, at the expense of air and road traffic.

Regarding road traffic, during the period 1990-2011, energy consumption has increased 64.5%, of which the energy coming from petrol declined by 38.8%, while that coming from diesel fuel increased by 150.3%. An increase in the use of biomass, from 0.3% of energy consumption in road transport in 2000 to 6.5% in 2011, was observed.

In 2011, the distribution by transport type for passenger's domestic travel maintained the trend of previous years, with road transport having the highest demand (90%), followed by rail and air. The same scenario is seen for freight, with road being the main mode of transport with 81%, and maritime having more than 12%. Rail only transported 2.5% of total freight in 2011.

In terms of growth, between 2000 and 2011, passenger road transport demand, the most used type, increased by 11%, while rail increased by 18.6%, due to the development of high speed railways. Air transport has increased at only around 3%, while maritime increased by around 7.5%, with significant development of cruising as a holiday option.

Regarding freight transport, 2007 saw the highest demand volume, with all transport types seeing significant declines up to 2011 (20.3% in road, 6.3% maritime, 30.4% rail and 11% pipeline). During the period 2000-2011, maritime and pipeline transport saw increases (13.6% and 14.4%, respectively), while freight transport by road declined by 11% and by rail 34.1%.

For air transport, AENA provisional data estimates that in 2012 Spanish airports had 5% less passenger traffic, and 10.1% fewer air operations in relation to 2011.

NOTES

- The indicator is calculated by presenting in a direct manner the annual information of the four variables in index terms, with the year 2000=100.
- The unit of measurement used for passenger traffic is passenger-kilometre and is calculated by multiplying the annual number of passengers by the number of kilometres travelled.
- The unit of measurement of freight transport is the tonne-km, calculated by multiplying the number of tonnes transported by the number of kilometres travelled.
- The energy consumption figure does not include air transport or international maritime consumption.

SOURCES

- Ministry of Development (MF), 2012. Transport and infrastructure. Annual report 2011.
- Ministry of Agriculture, Food and Environment, 2013. Spanish GHG Emissions Inventory. Years 1990-2011. Directorate-General on Environmental Quality and Assessment and Natural Environment.
- National Statistics Institute, 2013. Spanish National Accounting. GAV at current prices. In INEbase / Economía / Cuentas Económicas / Contabilidad nacional de España. Base 2008 / Accounting tables 2000-2011.

MORE INFORMATION

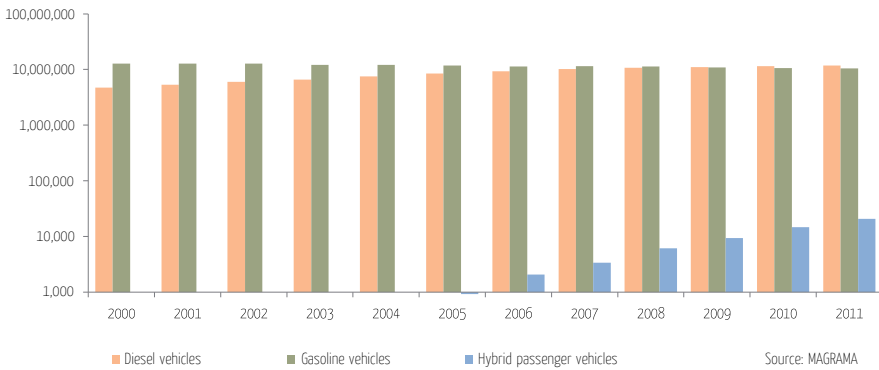
- <http://www.fomento.es/>
- <http://www.magrama.gob.es/es/calidad-y-evaluacion-ambiental/temas/sistema-espanol-de-inventario-sei/>
- <http://www.eea.europa.eu/>



Passenger vehicle fleet by fuel type

The structure of the passenger vehicles fleet is changing and includes a higher proportion of diesel vehicles.

Fleet of passenger vehicles according to the type of engine



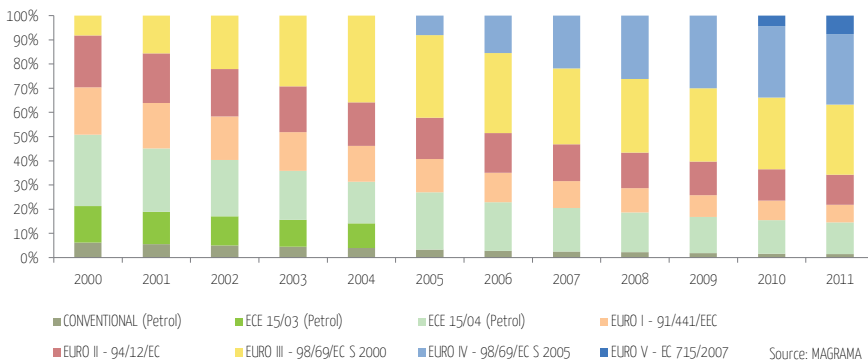
The passenger vehicle fleet in Spain has undergone a structural change in which the proportion of diesel vehicles has increased at the expense of petrol vehicles. During the period 2000-2011 alone the total number of passenger cars increased by 27.5%, to reach 22,251,437 registered vehicles. Separately, diesel cars have increased by 150% while petrol cars declined by 17.9%.

The structure of the fleet in the year 2000 was made up of 73.1% petrol passenger vehicles and 26.9% diesel vehicles. In 2005, there were 58.3% of petrol passenger vehicles and 41.7% diesel vehicles, with the emergence of the start of trend for hybrid vehicles (petrol only) of 0.004% (around 900 vehicles). In 2011, the structure has been turned on its head, with 47.1% of the fleet being petrol vehicles and 52.9% diesel. Hybrid vehicles reached almost 20,700 (around 0.1% of the total), although it appears that their growth is consolidating year on year. The importance of diesel vehicles has grown to a greater extent and in 2011 54.5% of all passenger vehicles used this fuel.

The European Union has been introducing fuel requirements in order to reduce the polluting vehicle emissions. Such things as the prohibition on advertising unleaded fuel, the supply of zero sulphur fuels and the promotion of biofuels have been, among others, measures included in the legal framework (through the adoption of regulations or the implementation

of directives). One of the most important aspects, characterised by a progressive tightening of the requirements, has focused on reducing the limit values of polluting emissions from motor vehicles. Action has been taken in relation to fuel quality as well as to the best engine system techniques for best use and efficiency, and also in terms of the information provided to the public regarding vehicles and their components, and the possibility of tax incentives. The Euro standards have incorporated these improvements gradually, adapting the fleet of vehicles by renewal according to the established requirements.

Distribution of the fleet of vehicles classified per type of fuel according to the Euro norm



NOTES

- The data for hybrid vehicles are from an estimation made by the General Traffic Directorate in relation to certain manufacturers.
- The data of the hybrid vehicles are referred to petrol models. No accounting is made for other models.
- The graph 'Fleet of passenger vehicles according to engine type' is represented in logarithmic scale due to the difference in the scale of the hybrid vehicles.

SOURCES

- Ministry of Agriculture, Food and Environment, 2013. Spanish GHG Emissions Inventory, Years 1990-2011. Directorate-General on Environmental Quality and Assessment and Natural Environment.
- Directorate-General of Traffic. Statistics of the Directorate General of Traffic (several years).

MORE INFORMATION

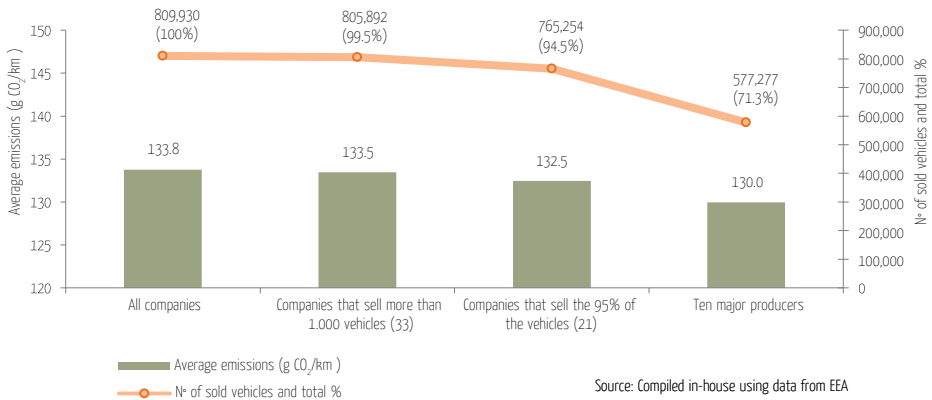
- <http://www.magrama.gob.es/es/calidad-y-evaluacion-ambiental/temas/sistema-espanol-de-inventario-sei/>
- <http://www.dgt.es>
- <http://movele.es/>
- <http://www.eea.europa.eu/>



Specific emissions of new passenger vehicles

The average vehicle emissions of the 10 biggest manufacturers in Spain, whose sales represented 71.3% of passenger vehicles, was 130 g of CO₂/km

Vehicles sold in Spain (number and percentage with respect to the total) and average emissions. Year 2011



The European Environment Agency (EEA) collaborates with the European Commission in the control of CO₂ emissions of passenger vehicles, and offers the public, for consultation, the data base containing manufacturers information in accordance with the Regulation (CE) 443/2009.

The available information for Spain allows the following conclusions to be drawn:

- In Spain a total of 809,930 passenger vehicles were sold in 2011. Their nominal average emission was 133.8 grams of CO₂/km, of which only 58.3% (472,238 vehicles) had an average emission lower than 130 g of CO₂/km. The only vehicles included in the EEA database with an average emission of 0 g of CO₂/km were electric vehicles.
- Analysing only those brands that have sold more than 1,000 vehicles, the total introduced into the market was 805,892, and the nominal average emission of these was 133.5 g of CO₂/km, very similar to the previous figure. The lowest average emission of these brands is 98.5 g of CO₂/km.
- The average emissions of the biggest manufacturers (meaning those brands whose overall

sales represent 95% of the total sales) are slightly lower than average emissions. This percentage is equivalent to 765,254 vehicles, with a nominal average emission of 132.5 g of CO₂/km. In this group of brands, the lowest value of nominal average emission was 120.5 g of CO₂/km.

- Finally, the 10 biggest manufacturers sold, in 2011, a total of 527,277 vehicles (71.3% of the total), with a nominal average emission of 130 g of CO₂/km, of which 75.5% release less than 130 g of CO₂/km. The brand with the lowest nominal average emission sold vehicles with an average of 124 g of CO₂/km.

NOTES

- The indicator is calculated using the database 'Cars and CO₂' of the EEA (Monitoring of CO₂ emissions from passenger cars- Regulation 443/2009). The information used comes from data provided by the manufacturers that have sold in Spain. Each model sold on the Spanish market by each brand is analysed, and the average CO₂ emissions and average weight are calculated. The final result means there is data available for each manufacturer of the number of sold vehicles, emissions and the average weight. Comparing these three variables enables a check to be done as to whether each of the manufacturers is close to meeting the targets established in the regulation.
- Regulation 443/2009 establishes performance standards for emissions of new passenger vehicles, as part of the integrated approach the EU is taking to reduce vehicle CO₂ emissions. It sets a target for the emissions of new passenger vehicles for the year 2015 (130 g of CO₂/km), to pursued in a progressive manner as of 2012, and for the year 2020 (95 g of CO₂/km). Likewise, Regulation 510/2011, of 11 May 2011, sets a target for light commercial vehicles, of 175 g of CO₂/km for the average emissions of CO₂ of these types of vehicles. From 2020, the objective will be 147 g of CO₂/km for the average emissions of new light commercial vehicles. The Commission has the intention of modifying both regulations and prepared proposals for their amendment in 2012.
- These objectives are in relation to the average size (calculated according to the weight) of the vehicles sold by each manufacturer. Manufacturers exceeding the limits are obliged to pay fines per vehicle and per g/km over the established target.
- The emission limits are set by means of a curve that relates the average emissions of the fleet (in terms of the target of 130 g of CO₂/km in 2015) and its weight. The curve allows the heaviest vehicles to have more emissions than lighter ones, provided that the total average of the fleet is preserved.

SOURCES

- European Environmental Agency, 2013. Data base Monitoring of CO₂ emissions from passenger cars- Regulation 443/2009". Available at Home / Data and maps / Datasets / Monitoring of CO₂ emissions from passenger cars – Regulation 443/2009 (<http://www.eea.europa.eu/data-and-maps/data/co2-cars-emission-3>).

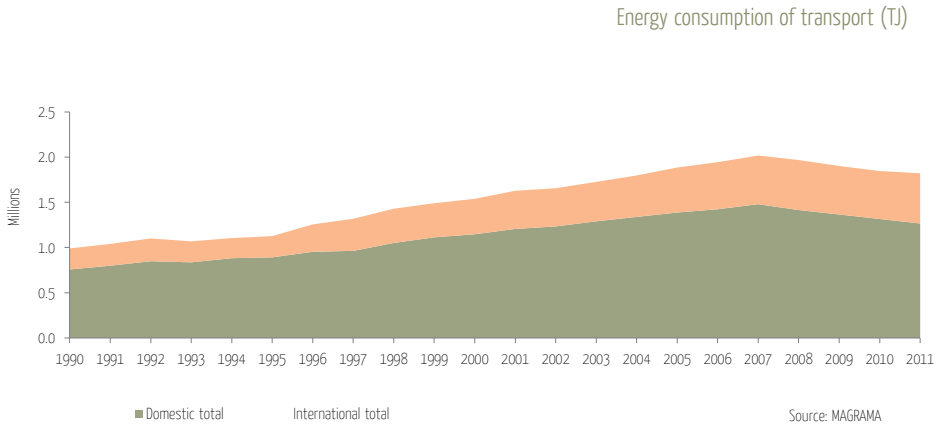
MORE INFORMATION

- http://ec.europa.eu/clima/policies/transport/vehicles/cars/index_en.htm/
- <http://www.eea.europa.eu/highlights/most-car-manufacturers-on-track/>
- <http://www.eea.europa.eu/>



Energy consumption of transport

The energy consumption of transport has grown by 84% since 1990. The maximum was reached in 2007, with a gradually decrease since then



The increase in transport demand in Spain in recent years has led to an increase in the energy consumption of the sector. During the period 1990-2011, the total consumption of energy increased by 84%, with a continuous rise up to 2007 (exceeding 104%). A decline began as of that year, coinciding with the financial and economic crisis.

In 2011, domestic transport consumed 69.5% of the total energy of the sector, with international transport being responsible for only 30.5%. However, the growth of international transport has been much more intense due to Spanish economic expansion. Commercial and business activities, as well as demand from tourism, have affected it, meaning that from 1990 through to 2011 international transport grew by 138.5% while domestic transport did so to a lesser extent (67.2% in the same period).

It should be highlighted that, although the high point for domestic transport energy consumption was in 2007, followed by a fall in consumption as of that year, the highpoint for international transport occurred in 2011 (after there was an increase in goods exports that year), with two decreases in 2009 and 2010.

By modes of transport, the energy used in road transport accounted for almost 92% of the energy consumed by domestic transport. Maritime transport consumed 4%, while air transport consumption was slightly lower, at 3.6%. Only taking into account fossil fuels,



rail transport only had a rate of 0.3% of energy consumption in 2011, though that value increases to 1.4% when electricity use is taken into account. Maritime transport was the largest energy consumer in international transport (64.5% in 2011) with a higher use of fuel oil than diesel.

In terms of the trends of the types of fuels used as energy sources in domestic transport during the reference period 1990-2011, the marked increase in the use of diesel at the expense of petrol consumption can be noted, especially for passenger vehicles. Likewise, the increase in the use of the biomass for road freight was consolidated. In 2000 this only had a rate of use of 0.3%, but reached 6.5% in 2011. The use of kerosene in aviation continued to be generally stable, while the use of fuel oil in shipping increased slightly.

In international maritime transport the greater use of fuel oil (84.2%) is notable compared to diesel (25.8%) in 2011. In comparison, in 1990, the use of fuel oil was 66%. Looking at the energy consumed in the use of both types of fuel, this has increased notably in the case of fuel oil, from 100,851.8 TJ in 1990 to 301,591.1 TJ in 2011 (almost 200%), while for diesel, on the other hand, it has maintained a similar position, with a growth of only 9% during that period to reach a total energy consumption of 56,721.6 TJ in 2011.

NOTES

- The indicator is calculated directly by using the energy consumption data estimated in drawing up the "GHG Emission's Inventory in Spain. Years 1990-2011".
- In the analysis of the distribution of the energy consumption per sources the gaseous fuels are not included, nor is Liquid Petroleum Gas (LPG) used in road transport, natural gas used by rail nor fossil fuels used for pipeline transport, which in total was around 0.5% of the total in 2011.

SOURCES

- Ministry of Agriculture, Food and Environment, 2013. Spanish GHG Emissions Inventory. Years 1990-2011. Directorate-General on Environmental Quality and Assessment and Natural Environment.

MORE INFORMATION

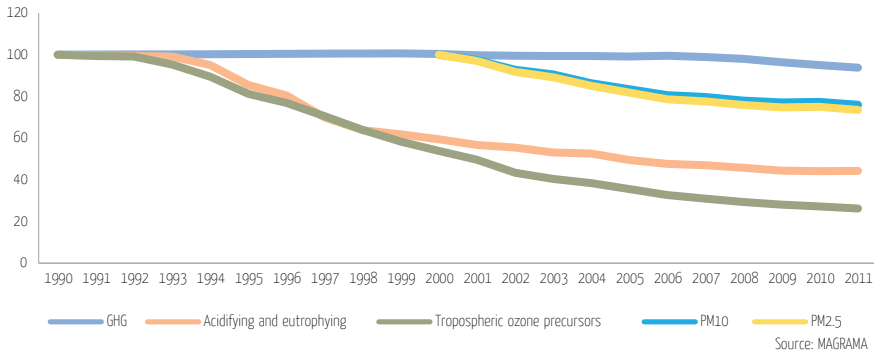
- <http://www.magrama.gob.es/es/calidad-y-evaluacion-ambiental/temas/sistema-espanol-de-inventario-sei/>
- <http://www.eea.europa.eu/>



Intensity of air pollutant emissions from transport

There is a decrease in the emissions of pollutants from transport per consumed unit of energy

Intensity of the transport emissions (%)



Analysing the emissions of pollutants per unit of consumed energy reveals the energy intensity of the emissions. A decreasing trend shows a reduction in the quantity of pollutants released per each unit of energy used. Among the aspects that have led to this trend, are improvements in the technical specifications of new vehicles and fuel quality, along with fleet renewal, with new vehicles being ever more efficient and having lower consumption. At the same time, the increase of hybrid vehicles and the use of alternative fuels should be taken into account, although the latter to a lesser extent due to the limited entry of biofuels into the market.

During the period 1990-2011 a significant drop in the energy intensity of ozone precursors can be seen, with a fall of 73.8%, as well as of the intensity of the acidifying and eutrophying substances, with a fall of 55.8%, although during last year the downward trend has stabilised.

Equally particulate matter has seen an intensity reduction, with less particles being released each year per unit of energy consumed. This reduction has been slightly more significant for particulates with a diameter of less than 2.5 micron.

The lowest intensity reduction was in greenhouse gases emissions, which only fell by 6.1% during the period mentioned; the reduction began in 2001, mainly because of the a significant entry of biofuels into the market and a limited modal transfer towards

rail transport. By type of gas it is worth mentioning the falling trend in the intensity of methane emissions, which have fallen 83.2%, although this has a limited effect due to its insignificance within the total.

The contribution of transport to total GHG emissions varies between 19% and 26% during the entire period analysed. In 2011, the CO₂-equivalent emissions from transport were responsible for 24.7% of total emissions, a slightly lower percentage than the 26.2% of 2010. Road transport has the largest share and its CO₂-equivalent emissions made up between 91% and 94% of the total emissions of the sector. Between 1990 and 2011, GHG emissions from transport have increased by almost 57%, while the acidifying and eutrophying substances decreased by 26.2% and the ozone precursors fell by 56%. In comparison with the previous year, all these emissions have decreased: GHG by 4.9%, acidifying and eutrophying substances by 3.5% and ozone precursors by 6.9%. The trend of the previous years is therefore maintained, with it being more pronounced since 2007.

NOTES

- The graph for the indicator shows the changes in aggregate total annual emissions of GHG (CO₂, N₂O, CH₄), acidifying and eutrophying substances (SO₂, NO_x and NH₃) and ozone precursors (NO_x, NMVOC, CO and CH₄) in relation to the base year of 1990 (1990=100). It also shows primary particles smaller than 10 micron and 2.5 micron, with the year 2000 being taken as the year base in this case.
- The intensity has been calculated as the result of dividing the total aggregate emissions of each one of the totals mentioned above by the total energy consumed by transport.
- GHG emissions are expressed in CO₂ equivalent, calculated by the global warming potential of each gas (see chapter on "Air"). Emissions of acidifying and eutrophying gases are presented as acid equivalent (hydrogen ion generating potential). Emissions of ozone precursors were estimated using the tropospheric ozone depleting potential (expressed as NMVOC equivalent).

SOURCES

- Ministry of Agriculture, Food and Environment, 2013. Spanish GHG Emissions Inventory. Years 1990-2011. General Directorate on Environmental Quality and Assessment and Natural Environment.
- Ministry of Development, 2012. Infrastructure, Transport and Housing Plan (PITIVI), 2012-2014. Initial document for the institutional presentation and public participation of 26 September 2012.

MORE INFORMATION

- <http://www.magrama.gob.es/es/calidad-y-evaluacion-ambiental/temas/sistema-espanol-de-inventario-sei/>
- <http://www.fomento.es/>
- <http://www.eea.europa.eu/>

HOUSEHOLDS



2.15

Environmental Profile of Spain 2012

In Spain, between 2000 and 2011, the number of households grew by 30.64% and the population by 14.95%. On average, in 2011 there were 2.73 inhabitants per household, 12% less than in 2000, when the average household had 3.1 members. Furthermore, as can be calculated from the Survey on Family's Budgets published by the National Statistics Institute (base 2006), from 2006 to 2011 households with a single member have increased to a greater extent (24%) than those consisting of two or three members (16% and 18% respectively), while the number of households with four members has decreased by 1%. This data indicates a gradual reduction in the size of households.

This reduction, together with other factors such as higher incomes, the globalisation of the economy and technological advances, constitutes one of the main reasons for the increase in consumption experienced in recent years, according to the EEA. The Agency estimates that households with only one person consume, on average, 55% more electricity, 42% more packaging and 38% more goods per person, than those households with four persons. The agency calculates that the increase in expenditure on consumption throughout the EU-27, between 1990 and 2010, was 33%.

Therefore, there is a tight relationship between households and their environmental impact, connected to consumption patterns. The document 'The



future we want', one of the Rio+20 outcomes, recognises that the path towards a greener economy must involve the promotion of more sustainable consumption and production patterns. Furthermore, at that conference, the 10 Year Framework Programmes on Sustainable Consumption and Production (10YFP) was adopted. As a result of this and the European Strategy 2020, the European Commission published in April 2013 a paper on the creation of a common market for ecological products (green products), an initiative that aims to improve information and homogenise the calculation methodology of environmental performance standards of products and organisations, to allow citizens to choose those products and services that are more environmentally friendly.

In Spain, important steps have also been taken in this area and many households have changed their consumption habits and their use of energy and resources. Even by 2008, according to the survey on Households and Environment carried out by the National Statistics Institute, 96.9% of Spanish households had adopted at least one water saving habit, and three out of four households separated paper, glass, and plastic and metallic packages

KEY MESSAGES

- 2010 saw a continuation of the decline in gross available income of Spanish households, together with a fall in the average expenditure per household.
- In 2011 the number of households grew by 1% but average energy consumption of households fell (almost 5%).
- The average volume of water consumed by each Spanish household fell again in 2010, for the sixth consecutive year, to 141 m³/household.
- The number of passenger vehicles per household fell slightly in 2011 (0.6%) and the number of motorcycles increased by 2.3%.
- In 2010 the rate of decrease in total urban waste per household slowed, and the quantity of urban waste selectively collected per household increased.
- In 2010, the rising trend in the number of household slowed, energy consumption increased as did CO₂ emissions, at the same time as gross disposable income, water consumption and waste production all fell.

INDICATORS

- Gross disposable household income
- Energy consumption per household
- Water consumption per household
- Number of passenger cars and motorcycle per household
- Producción de residuos urbanos por hogar
- Eficiencia ambiental en el sector doméstico



in order to dispose of these at specific collection points. Additionally, there is ever higher use of motorcycles as opposed to cars as a means of private transport for short urban and inter-urban movements, due mainly to the lower expense and fuel consumption of the former, however this has very large, positive, effects on emissions of air pollutants. It is worth highlighting MAGRAMA's initiative 'Hogares verdes' or 'Green homes', an educational programme for those families who are worried about the environmental and social impact of their daily decisions and habits.

Gross disposable household income

In 2010 the fall in gross disposable income of Spanish households continued, together with a fall in average household expenditure

Gross disposable household income



In 2010 (according to the most recent data available), the gross disposable household income in Spain dropped by 3.6%, from 41,622 €/household in 2009 to 40,137 €/household in 2010. A similar fall, of 3.3%, affected disposable income per capita, which declined from 15,475 €/inhabitant in 2009 to 14,959 €/inhabitant in 2010. The falling trend, started in 2009, continues, with ever lower household budgets since that year. At the same time, in terms of the number of households in Spain in 2010, according to Eurostat data, there were only 96,000 new households compared to the previous year (an increase of 0.6%), while in previous years the rate of increase had always been over 2%.

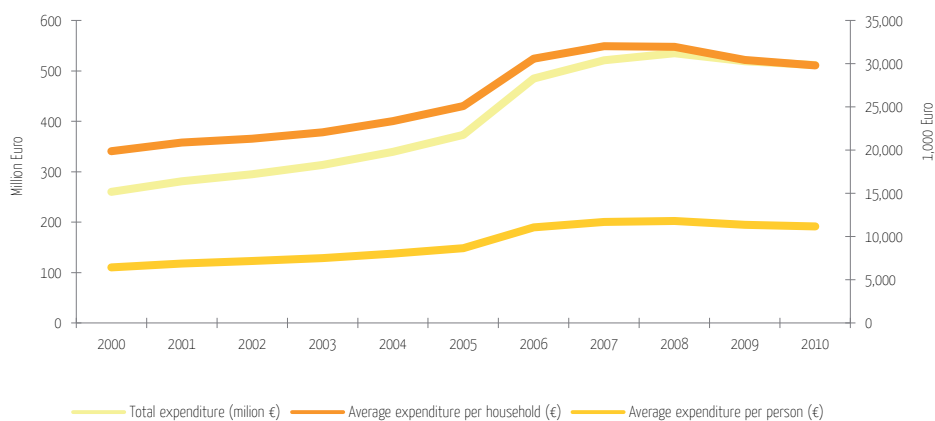
According to the National Statistics Institute's Spanish Regional Accounts, the Basque Country was the region where households had the highest disposable income per inhabitant in 2010, with 20,034 euros (33.9% more than the national average). The Basque Country is followed by Navarre (with 19,089 euros per inhabitant), Madrid (17,870 euros per inhabitant) and Catalonia (17,093 euros per inhabitant).

The decrease in the gross disposable income of Spanish households in 2010 was accompanied by a decrease in the average expenditure per household, as shown by the Household



Budget Survey of the National Statistics Institute. From 2009 to 2010, the average expenditure per household dropped 2.1% to 29,782.34 €/household. It should be highlighted that the rate of decrease was 2.7% lower than the period between 2008 and 2009 (4.8%). According to the National Statistics Institute, 30% of household budget in 2010 was devoted to housing. Just as for disposable income, expenditure levels were higher in the Basque Country, Navarre and Madrid.

Expenditure of households



Source: INE

NOTES

- In order to visually represent disposable income over the period 2000-2010 in the graph, it has been necessary to use data from the National Statistics Institute calculated using two different bases: base 2000 for the years 2000 to 2007, and base 2008 for the series 2008-2010.
- Household expenditures (total, medium and per person) are expressed at current rates.

SOURCES

- Disposable income: National Statistics Institute, 2013. Gross disposable household income. Base 2000. Series 2000-2008. Available in: INEbase/Economía/Cuentas económicas/Contabilidad Regional de España. Bases anteriores/Enfoque institucional. Cuentas de Renta de los Hogares. Base 2000/ Base1995.
- Disposable income: National Statistics Institute, 2013. Gross disposable household income. Base 2008. Series 2008-2010. Available in: INEbase/Economía/Cuentas económicas/Contabilidad Regional de España. Base 2008/Enfoque institucional. Cuentas de Renta de los Hogares.
- Household Expenditures: National Statistics Institute, 2013. Detailed definitive results. Annual/2. Total expenditures and average expenditures. Available in: INEbase/Sociedad/Nivel, calidad y condiciones de vida/Encuesta Continua de Presupuestos Familiares. Base 1997. Series 2000-2005.
- Number of households: Eurostat, 2013. Number of households per grade of urbanisation of the residence place and regions NUTS / (code: lfst_c_lfsd2hh). The number of households per Eurostat varies slightly with respect to the figure given by the National Statistics Institute in previous years. Therefore, this series differs from the one published in previous editions of the Environmental Profile in Spain.
- National Statistics Institute, 2013. INEbase. Press release of 28 December 2012. Regional Accounting of Spain, base 2008 (CRE-2008). Series 2008-2011.

MORE INFORMATION

- <http://www.ine.es/>
- <http://ec.europa.eu/eurostat>

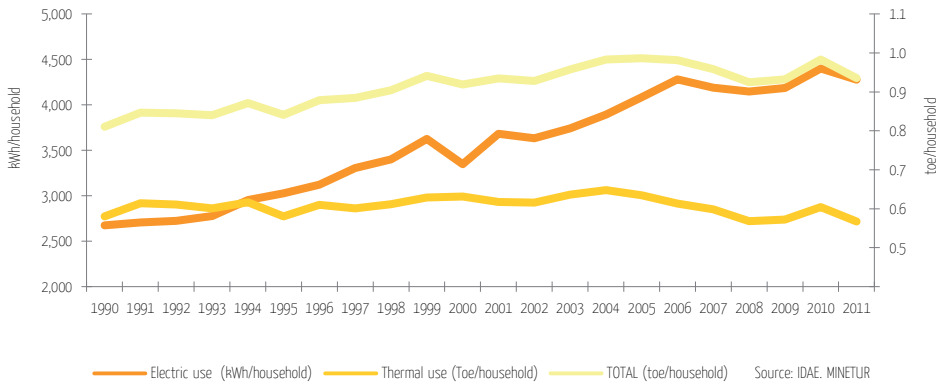




Energy consumption per household

In 2011 the number of households grew by 1% but household energy consumption fell (by almost 5%)

Energy intensity of households



After a general increase in energy consumption by Spanish households in 2010, in 2011 there was a drop in energy consumption both for heating and hot water, and electric uses.

In 2011, the 17.34 million Spanish households, according to Eurostat's figures, consumed a total of 16.22 million tonnes of oil equivalent (toe) to meet their energy needs, 4% less than in 2010. It is estimated, according to the IDAE, that each household consumed 4.84% less energy than in the previous year, falling from 0.983 to 0.935 toe/household, which breaks down as 4,277 kWh/household for electricity and 0.568 toe/household for heating and hot water. From 2010 to 2011, the consumption of electricity fell 2.79%, while the decrease for heating and hot water was 0.568%.

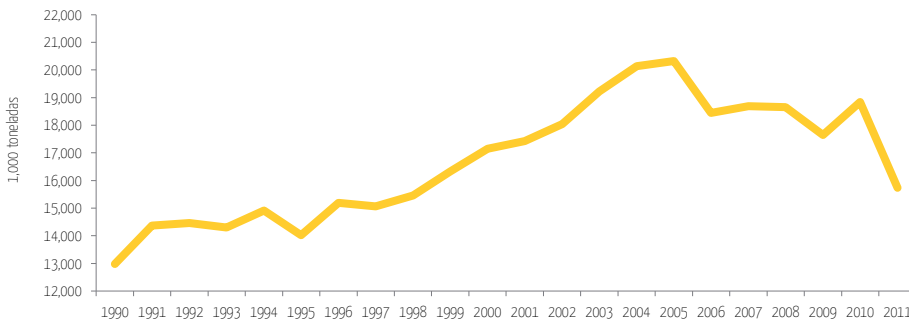
Comparing consumption levels in 2011 with those for 2000, the overall energy consumption by households has grown by 33% while the number of households has grown by 30.6%. A correlation can be observed between the growth in the number of households and household energy demand. As the final report of the "Analysis of energy consumption of the residential sector in Spain" (IDAE, July 2011), makes clear, the increase in the number of households, bringing with it household appliances and comfort level, the rise in purchasing power and the improvement of households' quality of life, all mean that in re-

cent years energy consumption has increased and it is foreseen that this growth trend will continue in the future. In fact, the report stresses the importance of the residential sector in terms of its energy demand both at national and European level. With respect to the breakdown of the residential sector's energy consumption it can be seen that households in 2011 consumed almost 28% more electric energy than in 2000, while for heating and hot water the consumption in this period decreased by 10.1%.

At European level, Spain in 2011 was sixth in terms of the final energy demand by the residential sector, making up 5.95% of the overall EU figure (272,740 ktoe).

Household energy consumption is linked to their GHG emissions, specifically CO₂, which is generated by residential combustion plants (subgroup SNAP 02 02). In 2011, these emissions fell by 16.43% with respect to the previous year, with a total of 15.74 million tonnes. This was 21.3% higher than in 1990. In relative terms to the number of households, the CO₂ emitted per Spanish household in 2011 was 0.91 tonnes of CO₂/household.

CO₂ emissions from the residential sector (kt CO₂)



Source: MAGRAMA

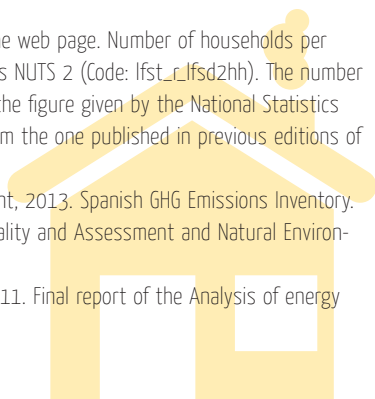


NOTES

- The energy consumption data includes the final consumption of renewable energies for heating and hot water (biomass and solar).
- At the Kyoto summit, Spain set a target of reducing greenhouse gases by 15% in 2012 with regard to 1990 levels.

SOURCES

- Energy intensity of households: data provided by the Department of General Coordination of the Institute for Diversification and Energy Saving, IDAE. MINETUR, 2013.
- Final energy consumption by the residential sector: EUROSTAT, 2013. Information from the web page. Available in: Estadísticas/Estadísticas por temas/Medio Ambiente y Energía/Energía/Base de datos/Estadísticas de energía-Cantidades (tsdpc320).
- Number of households: Eurostat, 2013. Information from the web page. Number of households per degree of urbanisation of the place of residence and regions NUTS 2 (Code: lfst_r_lfsd2hh). The number of households per Eurostat varies slightly with respect to the figure given by the National Statistics Institute in previous years. Therefore, this series differs from the one published in previous editions of the Environmental Profile in Spain.
- CO2 emissions: Ministry of Agriculture, Food and Environment, 2013. Spanish GHG Emissions Inventory. Years 1990-2011. Directorate-General on Environmental Quality and Assessment and Natural Environment.
- Institute for Diversification and Energy Saving, IDAE. July 2011. Final report of the Analysis of energy consumption in the residential sector in Spain



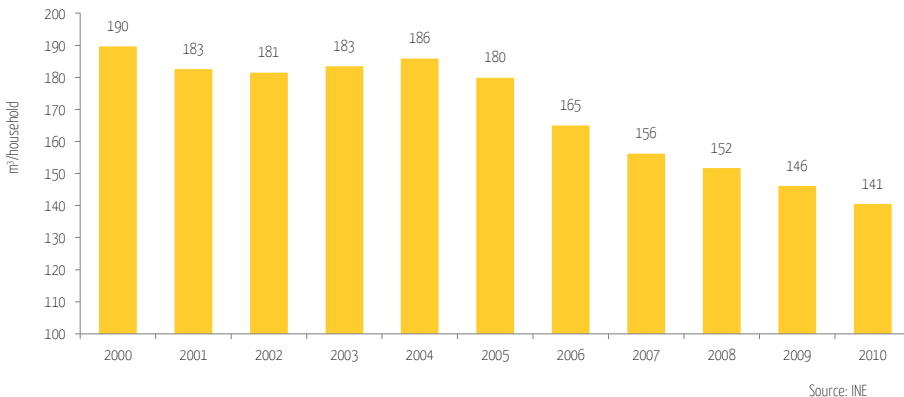
MORE INFORMATION

- <http://www.idae.es>
- <http://www.minetur.gob.es>
- <http://epp.eurostat.ec.europa.eu>

Water consumption per household

The average volume of water distributed to every Spanish household fell again in 2010, for the sixth consecutive year, to 141 m³/household

Water volume distributed to households



Spanish households consumed a total of 2,413 hm³ of water in 2010, a reduction of 3.25% on the previous year (2,494 hm³). This quantity, according to the National Statistics Institute, was 71% of the total water registered and distributed to users; the remainder was distributed among the economic sectors (20%, excluding irrigated agriculture), municipal consumption and others (9%).

It should be pointed out that from the year 2000 to 2010 the overall water consumption by Spanish households decreased by 2.8% while the number of households during that period grew by 31.2%. Nevertheless, it must also be pointed out that in 2010 water losses (both real losses and apparent losses) in the distribution network were estimated at 1,187 hm³, 26% of the total water supplied to these networks (4,581 hm³). This percentage is similar to the previous year.

Regarding average consumption, each Spanish household used 141 m³ of water in 2010, 3.8% less than in 2009. The fall in the average consumption of water per household, which started in 2005, thus continues with 2010 values being 26% lower than 2000 values.

At autonomous community level, the regions with the lowest consumption per household were the Basque Country (112 m³/household), the Balearic Islands and La Rioja (114 m³/household). These regions also registered the lowest consumptions per inhabitant per day.



The average water consumption per inhabitant per day also fell when compared with the previous year. In 2009, the average consumption was 149 l/inhabitant per day, while in 2010 the consumption fell by 5 l per inhabitant per day, a 3.36% decrease.

Volume of water distributed to households
(l/inhabitants-day)

1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
146	153	159	165	168	165	164	167	171	166	160	157	154	149	144

Source: INE

As to the unit cost of water in Spain, this increased in 2010 by 6.3% with respect to the previous year, with a cost of 1.51 euros per cubic metre. This cost includes the distribution unit costs estimated by the National Statistics Institute as being 0.92 €/m³ and sanitation costs of 0.59 €/m³. The highest water unit costs registered in 2010 were in the regions of the Balearic Islands (2.69 €/m³), Murcia (2.17 €/m³) and the Canary Islands (1.90 €/m³). At the same time, the lowest values were registered in La Rioja (0.91 €/m³), Castile-Leon (0.98 €/m³) and Galicia (1.01 €/m³).

NOTES

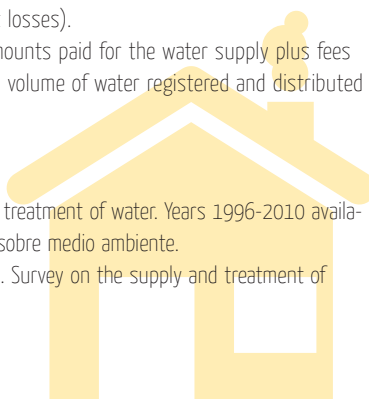
- 'Water lost in the distribution networks' is the estimated difference between the water supplied to those networks and measured consumptions. It includes leakages (real losses), as well as fraud, measurement errors and non-measured consumption (apparent losses).
- The unit cost of water is calculated by dividing the total amounts paid for the water supply plus fees for sewage, purification and water treatment levies and the volume of water registered and distributed to the users.

SOURCES

- National Statistics Institute, 2013. Survey on the supply and treatment of water. Years 1996-2010 available in: INEbase/Entorno físico y medio ambiente/Estadísticas sobre medio ambiente.
- National Statistics Institute, 2013. Press note of 5 July 2012. Survey on the supply and treatment of water.

MORE INFORMATION

- <http://www.ine.es>



Number of passenger cars and motorcycles per household

The number of passenger cars per household in 2011 slightly decreased (0.6%) while the number of motorcycles grew 2.3%

Number of passenger cars and motorcycles per household



According to the Directorate General of Traffic's General Statistical Yearbook 2011, in that year Spain's vehicle fleet (included mopeds) grew 0.37% with respect to 2010, with 33,082,931 vehicles as of 31 December 2011. Of these, 67.34% were passenger cars and 15.2% were two wheeled vehicles (mopeds and motorcycles). The largest percentage increase in type of vehicle was experienced by motorcycles, with a growth of 3.34%.

If the period 2001-2011 is analysed, the overall vehicle fleet increased by 28%, more than seven million units, of which 23% were passenger cars and 53% motorcycles and mopeds. Specifically, of the types of vehicles in the national vehicle fleet motorcycles have experienced the greatest increase since 2001, with a rise of 87% and a total number of motorcycles of 2,798,043.

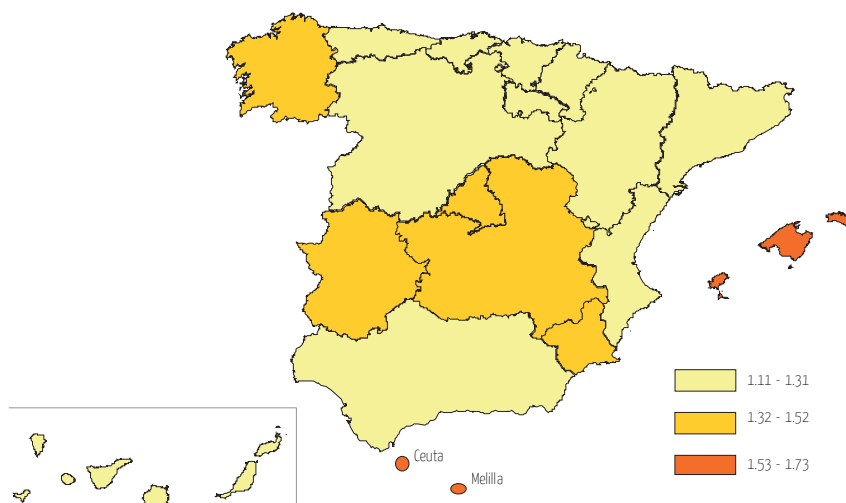
Looking in detail at the graph, the amount of passenger cars per household in 2011 fell by 0.4% compared to 2010, from 1.290 to 1.284 passenger cars per household. Although the actual number of passenger cars grew by 0.6% to 22,277,244 units, the number of households increased to a higher extent (1%), leading to a decrease in the ratio.



In contrast, the ratio of motorcycles to households has shown a clear upward trend. Between 2010 and 2011, the ratio increased by 2.3%, from 0.158 to 0.161 motorcycles/household. This increase has been especially marked in larger cities, where the motorcycle offers advantages with respect to passenger cars. According to the Directorate General of Traffic, the motorcycle is an option chosen by many urban drivers as it is cheaper than a car and it offers an alternative when faced with problems such as traffic, parking and pollution.

The number of cars per household was under the national average (1.28 vehicles per household) in nine Autonomous Communities, while the remainder, along with the autonomous cities of Ceuta and Melilla, exceeded this figure. The lowest figures registered for the number of passenger cars (1.11 passenger cars/household) was in the Basque Country and La Rioja, while at the other end of the scale were the Balearic Islands with 1.53 passenger cars and Ceuta and Melilla (jointly) with 1.73 passenger cars per household. For motorcycles, five autonomous communities, plus the two autonomous cities taken together, exceeded the Spanish average (0.16 motorcycles/household), while 12 were below it. The autonomous communities with the lowest number of motorcycles/household were La Rioja, Castile-Leon, Asturias and Extremadura (0.11), while the autonomous communities with greatest number per household were the Balearic Islands (0.24), Catalonia (0.25) and the autonomous cities of Ceuta and Melilla (0.31).

Number of passenger cars per household. 2011



Source: DGT and EUROSTAT.

Number of motorcycles per household. 2011



Source: DGT and EUROSTAT.

NOTES

- Vehicle is understood to mean self-propelled vehicle, meaning trailers and semi-trailers are not included.
- In 2011 902,465 vehicles were taken off the road, of which 69.7% were passenger cars (628,952), a lower number than in previous years.
- The number of passenger cars using petrol continues to decrease in favour of those using diesel. The number of passenger cars with a diesel engine grew by 2.6%.
- The Spanish city that has seen the greatest growth in the number of motorcycles is Madrid; nevertheless, Barcelona is the city with most motorcycles, and is second in Europe, after Rome.
- Spanish cities are adopting changes for motorcycles, which are being given special treatment, with the creation of preferential lanes, advanced stop zones at junctions and parking areas, they do not pay for on-street parking and the taxes are lower.

SOURCES

- Number of households: Eurostat, 2013. Number of households by degree of urbanisation of place of residence and regions NUTS 2 (Code: lfst_r_lfsdzhh). The number of households per Eurostat varies slightly with respect to the figure given by the National Statistics Institute in previous years. Therefore, this series differs from the one published in previous editions of the Environmental Profile in Spain.
- Number of passenger cars and motorcycles: Directorate General of Traffic, 2013. General Statistical Yearbook. 2011. Available in: DGT/Seguridad Vial/Estadística e Indicadores/Publicaciones/Anuario Estadístico General.
- Directorate General of Traffic, 2011. Magazine Tráfico, seguridad vial. Number 208.

MORE INFORMATION

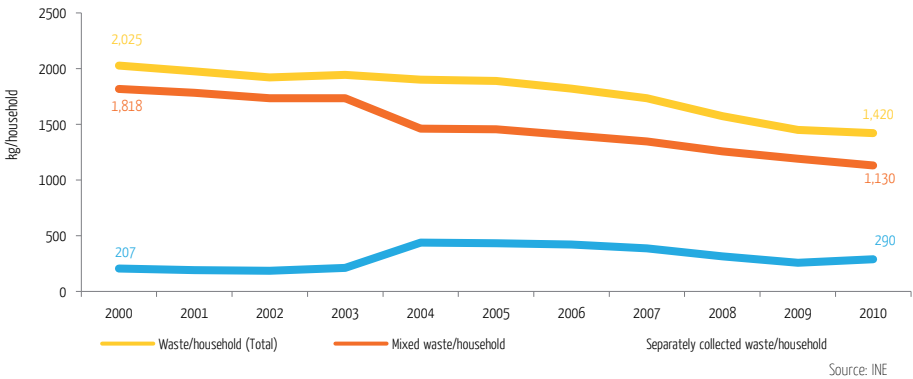
- <http://www.ine.es>.
- <http://www.dgt.es>



Urban waste production per household

In 2010, the decline in total urban waste production per household slowed, while the proportion of waste separately collected per household increased

Production of urban waste per household (kg per household)



Source: INE

In terms of the decline in the national average amount of urban waste produced per household, the year 2010 was characterised by this fall being less pronounced than that seen in 2009. Specifically, the figures show a fall in the production of waste per household of 2.12%, from 1,451 kg/household to 1,420 kg/household, 30% below year 2000 levels. The same indicator for 2009, though, saw a fall of 7.7% in the urban waste generated per household compared to 2008.

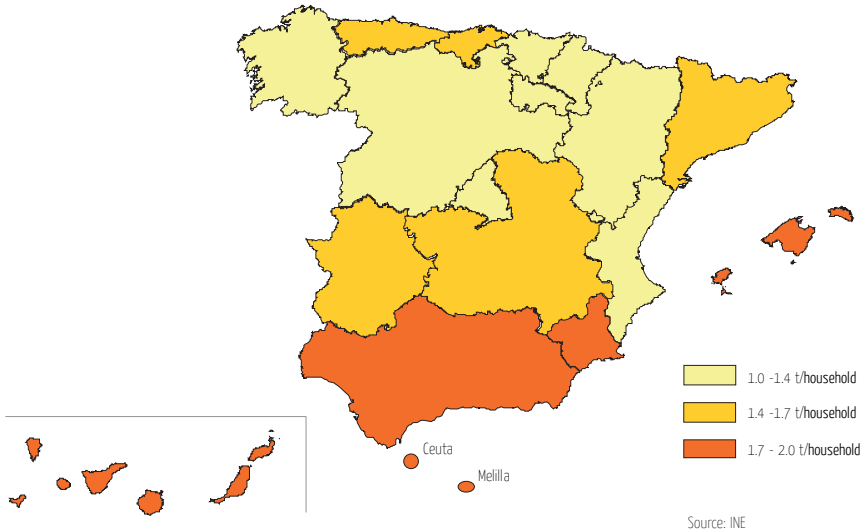
The production of mixed waste fell by 5.2% (the same as for 2009), with a total of 1,132 kg of mixed waste/household. Separately collected waste per household saw a significant increase of 12.2% compared to the previous year, the first rise for these wastes since 2006. The fact that total waste per household fell, while separately collected waste increased, points to an increase in the separate collection rate, from 18% in 2009 to 20% in 2010, which is a positive trend.

Looking at the autonomous communities, nine had values of total waste generated per household below the average. Among them, La Rioja, Madrid and Aragon head the list of communities with the lowest values regarding generation of waste per household (1,100, 1,150 y 1,187 kg/household, respectively).



In absolute terms, the total quantity of urban waste generated in Spain in 2010 was 24.4 million tonnes, 1.5% less than the previous year. Approximately, 80% of this amount was mixed waste, and 20% were separately collected waste. The greatest quantities of waste from separate collection were for paper and cardboard with 1,467,000 t. The lowest figures were for batteries and accumulators (3,100 kg).

Production of urban waste per household. 2010





NOTES

- The urban waste data excludes the treatment of common sludges and mineral wastes.
- Mixed wastes: are defined as wastes and household goods generated by private households, retail shops, offices and services, or during cleaning of outdoor public spaces. These wastes are not separated at source.
- Wastes collected separately: are the result of the separate collection of organic materials, fermentable and recycled materials, as well as any other separate collection system that allows the separation of recoverable materials contained in wastes. They do not include recovered waste in sorting and classification plants.
- For the cities of Ceuta and Melilla, in 2008, 2009 and 2010, the National Statistics Institute does not publish the values of the waste collected due to statistical confidentiality reasons.

SOURCES

- Wastes: National Statistics Institute, 2013. Survey on collection and treatment of urban waste. 1998-2010.
- Households: National Statistics Institute, 2013. INEbase. Continuous survey on familiar budgets. Base 1997. Series 2000-2005
- Households: National Statistics Institute, 2013. INEbase. Survey on familiar budgets. Base 2006. Series 2006-2010.
- National Statistics Institute, 2013. INEbase. Press note of 1 August 2012. Survey on collection and treatment of urban waste. Year 2010.

MORE INFORMATION

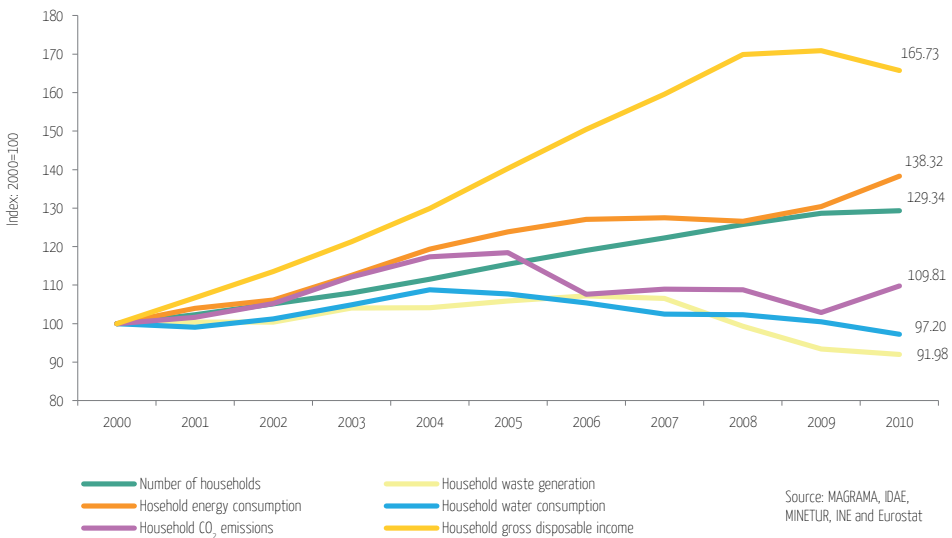
- <http://www.ine.es>



Household Eco-efficiency

In 2010, the growth trend in the number of households slowed; energy consumption and CO₂ emissions increased, while at the same time gross disposable income, water consumption and waste production fell

Environmental efficiency in the residential sector



From the point of view of the eco-efficiency of the residential sector, it is observed that the number of households continued to grow during the period 2000-2010, although in the most recent years the rate of the increase was lower. From the year 2000, the number of households grew in an almost linear manner up to 2009-2010, at which point the rate of growth relaxed, with only 96,000 new households added (0.56%), to take the total to 17,172,000.

Meanwhile, in 2010, the growth trend in gross disposable income per Spanish household reversed. From 2000, gross disposable income grew considerably and, in just 8 years, this economic indicator had reached almost 70% over and above the reference year value (2000). In 2009 growth was positive but very modest (just 0.57% with respect to 2008), and during 2010, when the effects of the crisis began to have a significant impact on hou-



sholds, overall disposable income fell to 689,226 million euros, 3% less than the previous year, to be 65.73 percentage points above year 2000 levels.

The falling trend in the generation of waste slowed. With respect to the year 2006, when household waste production reached its maximum (28,418,545 t), by 2011 the figure had fallen by 14.2%, with a total production of urban waste from households of 24,380,023 t (8.02% less than in the year 2000).

As occurred with waste, water consumption continued to fall in 2010, with a more marked decline than in 2009, to 97% of year 2000 consumption values.

Although the number of households increased, it can be seen that both waste production and water consumption follow a decreasing trend, which is good and indicates an improvement in the environmental awareness of households and in environmental policies, the minimisation and management of waste, as well as in the efficient use of resources. The economic crisis, of course, is another reason, as a lower household disposable income leads to a decrease in consumption.

Finally, energy consumption in Spain in the residential sector has increased due, mainly, to the rise in electricity consumption due to more household appliances. Nevertheless, in 2010 the increase in the demand was higher than in previous years, which could be related, as was pointed out in the report *Energy in Spain 2011*, to the fact that in 2010 there was a generalised fall in temperature with, consequently, a higher demand for heating, and increased consumption for heating. In 2010 the energy consumption by households was 38.32% above the values of 2000.

For emissions, due to the higher demand of energy for heating and hot water, the CO₂ released in 2010 by residential combustion plants increased by 6.7% with respect to the year 2009. This bucks the declining trend in emissions started in 2005, with the figure being 9.81% above that registered in the year 2000.

NOTES

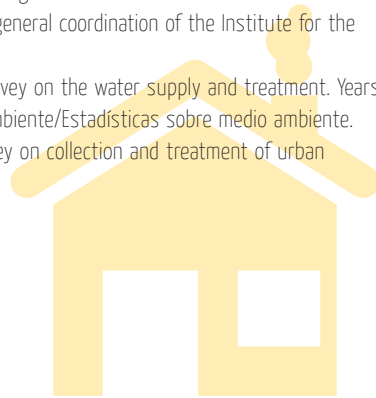
- For the purpose of calculating the indicator, the annual variation rate of each of the component indicators was used, with 2000 being established as the base year and the indicator's values being based on 100.

SOURCES

- Number of households: Eurostat, 2013. Number of households per grade of urbanisation of the place of residence and regions NUTS 2 (Code: lfst_r_lfsd2hh).
- Disposable income: National Statistics Institute, 2013. Gross disposable household income. Base 2000. Series 2000-2008. Available in: INEbase/Economía/Cuentas económicas/Contabilidad Regional de España. Bases anteriores/Enfoque institucional. Cuentas de Renta de los Hogares. Base 2000/ Base1995.
- Disposable income: National Statistics Institute, 2013. Gross disposable household income. Base 2008. Series 2008-2010. Available in: INEbase/Economía/Cuentas económicas/Contabilidad Regional de España. Base 2008/Enfoque institucional. Cuentas de Renta de los Hogares.
- Energy consumption: data provided by the Department of general coordination of the Institute for the diversification and energy saving (IDAE). MINETUR, 2013.
- Water consumption: National Statistics Institute, 2013. Survey on the water supply and treatment. Years 1996-2010. Available in: INEbase/Entorno físico y medio ambiente/Estadísticas sobre medio ambiente.
- Waste production: National Statistics Institute, 2013. Survey on collection and treatment of urban waste. 1998-2010.

MORE INFORMATION

- <http://epp.eurostat.ec.europa.eu>
- <http://www.ine.es>
- <http://www.idae.es>
- <http://www.minetur.gob.es>



URBAN ENVIRONMENT



2.16

Environmental profile of Spain 2012

The fact that the majority of the population carries out its daily activities in urban environments makes these the origin of severe environmental pressures that in turn are suffered by the same urban areas. In Spain, 79.1% of the population lives in municipalities with more than 10,000 inhabitants (which make up just 9.4% of the total municipalities).

Several action plans, as well as legislation, have been set out in order to improve the sustainability of the city environment. Among these, the 'Energy Efficiency Plan 2011' of the EU, which promotes energy saving by means of improving the efficiency of buildings, sustainable urban mobility and green infrastructure, and Directive 2012/27/EU, of 25 October 2012, on energy efficiency, promoting efficiency in urban systems for heating and cooling.

In Spain several initiatives can be highlighted, such as the 'Renewable Energy Plan 2011-2010' or the measures proposed in the 'National Plan for Air Quality and the Protection of the Atmosphere 2013-2016'. This last plan establishes a framework to improve air quality in Spain through concrete actions in coordination with other sectoral plans and with the ones adopted by the autonomous communities and local authorities. The 78 measures it sets out have the aim of reducing pollution and improving air quality in the cities.

Additionally, the Infrastructure, Transport and Housing Plan of the Ministry of Development, presented in the summer of 2012, considers the urban dimension of transport as one of its fundamental elements. This plan considers the Sustainable Mobility Plans as instruments that require the collaboration of the different administrations in terms of planning



and the development of public transportation and of the encouragement of sustainable mobility.

In relation to environmental noise, the information gathered by the Ministry of Agriculture, Food and Environment contained in strategic noise maps can be consulted at the Basic Information System on Acoustic Pollution (SICA) on the website: <http://sicaweb.cedex.es/mapas-consulta-fase2.php>. This web page is updated continuously with the latest strategic noise maps that are sent to the MAGRAMA.

KEY MESSAGES

- 79.1% of the Spanish population lives in municipalities with more than 10,000 inhabitants. In 2012, these municipalities made up only 9.4% of the total of 8,116.
- The number of properties registered as being of Cultural Interest, which are an important part of the architectural heritage of the cities, have shown an increasing trend over recent years.
- The number of passenger journeys on urban transport decreased in 2012 by 4.4% with respect to the previous year: the subway registered a decline in the number of users of 4.5% while bus use suffered a decrease of 4.3%.
- The Network of Local Development Networks is a vehicle for public participation in the environment and the development of the 'Agenda 21'. This network included 2,801 municipalities in 2011 and around 28.2 million of inhabitants; additionally, 934 signed the Covenant of Mayors.

INDICATORS

- Urban pressure on land
- Architectural heritage of Spain's cities
- Urban transport
- Public participation in urban sustainability



Urban pressure on land

In 2012 urban growth was only 0.3%, the lowest in recent years

Urban density in Spain (Cities with more than 10,000 inhabitants)



Source: Own preparation with data from INE

According to the municipal population census, the Spanish population has continued to grow over recent years, although 2012 is the year that saw the lowest growth, of only 0.16%. During the period 2000-2012, the population grew 16.7%. The slowdown of this progress, initiated in 2010, is influenced, among other reasons, by migration in search of better employment conditions, caused by the economic crisis.

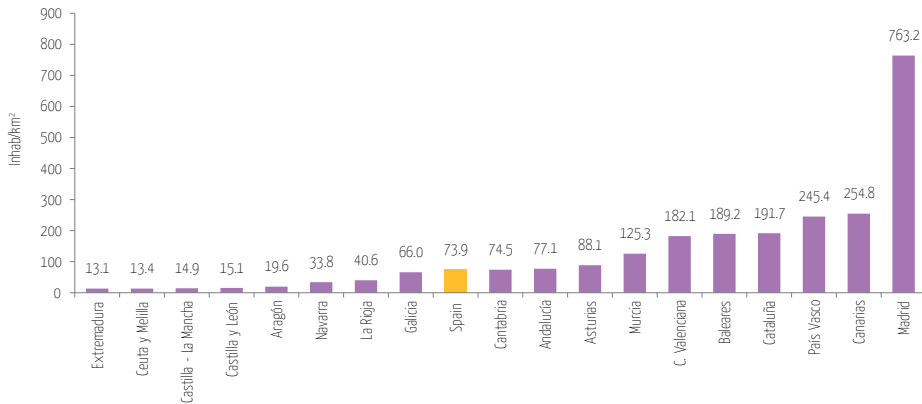
An analysis of the population of municipalities with more than 10,000 inhabitants shows a similar behaviour, with growth of 21.4% from 30,796,529 inhabitants in 2000 to 37,389,664 inhabitants in 2012. The level of 10,000 inhabitants is the limit used in certain forums to distinguish between rural and urban environments. In 2012, 9.4% of Spanish municipalities were urban according to this criterion, however 79.1% of the population lived in them.

'Urban density' is calculated by comparing the population living in municipalities with more than 10,000 inhabitants and a total surface area. In the case of Spain it is also calculated at autonomous community level. It is an expression of the density (inhabitant/km²), which allows for an assessment of the pressure due to concentration of inhabitants arising from the urban environment.

During the period 2000-2012 urban density has increased in Spain by 21.4%, reaching 73.9 inhabitants/km² in 2012. Madrid, the Canary Islands and the Basque Country were the

autonomous communities with the highest urban densities in 2012. At the other end of the scale are Castile-Leon, Castile-La Mancha y Extremadura. Figures for Ceuta and Melilla are not comparable due to their small areas and high population densities.

Urban density by autonomous community. 2012



Source: Own preparation with data from INE

NOTES

- The indicator shows the pressure exerted on land by urban population centres with over 10,000 inhabitants. It is calculated as the coefficient of the population living in these municipalities and the surface area of each respective autonomous community, and also for the entirety of Spain. For the purpose of calculating the indicator, the data in the municipal census at 1 January of the years studied from 2000 until 2012 was used.
- Traditionally, municipalities with 10,001 or more inhabitants have been considered urban. Although this definition is used to calculate various indicators, this classification may well be disguising many situations that are not really urban (according to the methodology used to delimit Urban Areas in Spain by the Statistical Atlas of the Ministry of Development).
- According to the Statistical Atlas of Urban areas in Spain, there are 1,076 urban areas in Spain (13.3% of Spanish municipalities). Their population accounts for 81.4% of the Spanish total and the area they occupy makes up 20.6% of the country's total land area.

SOURCES

- National Statistics Institute. Municipal register (different years). Available in: INEbase/Demografía y población /Cifras de población y Censos demográficos/Cifras oficiales de población: Revisión del Padrón municipal.
- National Statistics Institute. Geographic area. Available in: INEbase/Entorno físico y medio ambiente/Entorno físico/Territorio/Población, superficie y densidad por CCAA y provincias/Población, superficie y densidad por CCAA y provincias.
- Ministry of Development, 2012. Statistical Atlas of Urban areas.

MORE INFORMATION

- <http://www.ine.es>
- <http://siu.vivienda.es/portal/>

Architectural heritage of Spain's cities

The number of properties registered as being of Cultural Interest increased, totalling 16,409 in 2011

Protected historical heritage. Number of Sites of Cultural Interest (property)

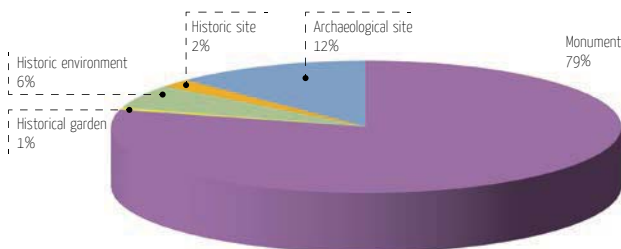


The number of properties registered as being of Cultural Interest and that make up part of the architectural heritage of the cities has seen a growth trend in recent years. In 2011, the number of such properties registered as being of Cultural Interest increased by 2.17% from 16,061 in 2010 to 16,409.

By category, registrations of historic monuments and gardens have reduced by 5.3% and a 3.3% respectively. On the other hand, historic environments have increased by 8.9%, historic sites by 14.3% and, notably, archaeological sites, have increased by 86.2%, from 1,104 in 2010 to 2,056 in 2011.

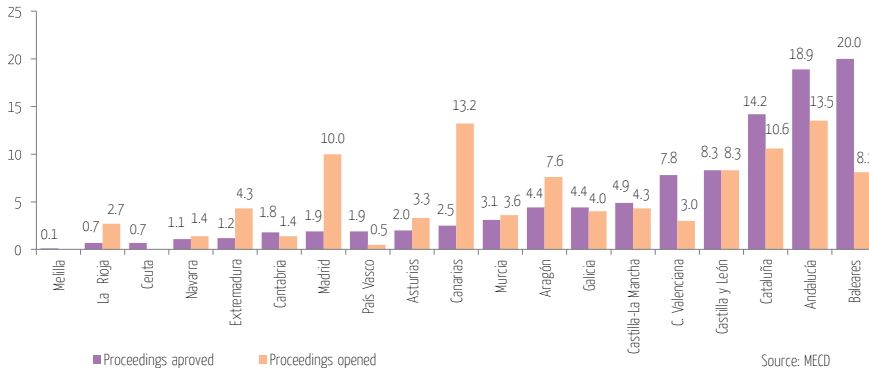
Despite this year on year behaviour the distribution of the categories maintains the proportion of previous years, especially in relation to the monuments.

Breakdown of sites of cultural interest by category. 2011



In terms of registered properties, the Balearic Islands, Andalusia and Catalonia had in 2011, in total, 53.1% of the properties, while Andalusia, the Canary Islands and Catalonia were the autonomous communities with most properties proposed for registration.

Protected historical heritage breakdown by autonomous communities. Año 2011 (%)



NOTES

- The graph showing data on Protected Historical Heritage was produced using a logarithmic scale due to the large difference between the number of monuments and the other categories.
- The elements making up Spain's Historical Heritage, according to their legal category and taking into account their legal protection, can be classified into two types: Cultural Interest Goods, which can be either movable or immovable property, and other goods, that for their special relevance must be catalogued, although they are not considered as Cultural Interest Goods.
- The category Monuments includes immovable property such as public monuments, museums, archive and libraries held by the state, and those immovable goods considered to be of Cultural Interest by the Law 16/1985, such as castles, hórreos (raised granaries) and boundary crosses. Equally, it includes other categories of legal protection established by the specific legislation of the autonomous communities.

SOURCES

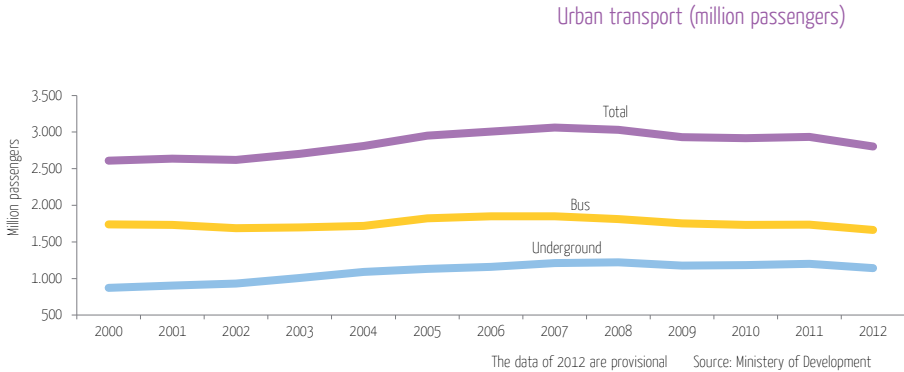
- Ministry of Education, Culture and Sports, 2013. Yearbook of Cultural Statistics 2012.
- CULTURAbase. Cultural statistics diffusion System. Web of the Ministry of Education, Culture and Sports. In Servicios al Ciudadano/Estadísticas culturales/ Explotación estadística de la Base de Datos de Patrimonio/Bienes inmuebles inscritos como Bienes de Interés Cultural por categoría.

MORE INFORMATION

- <http://www.mcu.es>

Urban transport

Urban transport of passengers decreased in 2012 by 4.4% with respect to 2011



According to the Statistics on Passenger Transport prepared by the National Statistics Institute, the number of urban transport users reached 2,804 million in 2012 (provisional data), meaning a decrease of 4.4% in comparison with the previous year. In 2011 the rate of change was 0.6%, five percentage points higher than the previous one registered.

The urban metropolitan transport service was used by 1,140.9 million travellers in 2012. With respect to 2011, the subway in 2012 registered a decrease in the number of users of 4.5%, while in 2011 an increase of 1.3% was registered. At the same time, urban bus transport in 2012 suffered a decrease of 4.3% in its users, while in 2011 increased by 0.1%.

By autonomous communities, only six cities have metropolitan transport. Madrid has the most travellers, however, over the last five years the Madrid subway has lost the most travellers (-12.2%), followed by Valencia (-7.3%). For their part, the traveller numbers for the subways of Barcelona and Bilbao have hardly changed.

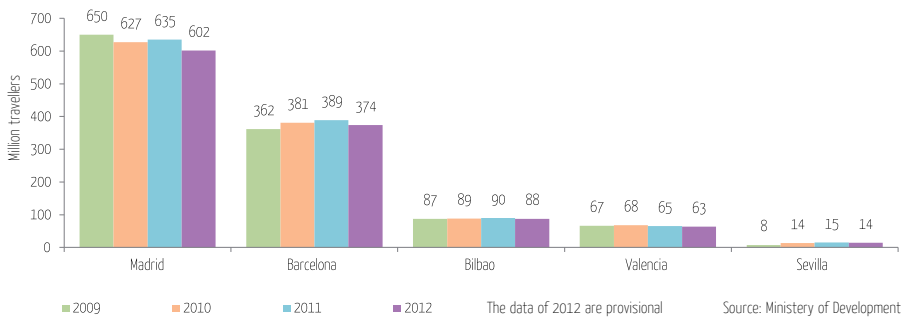
In respect of urban bus transport, the autonomous communities of Madrid, Catalonia and Andalusia had the most travellers in 2012 (27.5%, 17.1% and 13.1% respectively); although that year all the autonomous communities showed falling annual rates for this mode of urban transport.

The report from the Observatory of Metropolitan Mobility (OMM), of June 2012, highlights the preference for the use of private vehicles to make journeys for work purposes; this report was carried out with information provided by 20 Public Transport Authorities, and covers a population

of almost 26 million inhabitants, representing 54.6% of the Spanish population. This preference is particularly marked within medium size metropolitan areas (which offer less public transport). In small metropolitan areas, the distances make both biking and walking a possibility, which make up more than 30% of the total.

Nevertheless, the use of private vehicles or public transport is reduced when the reason for the journey is not work, given an increase in the biking and walking rates for these journeys.

Number of travelers per year by metropolitan



NOTES

- 'Metropolitan Area' means an urban geographical area with a high degree of interaction between its various urban centres in terms of journeys, day-to-day relationships, and economic activity. A single definition has not yet been established to demarcate Spain's metropolitan areas. Under OMM criteria, metropolitan areas coincide with the area within which each Public Transport Authority operates.
- Urban passenger transport data contains information from: F.C. Metropolitano de Barcelona, S.A.; Metro Bilbao; Metro de Madrid, S.A.; Metro de Sevilla Sociedad Concesionaria de la Junta de Andalucía, S.A.; Ferrocarriles de la Generalitat Valenciana: Metrovalencia y TRAM de Alicante; Transportes Metropolitanos de Barcelona; Empresa Municipal de Transportes de Madrid, S.A.; Empresa Municipal de Transportes de Valencia; Transportes Urbanos de Sevilla, S.A.M. and Transportes Urbanos de Zaragoza, S.A.

SOURCES

- Ministry of Development, 2012. *Statistical Yearbook of 2011*.
- National Statistics Institute, 2013, *Statistic for passenger transportation. Year 2012*. Press Note 27 February 2013.

MORE INFORMATION

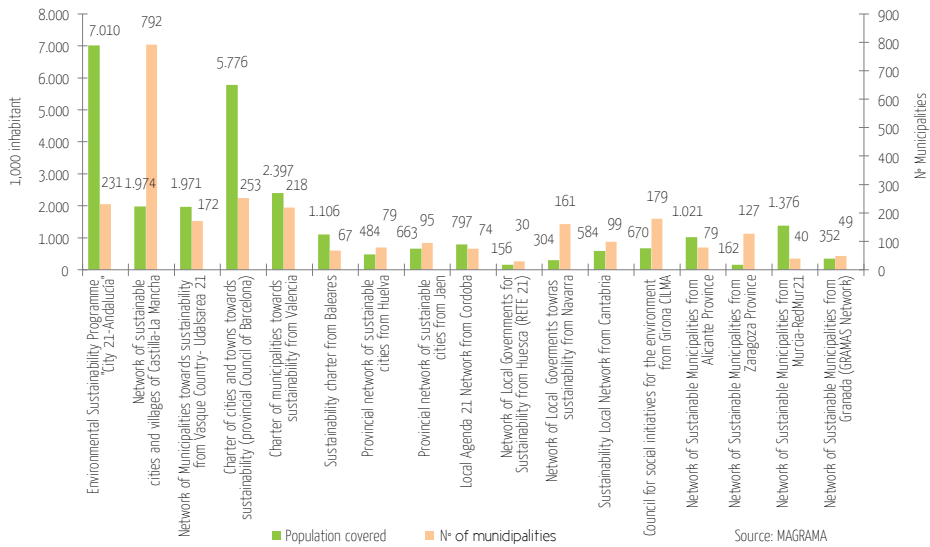
- <http://www.fomento.es/>
- <http://www.ine.es/>
- <http://www.observatoriomovilidad.es/>
- <http://www.transyt.upm.es/>
- <http://www.eea.europa.eu/soer/europe/urban-environment/>



Public participation in urban sustainability

Public participation regarding sustainability issues has in the Network of Networks for Local Sustainable Development an each time more consolidated structure

Network of networks of local development sustainable. 2011
(Number of municipalities and population covered)



The Network of Local Sustainable Development Networks maintains its role as a forum for discussion and the exchange of experiences between the different autonomic and regional networks that work with Agenda 21. This makes it a public participation vehicle for the environment, and is made up of 18 networks, representing 2,801 municipalities with a total population of 28,192,276.

The Urban Environment Strategy (approved by the Network of Local Sustainable Development Networks in June 2006) and the Spanish Strategy of Sustainable Development of 2007, was the starting point for the drawing up of the Spanish Strategy of Local Urban Sustainability, approved in 2011, which contains the principles, objectives, guidelines and measures to advance towards greater local sustainability.

The conceptual framework of the Urban Environment Strategy and the Spanish Strategy for Local Urban Sustainability is the 'Green Paper on Urban and Local Sustainability in the Information Age'. This is a reference document for environmental policies in relation to the process of change in Spanish urban systems, and serves as a technical and educational tool for professionals and technicians to allow our cities to make progress towards more sustainable models.

This book, published in 2012 by the Ministry of Agriculture, Food and Environment, is structured in three parts. The first part contains the main problems facing the urban environment: urbanism, mobility, building, biodiversity and urban management. The second part is focused on a study of urban metabolism (energy, water, use of resources, waste management, air and urban noise), as well as rural-urban relations. Finally, the third part goes into detail on social sustainability, specifically as regards the relationship between the urban environment and social inclusion within a context of sustainable development. The networks have participated actively in the preparation of this manual through its revision and by providing their own experiences.

Finally, in terms of the urban environment, the Covenant of Mayors is a movement to allow local institutional participation. In Spain, as of March 2013, 1,259 municipalities had signed it (these represent a population of 22,661,791 inhabitants, the equivalent of 51% of the total Spanish population). Signatories to the agreement commit to applying a Sustainable Energy Action Plan one year after signing up. So far, 68% of the total Spanish municipalities have done so. In Europe, a total of 4,417 majors have signed, covering a population of 168,810,485 inhabitants.

NOTES

- The Covenant of Majors is the mainstream European movement involving local and regional authorities, voluntarily committing to increasing energy efficiency and use of renewable energy sources on their territories.

SOURCES

- Ministry of Agriculture, Food and Environment, 2011. Spanish Strategy for the Urban and Local Sustainability.
- Ministry of Agriculture, Food and Environment, 2012. Green paper on Urban and Local Sustainability in the Information age.
- Data provided by the Directorate-general for Environmental Quality and Assessment and Natural Environment. Ministry of Agriculture, Food and Environment

MORE INFORMATION

- <http://www.magrama.gob.es/es/calidad-y-evaluacion-ambiental/temas/movilidad-urbana/desarrollo-medio-am-urb/>
- <http://www.ecourbano.es/index.asp>
- <http://www.sostenibilidad-es.org/es/informes/informes-anuales/sostenibilidad-en-espana-2011>
- http://www.pactodelocalcaldes.eu/index_es.html

NATURAL AND TECHNOLOGICAL DISASTERS



2.17

Perfil Ambiental de España 2012

Natural disasters are a consequence of the interaction, in time and space, of a natural phenomenon together with the vulnerability of the place where it occurs. These episodes cause, in addition to serious loss of human life, major damage to a country's economy, society and environment.

According to the Munich Re Foundation, in 2012 there were 905 natural disasters in the world. Of the disasters registered, 48% were due to floods and other hydrological events, 27% due to tropical storms and other meteorological phenomenon, 12% to climatological phenomenon such as heat waves and droughts, and 7% due to earthquakes and volcanic eruptions. The worst catastrophe registered in 2012 was the typhoon 'Bohpa' in the Philippines, which caused 1,100 deaths. In total, in the year, 9,600 deaths were registered.

By continent, the largest number of disasters was registered in Asia with 334 (36.9%), followed by America with 285 disasters (31.5%). In Europe there were 132 natural disasters registered, 14.6% of the total.

In Spain, the scale of disasters is not comparable to other regions of the planet, however on a smaller scale, each year sees a varying number of people affected and killed by such disasters. Among the events that led to the greatest losses in 2012 must be highlighted the intense rainfall and flooding that, throughout the autumn, affected the south, east and northeast of the penin-



sula as well as the Canary Islands. In this regard, the most significant episode of heavy rainfall was the one that hit the south and east of Andalusia, Murcia and Valencia on 27 and 28 September, with a record 188.9 mm of total accumulated rainfall being measured at Valencia (airport) on 28 September.

In addition to natural disasters, other catastrophes are caused by industrial activities, the transport of dangerous goods, etc. In 2012 the environmental indicator 'Oil spills due to maritime accidents' has not been updated, as no incidents were registered, although some pollution in harbour waters during loading and fuel supply operations were detected.

KEY MESSAGES

- In 2012 there were 35 fatalities, 15 of these were due to floods, 10 to forest fires and 7 to marine storms.
- 2012 was dryer than usual over most of Spain. The highest daily rainfall, of 188.9mm, was registered in the environs of Valencia's airport, on 28 September.
- According to provisional data, during 2012 there were 10,520 incipient forest fires and 5,382 declared fires, giving a total of 15,902 incidents. In 2012 209,855 ha of forest surface were affected, of which 82,201 were wooded.
- In 2011 26 accidents in the transport of dangerous goods by road and rail with possible environmental damage were registered, one more than the previous year.
- In Spain in 2012 there was one accident in industrial installations covered by the SEVESO III legislation.
- During 2012 there have no registered accidents from petrol tankers on the Spanish coasts.

INDICATORS

- Fatalities due to natural disasters
- Drought
- Forest fires
- Road and rail accidents causing possible environmental damage
- Industrial accidents involving hazardous substances



Fatalities due to natural disasters

In 2012 there were 35 fatalities caused by natural disasters, 14.6% less than the previous year

Number of fatalities in Spain due to natural disasters. 1995-2012

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Total
Floods	22	110	40	0	5	14	9	13	9	7	8	9	11	6	5	12	9	15	304
Storms	19	13	14	2	20	28	17	12	8	6	8	9	4	3	11	6	2	1	183
Forest fires	8	1	4	4	8	6	1	6	11	4	19	8	1	1	11	9	12	10	124
Landslide	7	8	2	0	0	0	1	1	2	0	0	5	2	1	2	2	3	0	36
Heat wave	0	0	0	0	1	0	0	0	60	23	4	14	0	0	0	2	1	2	107
Snow avalanches	7	1	0	0	0	4	2	4	4	5	1	0	0	4	3	11	2	0	48
Episodes of snow and cold	0	2	5	1	0	2	4	0	0	3	3	0	0	0	1	1	1	0	23
Deaths on land due to maritime storms	19	13	13	36	17	37	27	15	5	20	SD	SD	SD	4	2	5	2	7	222
Earthquakes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	9
TOTAL	82	148	78	43	51	91	61	51	99	68	43	45	18	19	35	48	41	35	1,056

Source: DGPGyE.

The number of fatalities caused by natural disasters in Spain during the period 1995 and 2012 was 1,056. Analysing the types of disaster that caused the fatalities it can be seen that floods, with 304 victims (28.8% of the total) caused the highest number of fatalities, followed by maritime storms with 222 (21% of the total).

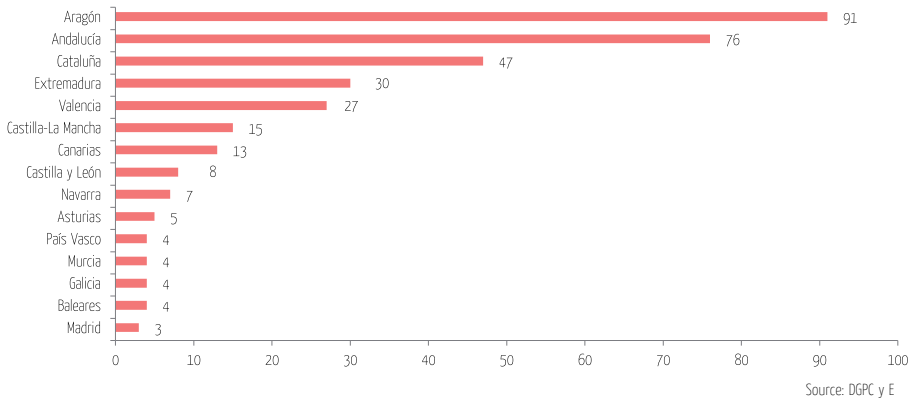
The other types of disasters that have caused a high number of fatalities in this period are storms, including lightning and strong winds, with 183 victims (17.3% of the total), forest fires with 124 victims (11.7% of the total) and heat waves with 107 victims (10.1% of the total).

In 2012 the number of deaths from natural disasters fell compared to the previous year. Regarding the cause of death of the 35 registered victims, 15 were due to floods, six more than in the previous year, 10 were consequence of forest fires, two less than in the previous year, and seven were due to maritime storms (with death occurring on land), five more than the previous year. These disasters have also caused significant damages to persons and property – buildings and infrastructure - and to the natural environment. On the other hand, in 2012, there were no victims from earthquakes, landslides, snow avalanches and episodes of snow and cold.

Floods are the most frequent natural phenomenon in Spain. Analysing floods and freshets registered for the period 1990-2012 it can be observed that they caused 338 fatalities.



Deaths due floods in Spain. 1990-2012 (Total deaths 338)



By autonomous community, and since the Biescas (Huesca) catastrophe, Aragón has registered the highest number of fatalities (26.9%), followed by Andalusia (22.5%), Catalonia (13.9%) and Extremadura (8.9%).

In 2012, there were 15 fatalities caused by floods and overflows. By autonomous community, seven were registered in Andalusia, six in Navarre and one each in Extremadura and Asturias.

NOTES

- Fatal landslides in Spain are closely associated with heavy rains that cause flooding or freshets. The vast majority of landslides occur during rain or just after, as a consequence of it.
- Fatalities due to maritime storms refer solely to victims on land due to falls, sea surges, etc. These figures do not include fatalities at sea (drowning, falls, etc.) due to these phenomena.
- The indicator does not include volcanic eruptions and droughts, since although these phenomena may occur in Spain they have not caused any deaths in the period under consideration. The Canary Islands are the only part of Spain with active volcanoes and, therefore, the only area in which risk associated with this phenomenon exists. The last eruptions were those of Chinyero (a lateral volcano on the Pico del Teide) on Tenerife in 1909; Nambroque in 1949 and Teneguía in 1971, both on the island of La Palma; and in 2011 the eruption of the submarine volcano of the island of El Hierro.

SOURCES

- Sub-Directorate-General for Planning, Operations and Emergencies. Directorate General of Civil Protection and Emergencies (DGPCyE). Ministry of Interior.
- Maritime Security and Rescue Society. Ministry of Development.

MORE INFORMATION

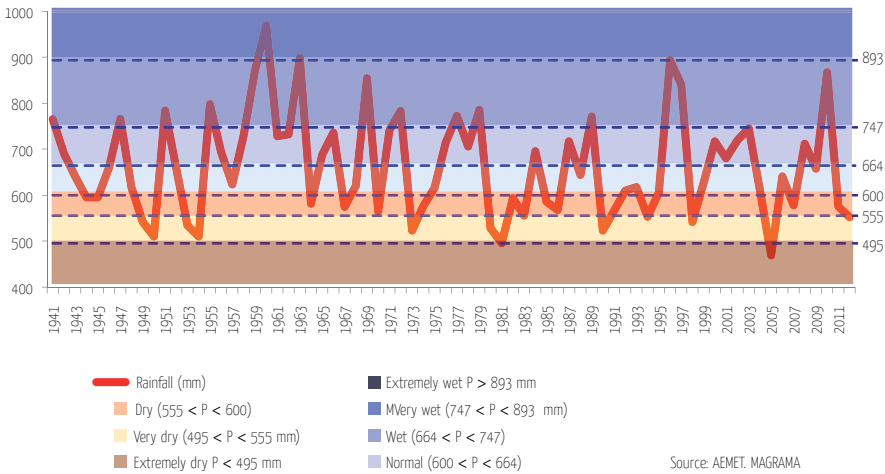
- <http://www.eea.europa.eu>
- <http://www.proteccioncivil.org/>



Drought

2012 was dryer than normal in most of Spain

Average annual rainfall in Spain (mm)



2012 was dryer than normal in most of Spain. The area with the greatest rainfall deficit was the northwest and the centre of the peninsula, which saw a particularly dry year. The average estimated rainfall in Spain for 2012 was 552.3 mm, 16.8% below the average value (reference period 1941-2012).

For the period 1941-2012, an analysis of the Percentage of Normal Rainfall shows that in 45.1% of years the annual rainfall was higher than average, while in 56.3% of the years the annual rainfall was lower than the average for the period.

A more detailed analysis of the annual average rainfall during this reference period, using the classification of the table below, shows that only 2.8% of the years were extremely wet, with the same percentage being extremely dry, 32.0% of the years were dry or very dry, 20.8% were normal and the rest, 41.7%, were wet or very wet.



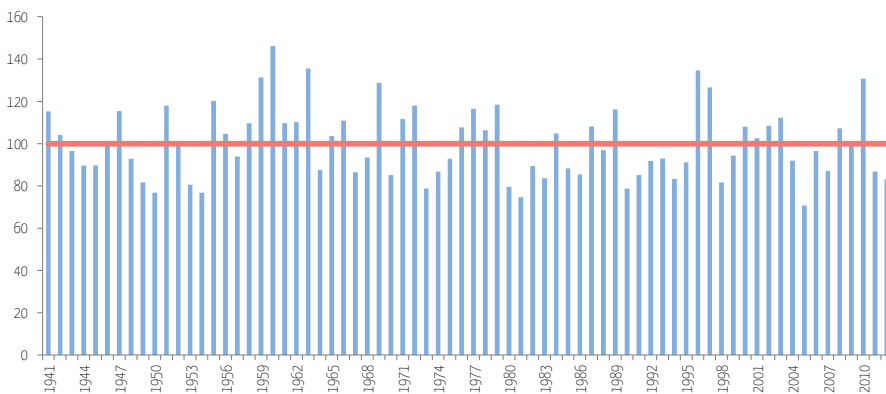
Percentage of years, classified by average rainfall (1941-2012)

Extremely dry P<495 (mm)	Very dry (495<P<555) (mm)	Dry (555<P<600) (mm)	Normal (600<P<664) (mm)	Wet (664<P<747) (mm)	Very wet (747<P<893) (mm)	Extremely wet P<893 (mm)
2.8	15.3	16.7	20.8	23.6	18.1	2.8

Looking at the autonomous communities, 2012 was a very dry year in Galicia, in most of Asturias, Extremadura and Madrid, in the north and east of Castile-Leon, and in parts of Catalonia, the Canary Islands and the Basque Country, with a significant deficit of rainfall compared to average values. It was from normal to dry in general in the rest of Spain, except in parts of Navarre and La Rioja and in the southeast of the peninsula, where it was a little bit more wet than normal.

2012 saw some intense episodes of precipitation. Among the most significant ones were those in the autumn that affected regions of the south, east and northeast of the peninsula, as well as the Canary Islands.

Percentage of normal rainfall (PNR)



Source: AEMET. MAGRAMA



NOTES

- In calculating the indicator, the sum of the monthly estimated rainfall totals from the 2012 Monthly Reports were used to give the average rainfall for 2012, with the average rainfall being an estimated figure.
- A year or several years are classified as drought years when the average annual rainfall is significantly below the average for the period. According to the Spanish Water Information System (Hispagua), the Percentage of Normal Rainfall (PPN) is one of the indicators used to study drought. It is calculated as the ratio between accumulated rainfall in a year and the average annual rainfall for a particular region and period, expressed as a percentage. Average annual rainfall is also referred to as normal rainfall and is obtained by averaging annual rainfall over a period of no less than 30 years.
- For AEMET, the 1971-2000 reference period (30 years) is representative of rainfall in Spain and is used to establish the following ranges and create a generic classification within which to place each year in accordance with its average annual rainfall:
 - Extremely dry: rainfall is below the minimum amount recorded in the reference period (495 mm).
 - Very dry: rainfall is less than or equal to the reference period's 20 percentile and is greater than the minimum amount recorded in the reference period ($495 \text{ mm} \leq R \leq 555 \text{ mm}$).
 - Dry: rainfall is greater than the 20 percentile and less than or equal to the 40 percentile ($555 \text{ mm} \leq R \leq 600 \text{ mm}$).
 - Normal: rainfall is greater than the 40 percentile and less than or equal to the 60 percentile ($600 \text{ mm} \leq R \leq 664 \text{ mm}$), in other words, it is around the median.
 - Wet: rainfall is greater than the 60 percentile and less than or equal to the 80 percentile ($664 \text{ mm} \leq R \leq 747 \text{ mm}$).
 - Very wet: rainfall is greater than the 80 percentile and less than the maximum amount recorded in the reference period ($747 \text{ mm} \leq R \leq 893 \text{ mm}$).
 - Extremely wet: rainfall is equal to or greater than the maximum amount recorded in the reference period (893 mm).
- Scarcity of precipitation (meteorological drought) may cause a shortage of water resources (hydrological drought) needed to supply existing demand. Consequently, there is no universally accepted definition of drought, as it varies from place to place and every water user has its own definition.
- Previous editions of the report included extensive information on the definition, type and consequences of drought. The EU differentiates clearly between 'drought' as a temporary drop in water availability due to lack of precipitation and 'water scarcity', which arises when demand for water exceeds the water resources exploitable under sustainable conditions.

SOURCES

- Rainfall data taken from the Climatologic Monthly Reports of 2012 of the Meteorological State Agency (AEMET). Ministry of Agriculture, Food and Environment.

MORE INFORMATION

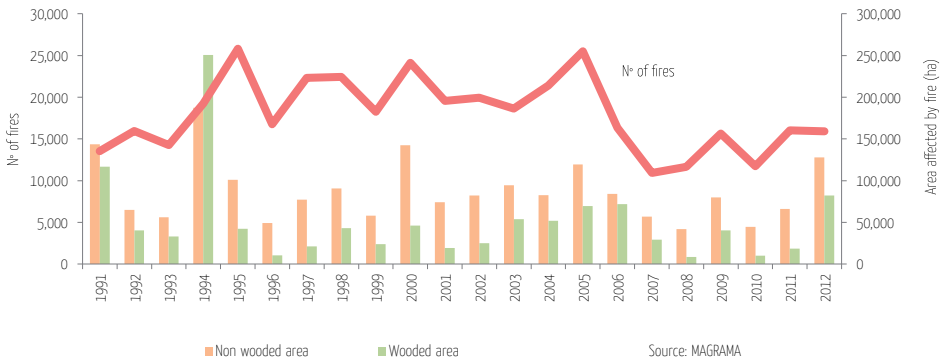
- www.aemet.es



Forest fires

The forest area affected in 2012 was 82.9% higher than the average of the previous decade. Nevertheless, the number of disasters has decreased by 5.4%

Forest area affected by fire and number of fires (1991-2012)



Source: MAGRAMA

According to provisional data, in 2012 both the number of incipient fires and fires were slightly below the average of the previous decade (2002-2011). During 2012 there were 10,520 incipient fires registered and 5,382 fires (>1 ha) giving a total of 15,902 disasters. This means that the number of incipient fires was 2.9% lower than the average, while the number of fires was 9.9% lower. Overall, the total number of incidents was 5.4% lower than the average of the previous decade.

Number of fires and affected surface

	Average of the decade 2002-2011	2012
Number of incipient fires (<1 ha)	10,841	10,520
Number of fires (>1 ha)	5,976	5,382
Total Number of forest fire events	16,817	15,902
Wooded surface (ha)	37,831.4	82,201.4
Forest surface (ha)	114,716.7	209,855.2
Area affected / national forest area (%)	0.415	0.759
Number of major fires	28	39

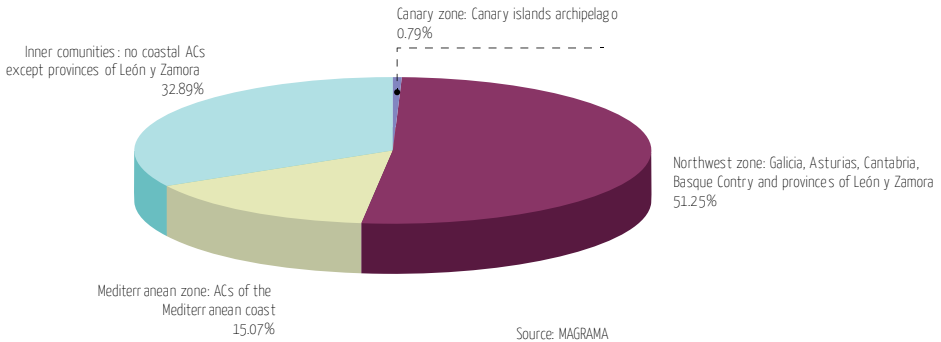
Source: MAGRAMA



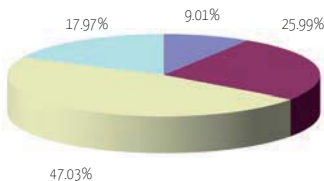
At the same time, in terms of forest area, the wooded surface and the total forest area affected in 2012 was 117.3% and 82.9% higher compared to the average of the decade 2002-2012. In 2012, 209,855.2 ha of forest area were affected compared to the average of 114,716.7 ha recorded in the previous decade.

In 2012, the largest percentage of incidents were in the Northwest Area (formed by the autonomous communities of the Basque Country, Cantabria, Asturias and Galicia, together with the provinces of Leon and Zamora), 51.25% of the incidents were registered in this area; next were the inland autonomous communities (non-coastal) which saw 32.89% of the incidents, followed by the area made up by the Mediterranean area and the Canary Islands, which registered 15.07% and 0.79% of the incidents, respectively.

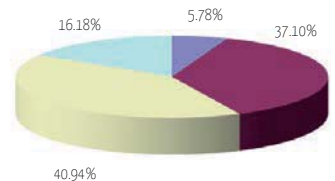
Forest fire events and affected area. Year 2012



Wooded area affected



Forest area affected





The percentage of forest or wooded area affected describes the consequences of forest fire in terms of surface area. In 2012, by proportion of wooded area affected, the Mediterranean area suffered the most, with 47%, followed by the Northeast area (25.9%), the inland communities (17.9%) and the Canary Islands (9.1%). Taking into account the forest surface, the highest values are those for the Mediterranean area (40.9%), followed by the northwest (37.1%), the inland communities (16.2%) and the Canary Islands (5.8%).

In 2012, according to provisional figures provided to the Forest Fire Defence Department by the relevant autonomic administration departments, 39 major forest fires were registered (defined as affecting 500 forest ha or more), that is, 0.24% of the total incidents that occurred that year and which were responsible for 64% of the total burned area.

The fires in Cortes de Pallás and Andilla in the autonomous community of Valencia, and the fire in Castrocontrigo in Castile-Leon, which burned 27,939.7 ha, 19,691.4 ha and 11,592.0 ha respectively, were the three largest fires registered in 2012.

NOTES

- The data for 2012 is provisional.

SOURCES

- Data provided by the Forest Fire Defence Department. Directorate-General for the Natural Environment and Forestry Policy. Ministry of Agriculture, Food and Environment.
- Ministry of Agriculture, Food and Environment, 2013. "Forest Fires in Spain, 1 January – 31 December 2012. Advance information". Published on the website.

MORE INFORMATION

- <http://www.magrama.gob.es/es/biodiversidad/estadisticas/>





Road and rail accidents causing possible environmental damage

In 2011, there were 26 accidents causing possible environmental damages, one more than the previous year

Number of accidents causing possible environmental damages
During the transport of dangerous goods by road and rail

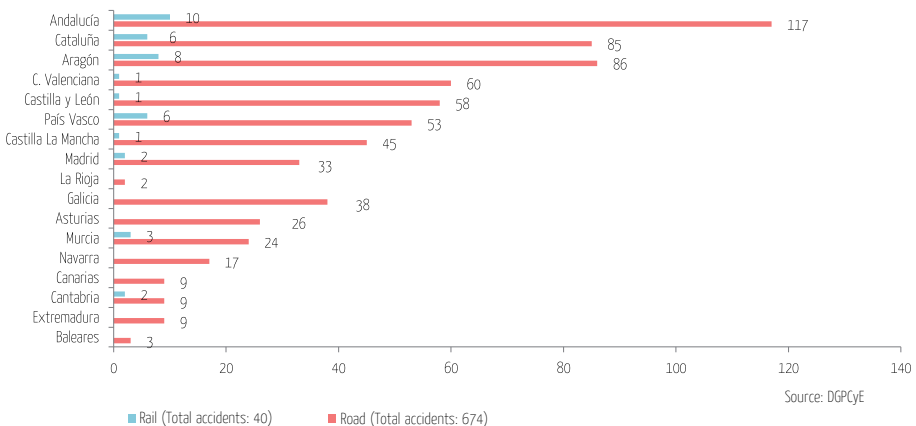
	1997	1998	1999	2000	2001	2002	2003	2004
Road	29	50	34	53	44	47	55	64
Rail	10	8	n/d	4	2	1	5	4
TOTAL	39	58	34	57	46	48	60	68

	2005	2006	2007	2008	2009	2010	2011	TOTAL
Road	61	46	48	45	47	25	26	674
Rail	2	1	2	1	0	0	0	40
TOTAL	63	47	50	46	47	25	26	714

*n/d: no data

Source: DGPCyE

Number of accidents causing possible environmental damage during the
transportation of dangerous goods by road and rail (1997-2012)



Source: DGPCyE



During the reference period, 1997-2011, there were 714 accidents causing possible environmental damage during the transport of dangerous goods. These accidents are unevenly distributed between the main modes of transport. Thus, road transport, which handles the largest volume of goods, registered 678 accidents, while rail transport, which is on a smaller scale and less flexible, recorded 40 accidents during the same period.

In 2011 there were 26 road accidents with possible environmental damages, while there were no such rail accidents registered, the same as over the last three years.

The occurrence of accidents is highly conditioned by the condition, the development and the extent of the transport network, as well as, in the case of the autonomous communities, by their geographical location in the community either as a transport hub or because of strategic situation, and by the level of industrialisation. During the period 1997-2011 and at autonomous community level, Andalusia, with 117 road accidents and 10 rail accidents, saw the highest number of registered accidents, followed by Aragon (86 by road and 8 by rail) and Catalonia (85 by road and 6 by rail). At the same time, the communities with the lowest number of accidents were: the Balearic Islands (3 by road), Canary Islands and Extremadura (9 by road) and Cantabria (9 by road and 2 by rail). La Rioja was not included because it does not have a complete data series.

Number of incidents causing possible environmental damage during the transport of dangerous goods, 1997-2011

	1997	1998	1999	2000	2001	2002	2003	2004
Water pollution	5	3	2	4	3	0	8	8
Water pollution	7	11	6	9	5	5	4	14
Soil pollution	36	49	29	51	41	46	57	55
TOTAL	48	63	37	64	49	51	69	77
	2005	2006	2007	2008	2009	2010	2011	TOTAL
Water pollution	17	7	8	4	5	7	7	88
Water pollution	9	8	7	8	2	4	7	106
Soil pollution	49	41	43	39	44	18	21	619
TOTAL	75	47	50	46	47	25	26	774

Source: DGPGyE



The total number of incidents affecting the environment, with possible environmental damages, during the period 1997- 2011 was 774. It is necessary to clarify that the total number of environmental impacts does not coincide with the total number of accidents, as a single accident can affect several environmental media, for instance one discharge can affect both soil and water. Taking this into account, of the total registered 619 incidents led to soil pollution, 106 affected water and 88 air. Proportionally, for another year, soil was the environmental medium that has suffered the most incidents (21 incidents) while both air and water suffered seven each.

NOTES

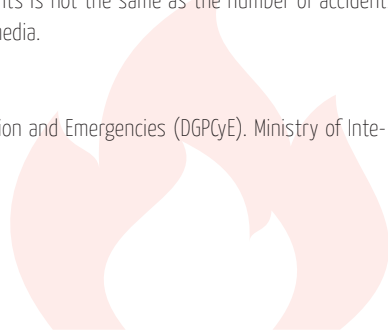
- When categorising road and rail accidents, dangerous goods are considered to be those substances that, in the case of an accident during transport, may represent a hazard to the population, property and the environment. Possible environmental damage is considered to occur when the existence of a leak or spillage (on land, in water or into the atmosphere) with a potentially pollutant effect is reported.
- It is necessary to emphasise that the number of incidents is not the same as the number of accidents, as a single accident may affect several environmental media.

SOURCES

- Data provided by the Directorate-General of Civil Protection and Emergencies (DGPCyE). Ministry of Interior. White paper on transport.

MORE INFORMATION

- <http://www.proteccioncivil.org/>
- <http://www.eea.europa.eu>





Industrial accidents involving hazardous substances

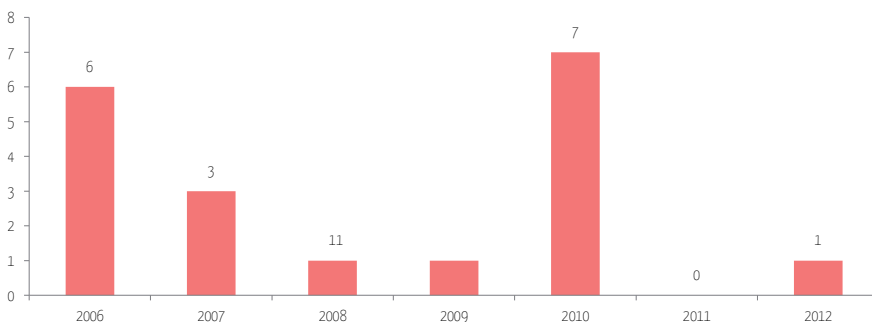
In 2012 there was only one accident from industrial activities within the scope of the SEVESO legislation

The Seveso legislation was prompted by an incident in 1976 in the Italian town of Seveso; an industrial accident occurred during the production of an herbicide, leading to the release into the environment of an aerosol cloud containing a quantity of the dioxin TCDD, among other toxic substances, which reached many populated areas, causing serious environmental and human damage.

The disaster had a major social impact and led to the EU (the thirteen members countries at the time) to adopt the legal measures included in Directive 82/501/EEC, known as the Seveso Directive. In 1996, after a review, Seveso II was brought into force, being published in the Official Journal of the European Union as Directive 96/82/CE.

Recently, Seveso III, Directive 2012/18/EU of 24 July 2012, was published, on the control of major-accident hazards involving dangerous substances, amending and subsequently repealing Council Directive 96/82/EC.

Industrial accidents under seveso directive



Source: DGPCCE, MI

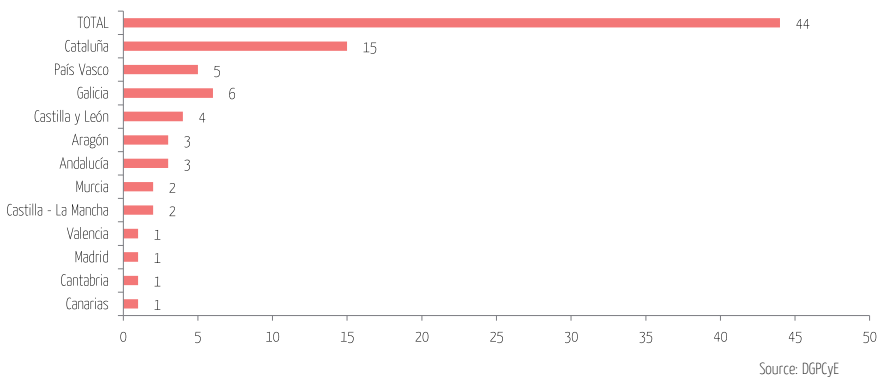


Among the objectives of the new SEVESO III Directive is the introduction of stricter standards for inspections of facilities covered by the Directive, to ensure correct implementation and compliance with the security rules on the prevention of accidents. In Spain in 2012 only one industrial accident falling under the scope of the Seveso III legislation was registered. This number follows the trend seen in recent years that has only been broken in 2010, when there were seven accidents in industrial installations coming within the legislation recorded.

Logically, these accidents tend to be concentrated in those areas with a higher industrial density. The accident registered in 2012 took place in Galicia, an autonomous community that has registered a total of six industrial accidents since 1987.

Over the whole period (1987-2012) there were a total of 44 accidents. Most of these registered incidents took place in the autonomous communities of Catalonia (34.1%), Galicia (13.6%), the Basque Country (11.4%) and Castile-Leon (9.0%), which also have the largest number of industrial facilities covered by the Seveso Directive and which are also the largest in size.

Industrial accidents under SEVESO directive 1987-2012



The majority of the accidents considered took place in the petrochemical and oil refining industries, and in the manufacturing of general or basic chemical products; these activities are the most abundant in Spain and handle the largest quantity of highly flammable and highly reactive substances.



NOTES

- The accidents referred to are those covered by the Seveso Directive, occurring in the carrying out of industrial activities (chemical, pharmaceutical, energy industry, etc.) and include those occurring during storage, distribution and sale of dangerous substances and products.
- Directive 96/82/CE on the control of major-accident hazards involving dangerous substances (Seveso II) is intended to prevent this kind of accidents and reduce their consequences for human health and safety and the environment. It replaces Directive 82/501/CEE, (SEVESO I). The Seveso II directive has been transposed into Spanish law by Royal Decree 1254/1999, of 16 July, which approved measures to control major-accidents hazards involving dangerous substances. This Royal Decree was subsequently amended by Royal Decree 119/2005 of 4 February and by Royal Decree 948/2005 of 29 July. This regulatory framework is complemented by Royal Decree 1196/2003, of 19 September, which approved the Civil Protection Guidelines for the Control and Planning of Major-Accident Hazards involving Dangerous Substances (BOE no 242, of 9 October 2003). On 24 July 2012, Directive 2012/18/EU, Seveso III, was published, on the control of major-accident hazards involving dangerous substances, amending and subsequently repealing Directive 96/82/EC.
- Serious accidents: any incident such as emissions in the form of leaks, spills, fires, or major explosion as a consequence of an uncontrolled process during the operation of an facility to which Royal Decree 1245/1999 applies, and that represents a major-accident hazard, of either immediate or delayed effect, to human health, property or the environment, whether inside or outside the facility, and in which one or more dangerous substances are involved.
- It should be pointed out that other types of accidents exist, that although no less serious for the environment, do not fall within the scope of the Seveso Directive. These include mining accidents, such as the one caused by the failure of the Aznalcollar dam (Seville), in April 1998.

SOURCES

- Data provided by the Sub-Directorate-General of Planning, Operations and Emergencies. Directorate General for Civil Protection and Emergencies (DGPCyE). Ministry of Interior.

MORE INFORMATION

- <http://www.proteccioncivil.org>





Information by Autonomous Communities: basic data

3

Environmental profile of Spain 2012

The information on the indicators given in the different chapters of this publication does not always provide the level of detail that might be desired and does not, for every indicator, offer information by autonomous community. In fact, only 24 (27.3%) of the 85 indicators included have information at autonomous community level, although 36 of the indicators (40.9%) offer information by other territorial demarcations (river basin districts, marine regions, etc).

Since 2007 this report has included a chapter dedicated to selected information from the autonomous communities. This contains a data sheet for each community (which includes several administrative, territorial, social and economic variables, that allow the creation of a reference framework for each autonomous community), which complement the bulk of the environmental information. It also includes three other information sections containing noteworthy information about aspects of the autonomous community, with links to its website and references to the most important publications concerning the environment.

The selection of these variables is the product of teamwork, reached by consensus through the Spanish EIONET network. Space limitations, actual availability of the information and the difficulties in data presentation are three of the main handicaps in setting out the content.

One of the characteristics of this publication is that it is constantly evolving, with the content being adapted, as far as possible, to meet both the demands of the information, as well as to take account of the improvements arising from the EIONET network. The current edition includes new variables, improving the content, all of which are a result of a consultation process carried out and the suggestions received. Specifically, the inclusion of the quality of inland bathing waters in the Water section, the new section on the 'Coast', covering the length of the coast and the quality of marine waters, the analysis of plant and animal species (protected and invasive) in nature, information on organic livestock farm workers and the heritage of the '*vías pecuarias*' livestock trails in the agriculture section, the length of bicycle lanes in the urban policy section and the creation of a special section on 'Access and dissemination of environmental information' are some of the new features of this edition.

With the aim of referencing the sources of the information used, these are included in a detailed section at the end of the chapter, as well as, where considered necessary, any notes on methodology considered necessary to interpret the variables used. When the information has been provided by the autonomous community this is also explicitly mentioned.

As mentioned in the preceding paragraphs, without the collaboration of the representatives of the Spanish EIONET Regional Focal Points network (and its collaborators who take part in their own information networks), the production of this chapter would have been impossible. It is thanks to their participation that this annual report on the state of the environment is available. This report helps to meet the obligations arising under the Aarhus Convention, access to information, public participation in decision-making and access to justice on environmental matters, ratified by Spain by Law 27/2006, of 18 July.



Andalusia

Statute of Autonomy: Organic Law 2/2007, 19 March (BOE Nº: 68, 20 march 2007)

Area: 87,597 km²

Capital: Sevilla **Provinces:** 8 **Municipalities:** 771

Population (2012): 8,449,985 inhab

Population density (2012): 96.5 inhab/km²

Change in No. of inhabitants (2011-2012): + 25,883



• DEMOGRAPHIC DISTRIBUTION (%) BY MUNICIPALITY SIZE (2012)

< 2,001 inhabitants: 3.3

2,001-10,000 inhabitants: 16.8

10,001-100,000 inhabitants: 44.2

100,001-500,000 inhabitants: 20.7

> 500,000 inhabitants: 15.0

• EMPLOYMENT BREAKDOWN BY SECTOR (%) (2012)

Agriculture: 7.8

Industry: 9.0

Construction: 5.9

Services: 77.3

• UNEMPLOYMENT RATE (2012)

34.6% (30.4% en 2011)

• GDP MP (2011)

17,337 €/inhab. (Spanish average = 100: 75.2%)

Variation 2010-2011: 0.2%

• GROSS DISPOSABLE HOUSEHOLD INCOME (2011)

12,047 €/inhab. Variation rate 2010-2011: - 4.1%

• GVA BREAKDOWN BY SECTOR (%) (2011)

Agriculture: 4.5

Industry: 11.9

Construction: 11.0

Services: 72.5

AIR (data provided by the Autonomous Community, henceforth: AC)

• NO. OF AIR-QUALITY MONITORING STATIONS IN THE AC (2011)

Urban: 40 / Suburban: 33 / Rural: 17

• EXCEEDANCES OF THE LEGISLATIVE VALUES IN THE URBAN STATIONS OF THE CAPITAL OF THE AC (2011)

- Annual mean concentration of NO₂ in µg/m³ (limit value since 2010: 40 µg/m³): 30

- No. days/year average daily PM10 concentration exceeds 50 µg/m³ excluding African dust outbreaks (limit value since 2005: 35 days/year): 35

2,587,547 ha (29.5% of the AC)

• WETLANDS INCLUDED IN THE SPANISH WETLANDS INVENTORY (2012)

117 wetlands 117,969.9 ha

• FOREST AREA ACCORDING TO IEPNB (2012)

Wooded: 2,922,692 ha / Non-wooded: 1,544,445 ha

• FOREST FIRES (2012)

709 outbreaks and 179 fires, affecting 10,741.7 ha

• FLORA AND FAUNA SPECIES

- No. of protected species: 398 fauna and 964 flora

- No. of invasive alien species: 4 algae, 52 higher plants (aquatic and terrestrial), 32 animals and one fungus (provisional data march 2013)

WATER

• AVERAGE HOUSEHOLD WATER CONSUMPTION (2010)

143 litres/inhabitant/day. Between 2000 and 2010, consumption decreased by 21.9%

• WATER DISTRIBUTION BY SECTOR (%) (2010)

Households: 73.2 / Municipal and other consumption: 10.1 / Economic sectors: 16.7

• WASTEWATER TREATMENT (2011)

83.7% of population equivalent provided with wastewater treatment compliant with RD 509/96

• QUALITY OF INLAND BATHING WATER % SAMPLING POINT (2012)

Excellent: 38.5; Good: 26.9; Sufficient: 23.1; Poor: 11.5

LAND (data provided by the AC)

• BREAKDOWN BY LAND USE (%) (SIOSE 2009)

Urban areas: 4.84 / Agriculture: 40.50 / Forest: 53.48 / Wetlands and water bodies: 1.16

• SOIL LOSSES (%) (2011)

Low: 69.7 / Moderate: 18.2 / High: 6.1 / Very high: 6.0

NATURE

• TERRESTRIAL PROTECTED AREA (2012)

1,626,214 ha (18.6% of the AC)

• TERRESTRIAL NATURA 2000 NETWORK (2012)

COAST

• LENGTH OF COASTLINE

945 km

• SEA BATHING WATER QUALITY. % OF SAMPLE POINTS (2012)

Excellent: 95.3; Good: 2.9; Sufficient: 1.2; Poor: 0.6

WASTE

• MUNICIPAL WASTE PER INHABITANT (2011)

- Total urban waste: 551 kg/inhab

- Separately collected paper/cardboard: 7 kg/inhab

- Separately collected glass: 8.9 kg/inhab

- Separately collected packaging: 6.7 kg/inhab

AGRICULTURE

• ORGANIC FARMLAND (2011)

973,239.1 ha (19.3% of the total agricultural area)

• IRRIGATED AREA (2012)

1,028,150.4 (20.4% of the total agricultural area)

• ORGANIC LIVESTOCK FARMING (2011)

3,836 operators

• LIVESTOCK TRAILS LENGTH (2012)

34,045 km (8,803.61 km demarcated in 2012)

ENERGY

- **ELECTRICITY DEMAND (POWERPLANT BUSBARS) (2011)**
37,353 GWh. Change compared with 2010: -3.1%
- **INSTALLED ELECTRIC POWER FROM RENEWABLE SOURCES (2011)**
4,805 MW: 3% hydraulic; 63.2% wind; 16.4% photovoltaic solar; 17.4% other renewable

TOURISM

- **Nº. OF FOREIGN TOURISTS PER INHABITANT (2012)**
0.90
- **HOTEL CAPACITY (2012)**
241,266 hotel beds (28.6 beds/1,000 inhab) y 11,748 beds in rural accommodation (1.4 beds/1,000 inhab)

TRANSPORT

- **VEHICLE FLEET (2011)**
5,365,010 vehicles. Growth (2000-2011): 46.7%
636.9 vehicle/1,000 inhab
- **PASSENGER CAR FLEET (2011)**
3,772,609 passenger cars. Growth (2000-2011): 41.4%
447.8 passenger cars/1,000 inhab
- **AIR TRANSPORT (2012)**
19,279,855 passengers. Growth (2000-2012): - 6.0%

- **PORT FREIGHT TRAFFIC (2011)**
134.6 million t. Growth (2000-2011): 49.5%

URBAN AND INVESTMENT POLICY

- **LENGTH OF CYCLE PATHS (2012)**
142.46 km (data from applications of subsidies for the construction of cycle paths)
- **MUNICIPALITIES WITH A COUNCIL-APPROVED LOCAL AGENDA 21 SUBSCRIBED TO THE "CIUDAD 21 PROGRAMME" (2012)**
291 municipalities subscribed to the "Ciudad 21 Programme". 253 municipalities have completed the LA 21 assessment, 20 have started it and 18 have not started it yet. 175 municipalities have drawn up their Action Plan, 12 are currently creating one and 104 have not initiated it.
- **INTERNAL EXPENDITURE ON R&D (2011)**
€1,648.5 million (1.20% of GDP)

ACCESS AND DISSEMINATION OF ENVIRONMENTAL INFORMATION IN THE AC

- **APPLICATIONS FOR ENVIRONMENTAL INFORMATION (2012)**
788 applications
- **VISITS TO REDIAM WEBSITE (2012)**
142,624 visits (page views)

RELEVANT INFORMATION

- The National Water Council approves the river basin management plans, which will allow for an increase in available water resources, the improvement of their quality, the rationalisation of consumption and the adjustment to future demands.
- The Plan for Wetlands of the autonomous community of Andalusia is nearing the 10th anniversary of its launch; it was created with the aim of preserving the ecological integrity of the wetlands of Andalusia.
- On 10 February 2012 the Hazardous Waste Prevention and Management Plan for the period 2012-2020 was published in the Official Diary of the Autonomous Community of Andalusia, the main goal of which is the prevention of the generation of hazardous waste in Andalusia, the relevant treatment of those that are inevitably generated and the monitoring and control of their management.
- The Communication Program of the Climate Action Plan has been approved, meaning Andalusia is the first autonomous community in Spain to complete its climate change strategy, started in 2007.
- The Decree 6/2012 regulating acoustic contamination in Andalusia has been approved; in this decree the areas of acoustic sensibility and the requirements of the measurement equipment are established as management instruments.
- Andalusia achieved the objective of the reduction of annual emissions of carbon dioxide set out in the Climate Action Plan one year before the time limit set by the European guidelines. The data of the National Emissions Inventory show that the CO₂ annual emissions have decreased to 54,328,468 t.
- Andalusia has strengthened the use of biomass from forest as a clean energy resource through the regulation on the use of biomass for energy purposes in the forest regions of Andalusia.
- The Global Change Observatory located in Sierra Nevada presented its Monitoring Methodology of the climate change processes; it is the first protected space in Spain with all the management protocols for the evaluation, minimisation and adaptation to the impacts of global change.
- The government of Andalusia has declared 22 Special Conservation Areas of the Natura 2000 European Network.

RECOMMENDED WEBSITES

- REDIAM (Andalusia Environmental Network) web site:
 - www.juntadeandalucia.es/medioambiente/site/web/rediam
 - www.juntadeandalucia.es/medioambiente/site/web/ASR_Portada
- Report and Basic data: *Medio Ambiente en Andalusia, IMA 2011*:
 - www.juntadeandalucia.es/medioambiente/rediam/IMA
 - www.juntadeandalucia.es/medioambiente/rediam/estadisticas_IMA
- Open Geospatial Consortium (OGC) Services:
 - www.juntadeandalucia.es/medioambiente/rediam/ogc

RECOMMENDED PUBLICATIONS

- Report: *Medio Ambiente en Andalusia, IMA 2011*.
- Basic data: *Medio Ambiente Andalusia, 2011*.



Aragon



Statute of Autonomy: Organic Law 8/82, of 10 August (BOE Nº 195, 16 August 1982).

Reform adopted by Organic Law 5/2007, of 20 April (BOE Nº 97, 23 April 2007)

Area: 47,720 km²

Capital: Zaragoza **Provinces:** 3 **Municipalities:** 731

Population (2012): 1,349,467 inhab

Population density (2012): 28.3 inhab/km²

Change in No. of inhabitants (2011-2012): 3,174

• DEMOGRAPHIC DISTRIBUTION (%) BY MUNICIPALITY SIZE (2012)

< 2,001 inhabitants: 16.7

2,001-10,000 inhabitants: 14.0

10,001-100,000 inhabitants: 18.9

100,001-500,000 inhabitants: 0.0

> 500,000 inhabitants: 50.4

• EMPLOYMENT BREAKDOWN BY SECTOR (%) (2012)

Agriculture: 5.9

Industry: 18.1

Construction: 6.9

Services: 69.1

• UNEMPLOYMENT RATE (2012)

18.6% (17.1% en 2011)

• GDP MP (2011)

25,763 €/inhab. (Spanish average = 100: 111.8%)

Variation 2010-2011: 1.7%

• GROSS DISPOSABLE HOUSEHOLD INCOME (2011)

16,661 €/inhab. Variation rate 2010-2011: -3.6%

• GVA BREAKDOWN BY SECTOR (%) (2011)

Agriculture: 4.3

Industry: 23.4

Construction: 10.8

Services: 61.6

AIR

• No. OF AIR-QUALITY MONITORING STATIONS IN THE AC (2011)

Urban: 8 / Suburban: 5 / Rural: 19

• EXCEEDANCES OF THE LEGISLATIVE VALUES IN THE URBAN STATIONS OF THE CAPITAL OF THE AUTONOMOUS COMMUNITY (2011)

- Annual mean concentration of NO₂ in µg/m³ (limit value since 2010: 40µg/m³): 30

- No. days/year average daily PM10 concentration exceeds 50 µg/m³ excluding African dust outbreaks (limit value since 2005: 35 days/year): 14

WATER

• AVERAGE HOUSEHOLD WATER CONSUMPTION (2010)

144 litres/inhabitant/day. Between 2000 and 2010, consumption decreased by 18.2%

• WATER DISTRIBUTION BY SECTOR (%) (2010)

Households: 66.3 / Municipal and other consumption: 5.9 / Economic sectors: 27.8

• WASTEWATER TREATMENT (2012)

90.0% of population equivalent provided with wastewater treatment compliant with Directive 91/271/EEC and 99% of population equivalent provided with operative wastewater treatment plants with the quality criteria of the Directive 91/271/CEE

• QUALITY OF INLAND BATHING WATER. % SAMPLING POINT (2012)

Excellent: 57.1; Good: 28.6; Sufficient: 0.0; Poor: 14.3

LAND

• BREAKDOWN BY LAND USE (%) (2006)

Artificial surface: 0.8 / Agriculture: 48.8 / Forest: 49.7 / Wetlands and water bodies: 0.7

NATURE

• TERRESTRIAL PROTECTED AREA (2012). Data from AC

158,112 ha (3.3% of the AC)

• TERRESTRIAL NATURA 2000 NETWORK (2012). Data from AC

1,361,203 ha (28.5% of the AC)

• FOREST AREA ACCORDING TO IEPNB (2012)

Wooded: 1543,465 ha / Non-wooded: 1,071,867 ha

• FOREST FIRES (2012)

389 outbreaks and 138 fires, affecting 8,042.5 ha

• FLORA AND FAUNA SPECIES

- No. of species included in the Catalogue of Endangered Species of Aragon: 93 fauna and 136 flora

- No. species included in the Catalogue of Invasive Alien Species of Spain found in Aragon: 24 fauna and 14 flora

WASTE

• MUNICIPAL WASTE PER INHABITANT (2011)

- Total urban waste: 389.38 kg/inhab

- Separately collected paper/cardboard: 17.26 kg/inhab

- Separately collected glass: 21.42 kg/inhab

- Separately collected packaging: 12.77 kg/inhab

AGRICULTURE

- **ORGANIC FARMLAND (2011)**
61,119 ha (2.9% of the total agricultural area)
- **IRRIGATED AREA (2012)**
379,628.8 (18.0% of the total agricultural area)
- **ORGANIC LIVESTOCK FARMING (2011)**
32 operators
- **LIVESTOCK TRAILS LENGTH (April 2013)**
13,912.2 km

ENERGY

- **ELECTRICITY DEMAND (POWERPLANT BUSBARS) (2011)**
10,060 GWh. Change compared with 2010: 2.8%
- **INSTALLED ELECTRIC POWER FROM RENEWABLE SOURCES (2011)**
2,208 MW: 11.5% hydraulic; 78.2% wind; 6.4% photovoltaic solar; 3.8% other renewable

TOURISM

- **Nº. OF FOREIGN TOURISTS PER INHABITANT (2012)**
0.21
- **HOTEL CAPACITY (2012)**
38,255 hotel beds (28.3 beds/1,000 inhab) y 8,755 beds in rural accommodation (6.5 beds/1,000 inhab)

TRANSPORT

- **VEHICLE FLEET (2011)**
834,599 vehicles. Growth (2000-2011): 33.0%
619.9 vehicle/1,000 inhab
- **PASSENGER CAR FLEET (2011)**
571,842 passenger cars. Growth (2000-2011): 24.6%
424.8 passenger cars/1,000 inhab
- **AIR TRANSPORT (2012)**
552,719 passengers. Growth (2000-2012): - 26.7%

URBAN AND INVESTMENT POLICY

- **INTERNAL EXPENDITURE ON R&D (2011)**
€ 322.1 million (1.15% of GDP)

ACCESS AND DISSEMINATION OF ENVIRONMENTAL INFORMATION IN THE AC

- **APPLICATIONS FOR ENVIRONMENTAL INFORMATION (2012)**
3,507 applications
- **VISITS TO THE ENVIRONMENT WEBSITE (2012)**
1,800,819 visits (page views)

RELEVANT INFORMATION

- Approval of the Law 6/2012, of 21 June, modifying the Law 6/2001, of 27 May, on Organisation and Participation in the Management of Water in Aragón.
- Inclusion of the 'Laguna del Cañizar', within the municipalities of Calla and Villarquemado (Teruel) in the Singular Wetlands Inventory of Aragón.
- Selection of four projects from Aragón to the invitation for proposals for the 'Clima Projects' of the Spanish Carbon Fund.
- Aragón obtained the certificate of sustainable forest management of the PEFC (Programme for the Endorsement of Forest Certification).
- Celebration of the II and III meeting of 'Special Needs and Environmental Education in Aragón', within the framework of the Strategy of Environmental Education of Aragón.

RECOMMENDED WEBSITES

- www.aragon.es

RECOMMENDED PUBLICATIONS

- Environmental in Aragón 2011. (www.aragon.es/DepartamentosOrganismosPublicos/Departamentos/AGRICULTUREGanaderiaMedioAmbiente/AreasTematicas/MA_InformacionDAtosAmbientales/00_InformesMA?channelSelected=0)
- Electronic publications of the Department of Agriculture, Livestock and Environment. (www.aragon.es/DepartamentosOrganismosPublicos/Departamentos/AGRICULTUREGanaderiaMedioAmbiente/AreasGenericas/Publicaciones)



Asturias



Statute of Autonomy: Organic Law 7/81 of 30 December (BOE Nº. 9, 11 January 1982)

Area: 10,602 km²

Capital: Oviedo **Provinces:** 1 **Municipalities:** 78

Population (2012): 1,077,360 inhab

Population density (2012): 101.6 inhab/km²

Change in No. of inhabitants (2011-2012): -4,127

• DEMOGRAPHIC DISTRIBUTION (%) BY MUNICIPALITY SIZE (2012)

< 2,001 inhabitants: 3.7

2,001-10,000 inhabitants: 9.6

10,001-100,000 inhabitants: 39.9

100,001-500,000 inhabitants: 46.8

> 500,000 inhabitants: 0.0

• EMPLOYMENT BREAKDOWN BY SECTOR (%) (2012)

Agriculture: 4.4

Industry: 14.8

Construction: 8.1

Services: 72.7

• UNEMPLOYMENT RATE (2012)

21.8% (17.9% en 2011)

• GDP MP (2011)

21,451 €/inhab. (Spanish average = 100: 93.0%)

Variation 2010-2011: 1.1%

• GROSS DISPOSABLE HOUSEHOLD INCOME (2011)

15,429 €/inhab. Variation rate 2010-2011: -2.3%

• GVA BREAKDOWN BY SECTOR (%) (2011)

Agriculture: 1.8

Industry: 21.1

Construction: 11.6

Services: 65.4

AIR

• NO. OF AIR-QUALITY MONITORING STATIONS IN THE AC (2011)

Urban: 13 / Suburban: 6 / Rural: 2

• EXCEEDANCES OF THE LEGISLATIVE VALUES IN THE URBAN STATIONS OF THE CAPITAL OF THE AUTONOMOUS COMMUNITY (2011)

- Annual mean concentration of NO₂ in µg/m³ (limit value since 2010: 40 µg/m³): 26

- No. days/year average daily PM10 concentration exceeds 50 µg/m³ excluding African dust outbreaks (limit value since 2005: 35 days/year): 12

WATER

• AVERAGE HOUSEHOLD WATER CONSUMPTION (2010)

159 litres/inhabitant/day. Between 2000 and 2010, consumption increased by 5.3%

• WATER DISTRIBUTION BY SECTOR (%) (2010)

Households: 70.7 / Municipal and other consumption: 8.6 / Economic sectors: 20.6

• WASTEWATER TREATMENT (2012)

73.4% of population equivalent provided with wastewater treatment compliant with Directive 91/271/EEC

LAND

• BREAKDOWN BY LAND USE (%) (2006)

Artificial surface: 1.9 / Agriculture: 28.0 / Forest: 69.8 / Wetlands and water bodies: 0.3

• LAND AREA AFFECTED BY EROSION (INES 2002-2012)

With moderate rates of erosion: 61.92%; intermediate rates: 21.67%; high rates: 16.42%

NATURE

• TERRESTRIAL PROTECTED AREA (2012)

232,444 ha (21.9% of the AC)

• TERRESTRIAL NATURA 2000 NETWORK (2012)

284,549 ha (26.8% of the AC)

• FOREST AREA ACCORDING TO IEPNB (2012)

Wooded: 453,716 ha / Non-wooded: 316,859 ha

• FOREST FIRES (2012)

1,203 outbreaks and 1,017 fires, affecting 12,487.6 ha

• FLORA AND FAUNA SPECIES

- No. of protected species: 20 species of vertebrates and 63 species of flora

- No. of invasive alien species of fauna and flora: the presence of 36 exotic species has been noted

COAST

• LENGTH COASTLINE

401 km

• SEA BATHING WATER QUALITY. % OF SAMPLE POINTS (2012)

Excellent: 87.0; Good: 3.9; Sufficient: 3.9; Poor: 5.2

WASTE

• MUNICIPAL WASTE PER INHABITANT (2011)

- Total urban waste: 484.6 kg/inhab

- Separately collected paper/cardboard: 24.8 kg/inhab

- Separately collected glass: 14.9 kg/inhab

- Separately collected packaging: 9.6 kg/inhab

AGRICULTURE

- **ORGANIC FARMLAND (2011)**
21,735.21 ha (5.0% of the total agricultural area)
- **IRRIGATED AREA (2012)**
1,872.8 (0.4% of the total agricultural area)
- **ORGANIC LIVESTOCK FARMING (2011)**
375 operators

ENERGY

- **ELECTRICITY DEMAND (POWERPLANT BUSBARS) (2011)**
10,470 GWh. Change compared with 2010: -2.2%
- **INSTALLED ELECTRIC POWER FROM RENEWABLE SOURCES (2011)**
594 MW: 13.0% hydraulic; 72.4% wind; 0.2% photovoltaic solar; 14.5% other renewable

TOURISM

- **Nº. OF FOREIGN TOURISTS PER INHABITANT (2012)**
0.22
- **HOTEL CAPACITY (2012)**
24,416 hotel beds (22.7 beds/1,000 inhab) y 12,301 beds in rural accommodation (11.4 beds/1,000 inhab)

TRANSPORT

- **VEHICLE FLEET (2011)**
669,925 vehicles. Growth (2000-2011): 32.5%
619.4 vehicle/1,000 inhab

- **PASSENGER CAR FLEET (2011)**
501,826 passenger cars. Growth (2000-2011): 25.5%
464 passenger cars/1,000 inhab
- **AIR TRANSPORT (2012)**
1,309,640 passengers. Growth (2000-2012): - 2.2%
- **PORT FREIGHT TRAFFIC (2011)**
20.3 million t. Decline (2000-2011): 15.2%

URBAN AND INVESTMENT POLICY

- **LENGTH OF CYCLE PATHSS (2012)**
66 km
- **MUNICIPALITIES WITH A COUNCIL-APPROVED LOCAL AGENDA 21 (2010)**
75 municipalities, of which 35 have implemented and are developing the projects of the Action Plan. 13 municipalities have completed the LA 21 assessment
- **INTERNAL EXPENDITURE ON R&D (2011)**
€ 218.1 million (1.03% of GDP). €164.1 million in technological Innovation expenditure

ACCESS AND DISSEMINATION OF ENVIRONMENTAL INFORMATION IN THE AC

- **APPLICATIONS FOR ENVIRONMENTAL INFORMATION (2012)**
36,064 applications
- **VISITS TO THE ENVIRONMENT WEBSITE (2012)**
6,000 visits (page views)

RELEVANT INFORMATION

- According to Decree 39/2011, of 11 May, regulating the incorporation of organisations in the European Management and Audit System in Asturias, the Development, Urban Planning and Environment Regional Department is the competent authority to carry out the duties referred to in the EMAS Regulation. As at 31 December 2012, there are 37 organisations in the EMAS Register of Asturias.
- During 2012, 27 facilities have been authorized to emit green house gases for the period of 2013-2020; four facilities were excluded for this period, these had formed part of GHG Emissions Rights Trading in the two previous periods.
- In 2010 Asturias' emission levels were 79.4% of the updated base year values, much lower than that required by Spain's commitment under the Kyoto Protocol, which was of 115% on base year emissions (1990).

RECOMMENDED WEBSITES

- www.asturias.es
- www.asturias.es/portal/site/medioambiente
- www.osasturias.es/
- www.asturias21.es/
- www.emverde.es/

RECOMMENDED PUBLICATIONS

- Analysis of climate change scenarios in Asturias (www.asturias.es/medioambiente/publicaciones/ficheros/escenarios%20cambio%20climatico%20web%20af.pdf)
- Evidence and effects of climate change in Asturias (www.asturias.es/medioambiente/publicaciones/ficheros/LIBRO%20COMPLETO_ISBN_Evidencias.pdf)
- Green Paths catalogue of Asturias ([ftp://ftp.asturias.es/asturias/medioambiente/CATALOGO_SENDAS_VERDES_IMPRENTA%20\(1\).pdf](ftp://ftp.asturias.es/asturias/medioambiente/CATALOGO_SENDAS_VERDES_IMPRENTA%20(1).pdf))
- Environmental profile of Asturias 2011 (www.asturias.es/medioambiente/articulos/ficheros/PERFIL%20ASTURIAS%202011.pdf)



Balearic Islands

Statute of Autonomy: Organic Law 2/83, of 25 February (BOE Nº 51, 1 March 1983), redrafted by Organic Law 1/2007, of 28 February (BOE Nº 52, 1 March 2007)

Area: 4,992 km²

Capital: Palma de Mallorca **Provinces:** 1 **Municipalities:** 67

Population (2012): 1,119,439 inhab

Population density (2012): 224.2 inhab/km²

Change in No. of inhabitants (2011-2012): 6,325



• DEMOGRAPHIC DISTRIBUTION (%) BY MUNICIPALITY SIZE (2012)

- < 2,001 inhabitants: 1.2
- 2,001-10,000 inhabitants: 14.4
- 10,001-100,000 inhabitants: 48.0
- 100,001-500,000 inhabitants: 36.4
- > 500,000 inhabitants: 0.0

• EMPLOYMENT BREAKDOWN BY SECTOR (%) (2012)

- | | |
|--------------------------|-----------------------|
| Agriculture: 1.1 | Industry: 7.3 |
| Construction: 9.6 | Services: 82.1 |

• UNEMPLOYMENT RATE (2012)

23.2% (21.9% en 2011)

• GDP MP (2011)

24,378 €/inhab. (Spanish average = 100: 105.7%)
Variation 2010-2011: 1.4%

• GROSS DISPOSABLE HOUSEHOLD INCOME (2011)

15,108 €/inhab. Variation rate 2010-2011: -4.8%

• GVA BREAKDOWN BY SECTOR (%) (2011)

- | | |
|--------------------------|-----------------------|
| Agriculture: 0.8 | Industry: 8.5 |
| Construction: 9.8 | Services: 80.9 |

AIR

• NO. OF AIR-QUALITY MONITORING STATIONS IN THE AC (2011)

Urban: 4 / Suburban: 7 / Rural: 7

• EXCEEDANCES OF THE LEGISLATIVE VALUES IN THE URBAN STATIONS OF THE CAPITAL OF THE AUTONOMOUS COMMUNITY (2011)

- Annual mean concentration of NO₂ in µg/m³ (limit value since 2010: 40 µg/m³): 22
- No. days/year average daily PM10 concentration exceeds 50 µg/m³ excluding African dust outbreaks (limit value since 2005: 35 days/year): 1

WATER

• AVERAGE HOUSEHOLD WATER CONSUMPTION (2010)

121 litres/inhabitant/day. Between 2000 and 2010, consumption decreased by 6.2%

• WATER DISTRIBUTION BY SECTOR (%) (2010)

Households: 64.2 / Municipal and other consumption: 5.2 / Economic sectors: 30.6

• WASTEWATER TREATMENT (2012)

99.6% of population equivalent provided with wastewater treatment compliant with Directive 91/271/EEC

LAND

• BREAKDOWN BY LAND USE (%) (2006)

Artificial surface: 6.4 / Agriculture: 57.3 / Forest: 35.5 / Wetlands and water bodies: 0.7

• LAND AREA AFFECTED BY EROSION (INES 2002-2012)

With moderate rates of erosion: 76.62%; intermediate rates: 13.69%; high rates: 9.70%

NATURE

• TERRESTRIAL PROTECTED AREA (2012)

72,817 ha (14.6% of the AC)

• TERRESTRIAL NATURA 2000 NETWORK (2012)

113,391 ha (22.7% of the AC)

• FOREST AREA ACCORDING TO IEPNB (2012)

Wooded: 187,019.4 ha / Non-wooded: 35,299.2 ha

• FOREST FIRES (2012)

111 outbreaks and 38 fires, affecting 431.3 ha

• FLORA AND FAUNA SPECIES (2011)

- 274 species of fauna and 25 of flora included in the Spanish Catalogue of Endangered Species and 13 species of fauna and 46 of flora included in the Balearic Catalogue of Endangered and Specially Protection Species
- 18 species of fauna and 25 species of flora listed in the Spanish Catalogue of Invasive Alien Species. The List of Potentially Invasive Alien Species in Spain (2011) includes 15 species of fauna and 54 species of flora.

COAST

• LENGTH COASTLINE

1,428 km

• SEA BATHING WATER QUALITY. % OF SAMPLE POINTS (2012)

Excellent: 92.1; Good: 5.2; Sufficient: 1.0; Poor: 1.6

WASTE

• MUNICIPAL WASTE PER INHABITANT (2011)

- Total urban waste: 628.7 kg/inhab
- Separately collected paper/cardboard: 36.7 kg/inhab
- Separately collected glass: 25.4 kg/inhab
- Separately collected packaging: 13.8 kg/inhab

AGRICULTURE

• ORGANIC FARMLAND (2011)

28,309.5 ha (15.0% of the total agricultural area)

• IRRIGATED AREA (2012)

16,956.2 (9.0% of the total agricultural area)

• ORGANIC LIVESTOCK FARMING (2011)

401 operators

ENERGY

- **ELECTRICITY DEMAND (POWERPLANT BUSBARS) (2011)**
5,743 GWh. Change compared with 2010: -1.7%
- **INSTALLED ELECTRIC POWER FROM RENEWABLE SOURCES (2011)**
67 MW: 0.0% hydraulic; 6.0% wind; 94.0% photovoltaic solar; 0.0% other renewable

TOURISM

- **No. OF FOREIGN TOURISTS PER INHABITANT (2012)**
9.33
- **HOTEL CAPACITY (2012)**
187,789 hotel beds (167.8 beds/1,000 inhab) y 3,686 beds in rural accommodation (3.3 beds/1,000 inhab)

TRANSPORT

- **VEHICLE FLEET (2011)**
910,748 vehicles. Growth (2000-2011): 29.3%
818.2 vehicle/1,000 inhab
- **PASSENGER CAR FLEET (2011)**
656,795 passenger cars. Growth (2000-2011): 22.5%
590.1 passenger cars/1,000 inhab

- **AIR TRANSPORT (2012)**
30,768,728 passengers. Growth (2000-2012): -0.6%
- **PORT FREIGHT TRAFFIC (2011)**
11.7 million t. Growth (2000-2011): 7.1%

URBAN AND INVESTMENT POLICY

- **LENGTH OF CYCLE PATHSS (2012)**
53 km
- **MUNICIPALITIES WITH A COUNCIL-APPROVED LOCAL AGENDA 21 (2012)**
67 municipalities (100%) have signed the Aalborg Charter. 51 of which have a ratified Action Plan and are implementing Action Plan projects. 9 municipalities have completed the LA21 assessment
- **INTERNAL EXPENDITURE ON R&D (2011)**
€ 95.8 million (0.41% of GDP)

ACCESS AND DISSEMINATION OF ENVIRONMENTAL INFORMATION IN THE AC

- **APPLICATIONS FOR ENVIRONMENTAL INFORMATION (2012)**
3,890 applications
- **VISITS TO THE ENVIRONMENT WEBSITE (2012)**
997 visits (page views)

RELEVANT INFORMATION

- In 2011 the 'Serra Tramuntana of the Island of Mallorca' was given UNESCO World Heritage Status as a Cultural Landscape.
- By the end of 2012 there were 50 organizations in the EMAS, with a total of 75 sites involved (ecotur.caib.es).
- The Climate Change Committee approved the initiation of the preparation of a Strategy for Climate Change and a new Action Plan for the period 2013-2020.
- The process of Participation of the Forest plan has been launched.
- Public information of the plans for different catalogued species and of the approval of Critical Biological Areas.
- Preparation of the plan for the improvement of air quality of Palma 2011-2015.
- The cleaning service of bathing waters of beaches and coves removed 26.4 tonnes of waste during the months of July, August and September 2012 (40.7% plastics, 28% wood and wood-based products, 10.6% others, such as seaweed, 5.5% organic matter, 0.4% oils and 14.6% others).
- Presentation of a draft document for the future Law on Transport and Mobility in the Balearic Islands to the representatives of the politic parties with parliamentary representation.
- Renewable energy has increased considerably, due to the urban solid waste recovery (increase of 41% in 2010) and the increase of solar and wind energy by 8%, while biomass production remains stable.

RECOMMENDED WEBSITES

- www.caib.es
- <http://pia.caib.es>
- <http://mediambient.caib.es/dgcc/estatmediambient>
- <http://bioatles.caib.es>. (SIG de especies)
- <http://al21.caib.es>
- <http://ces.caib.es>
- www.obsam.cat
- www.xarxanatura.es
- www.conselldeivissa.es
- www.cime.es
- www.conselldemallorca.net
- www.ideib.es (Balearic area data)
- www.ibestat.cat (Balearic statistics)

RECOMMENDED PUBLICATIONS

- Report *The environment in the Balearic Islands 2010-2011*. General-Directorate of Natural Environment, Environmental Education and Climate Change. Balearic Islands Government.
- *Canvia pel clima*. Consejería de Medio Ambiente, 2010. Tips for reducing GHG emissions
- *Coyuntural Report on economic conditions in the Balearic Islands*. July 2012 (Environmental chapter with information on waste and forest). General Directorate of Economics and Statistics. Balearic Islands Government.
- *Air quality report in the Balearic Islands. 2011 y 2012*. General-Directorate of Natural Environment, Environmental Education and Climate Change. Balearic Islands Government.



Canarias

Statute of Autonomy: Organic Law 10/82, of 10 August (BOE Nº 195, 16 August 1982)

Area: 7,447 km²

Capital: Las Palmas de Gran Canaria y Santa Cruz de Tenerife

Provinces: 2 **Municipalities:** 88

Population (2012): 2,118,344 inhab

Population density (2012): 284.5 inhab/km²

Change in No. of inhabitants (2011-2012): -8,425



• DEMOGRAPHIC DISTRIBUTION (%) BY MUNICIPALITY SIZE (2012)

< 2,001 inhabitants: 0.6

2,001-10,000 inhabitants: 9.9

10,001-100,000 inhabitants: 49.7

100,001-500,000 inhabitants: 39.8

> 500,000 inhabitants: 0.0

• EMPLOYMENT BREAKDOWN BY SECTOR (%) (2012)

Agriculture: 2.8

Industry: 5.3

Construction: 6.1

Services: 85.8

• UNEMPLOYMENT RATE (2012)

33.0% (29.7% en 2011)

• GDP MP (2011)

19,867 €/inhab. (Spanish average = 100: 86.2%)

Variation 2010-2011: 1.9%

• GROSS DISPOSABLE HOUSEHOLD INCOME (2011)

12,448 €/inhab. Variation rate 2010-2011: -2.8%

• GVA BREAKDOWN BY SECTOR (%) (2011)

Agriculture: 1.1

Industry: 8.6

Construction: 8.7

Services: 81.6

AIR

• No. OF AIR-QUALITY MONITORING STATIONS IN THE AC (2011)

Urban: 24 / Suburban: 22 / Rural: 2

• EXCEEDANCES OF THE LEGISLATIVE VALUES IN THE URBAN STATIONS OF THE CAPITAL OF THE AUTONOMOUS COMMUNITY (2011)

- Annual mean concentration of NO₂ in µg/m³ (limit value since 2010: 40 µg/m³): Santa Cruz de Tenerife: 23; Las Palmas: 19

- No. days/year average daily PM₁₀ concentration exceeds 50 µg/m³ excluding African dust outbreaks (limit value since 2005: 35 days/year): Santa Cruz de Tenerife: 19; Las Palmas: 8

WATER

• AVERAGE HOUSEHOLD WATER CONSUMPTION (2010)

149 litres/inhabitant/day. Between 2000 and 2010, consumption increased by 7.2%

• WATER DISTRIBUTION BY SECTOR (%) (2010)

Households: 73.5 / Municipal and other consumption: 8.1 / Economic sectors: 18.4

• WASTEWATER TREATMENT (2012)

61% of population equivalent provided with wastewater treatment compliant with Directive 91/271/EEC (corresponding to 38 populated areas), 19% of population equivalent provided with wastewater treatment that does not comply with Directive 91/271/EEC (corresponding to 18 populated areas) and 20% population equivalent without data (corresponding to 90 populated areas)

LAND

• BREAKDOWN BY LAND USE (%) (2006)

Artificial surface: 6.5 / Agriculture: 22.3 / Forest: 71.3 / Wetlands and water bodies: 0.0

• LAND AREA AFFECTED BY EROSION (INES 2002-2012)

With moderate rates of erosion: 69.25%; intermediate rates: 21.86%; high rates: 8.89%

NATURE

• TERRESTRIAL PROTECTED AREA (2012)

302,254 ha (40.6% of the AC)

• TERRESTRIAL NATURA 2000 NETWORK (2012)

348,004 ha (46.7% of the AC)

• FOREST AREA ACCORDING TO IEPNB (2012)

Wooded: 132,142.0 ha / Non-wooded: 434,275.9 ha

• FOREST FIRES (2012)

103 outbreaks and 23 fires, affecting 12,135.9 ha

• FLORA AND FAUNA SPECIES (2010)

- No. of species of fauna and flora protected: 361 by regional Catalogue (195 are endangered) and 263 by the Spanish Catalogue (131 are endangered)

- No. of alien species of fauna and flora introduced: 1,560 (797 fauna, 701 flora and 62 fungi)

- No. of invasive species: 183 (35 vertebrate, 66 arthropods, 80 phanerogams y 2 ferns).

COAST

- **LENGTH COASTLINE**
1,583 km
- **SEA BATHING WATER QUALITY. % OF SAMPLE POINTS (2012)**
Excellent: 97.0; Good: 2.5; Sufficient: 0.5; Poor: 0.0

WASTE

- **MUNICIPAL WASTE PER INHABITANT**
 - Total urban waste (2010): 579.5 kg/inhab
 - Separately collected paper/cardboard (2012): 13.9 kg/inhab
 - Separately collected glass (2012): 5.1 kg/inhab
 - Separately collected packaging (2012): 7.1 kg/inhab

AGRICULTURE

- **ORGANIC FARMLAND (2011)**
3,684.4 ha (2.0% of the total agricultural area)
- **IRRIGATED AREA (2012)**
24,356.7 (13.7% of the total agricultural area)
- **ORGANIC LIVESTOCK FARMING (2011)**
81 operators

ENERGY

- **ELECTRICITY DEMAND (POWERPLANT BUSBARS) (2011)**
8,869 GWh. Change compared with 2010: -0.3%
- **INSTALLED ELECTRIC POWER FROM RENEWABLE SOURCES (2011)**
286 MW: 0.2% hydraulic; 50.7% wind; 48.6% photovoltaic solar; 0.3% other renewable

TOURISM

- **No. OF FOREIGN TOURISTS PER INHABITANT (2012)**
4.79
- **HOTEL CAPACITY (2012)**
225,344 hotel beds (106.4 beds/1,000 inhab) y 3,985 beds in rural accommodation (1.9 beds/1,000 inhab)

TRANSPORT

- **VEHICLE FLEET (2011)**
1,493,556 vehicles. Growth (2000-2011): 32.0%
702.3 vehicle/1,000 inhab
- **PASSENGER CAR FLEET (2011)**
996,199 passenger cars. Growth (2000-2011): 22.3%
468.4 passenger cars/1,000 inhab
- **AIR TRANSPORT (2012)**
32,847,813 passengers. Growth (2000-2012): - 6.3%
- **PORT FREIGHT TRAFFIC (2011)**
40.3 million t. Growth (2000-2011): 21.4%

URBAN AND INVESTMENT POLICY

- **LENGTH OF CYCLE PATHSS (2012)**
70 km
- **MUNICIPALITIES WITH A COUNCIL-APPROVED LOCAL AGENDA 21 (2008)**
88 municipalities. 6 of which have a ratified Action Plan and are implementing Action Plan projects. 14 municipalities have completed the LA21 assessment
- **INTERNAL EXPENDITURE ON R&D (2011)**
€ 243.0 million (0.62% of GDP)

ACCESS AND DISSEMINATION OF ENVIRONMENTAL INFORMATION IN THE AC

- **APPLICATIONS FOR ENVIRONMENTAL INFORMATION (2011)**
148 applications

RELEVANT INFORMATION

- In July 2012 the island of Gomera was declared as a Biosphere Reserve; meaning six out of the seven islands of the Canary Islands are in this category, with a total of 771,393 hectares (452,579 terrestrial and 318,814 marine).
- Integrated Environmental Authorisations have been granted to the Environmental Complex of Lanzarote, Fuerteventura, La Gomera and El Hierro, as well as for the enlargement and for the treatment of animal by-products and derived products not intended for human consumption at the existing installations in Gran Canarias, Tenerife and La Palma.
- Three recovery plans for threatened species have been approved: *Helichrysum alucense*, *Limonium dendroides* and *Maiorerus randoi*.

RECOMMENDED WEBSITES

- Environmental Information Website www.gobiernodecanarias.org/medioambiente/piac



Cantabria

Statute of Autonomy: Organic Law 8/1981, of 30 December 1981, of the Statute of Autonomy of Cantabria
Area: 5,327 km²
Capital: Santander **Provinces:** 1 **Municipalities:** 102
Population (2012): 593,861 inhab
Population density (2012): 111.6 inhab/km²
Change in No. of inhabitants (2011-2012): 740



• DEMOGRAPHIC DISTRIBUTION (%) BY MUNICIPALITY SIZE (2012)

< 2,001 inhabitants: 8.3
 2,001-10,000 inhabitants: 29.4
 10,001-100,000 inhabitants: 36.7
 100,001-500,000 inhabitants: 30.1
 > 500,000 inhabitants: 0.0

• EMPLOYMENT BREAKDOWN BY SECTOR (%) (2012)

Agriculture: 3.3 **Industry:** 16.4
Construction: 7.4 **Services:** 72.9

• UNEMPLOYMENT RATE (2012)

17.7% (15.3% en 2011)

• GDP MP (2011)

22,680 €/inhab. (Spanish average = 100: 98.4%)
 Variation 2010-2011: 2.3%

• GROSS DISPOSABLE HOUSEHOLD INCOME (2011)

15,100 €/inhab. Variation rate 2010-2011: -4.6%

• GVA BREAKDOWN BY SECTOR (%) (2011)

Agriculture: 2.0 **Industry:** 21.6
Construction: 11.9 **Services:** 64.4

AIR

- **No. OF AIR-QUALITY MONITORING STATIONS IN THE AC (2011)**
 Urban: 9 / Suburban: 1 / Rural: 1
- **EXCEEDANCES OF THE LEGISLATIVE VALUES IN THE URBAN STATIONS OF THE CAPITAL OF THE AUTONOMOUS COMMUNITY (2011)**
 - Annual mean concentration of NO₂ in µg/m³ (limit value since 2010: 40 µg/m³): 27
 - No. days/year average daily PM10 concentration exceeds 50 µg/m³ excluding African dust outbreaks (limit value since 2005: 35 days/year): 12

WATER

- **AVERAGE HOUSEHOLD WATER CONSUMPTION (2010)**
 173 litres/inhabitant/day. Between 2000 and 2010, consumption decreased by 8.0%
- **WATER DISTRIBUTION BY SECTOR (%) (2010)**
 Households: 71.3 / Municipal and other consumption: 6.2 / Economic sectors: 22.5
- **WASTEWATER TREATMENT (2012)**
 94% of population equivalent provided with wastewater treatment compliant with Directive 91/271/EEC

LAND

- **BREAKDOWN BY LAND USE (%) (2006)**
 Artificial surface: 2.9 / Agriculture: 29.0 / Forest: 66.5 / Wetlands and water bodies: 1.6
- **LAND AREA AFFECTED BY EROSION (INES 2002-2012)**
 With moderate rates of erosion: 59.91%; intermediate rates: 22.39%; high rates: 17.7%

NATURE

- **TERRESTRIAL PROTECTED AREA (2012)**
 152,022 ha (28.6% of the AC)
- **TERRESTRIAL NATURA 2000 NETWORK (2012)**
 144,773 ha (27.2% of the AC)
- **FOREST AREA ACCORDING TO IEPNB (2012)**
 Wooded: 210,672 ha / Non-wooded: 153,130 ha
- **FOREST FIRES (2012)**
 116 outbreaks and 612 fires, affecting 12,728.3 ha
- **FLORA AND FAUNA SPECIES (2012)**
 - No. of species of fauna and flora protected: 59 fauna and 27 flora
 - No. of invasive alien species of fauna and flora: 9 fauna and 17 flora

COAST

- **LENGTH COASTLINE**
 284 km
- **SEA BATHING WATER QUALITY. % OF SAMPLE POINTS (2012)**
 Excellent: 65.7; Good: 22.9; Sufficient: 8.6; Poor: 2.9

WASTE

- **MUNICIPAL WASTE PER INHABITANT (2012)**
 - Total urban waste: 472.5 kg/inhab
 - Separately collected paper/cardboard: 20.3 kg/inhab
 - Separately collected glass: 17.3 kg/inhab
 - Separately collected packaging: 8.5 kg/inhab

AGRICULTURE

- **ORGANIC FARMLAND (2011)**
5,820.8 ha (2.3% of the total agricultural area)
- **IRRIGATED AREA (2012)**
510.3 (0.2% of the total agricultural area)
- **ORGANIC LIVESTOCK FARMING (2011)**
104 operators

ENERGY

- **ELECTRICITY DEMAND (POWERPLANT BUSBARS) (2011)**
4,625 GWh. Change compared with 2010: -3.0%
- **INSTALLED ELECTRIC POWER FROM RENEWABLE SOURCES (2011)**
114 MW: 64.9% hydraulic; 30.7% wind; 1.8% photovoltaic solar; 2.6% other renewable

TOURISM

- **No. OF FOREIGN TOURISTS PER INHABITANT (2012)**
0.51
- **HOTEL CAPACITY (2012)**
16,552 hotel beds (27.9 beds/1,000 inhab) y 6,981.4 beds in rural accommodation (11.8 beds/1,000 inhab)

TRANSPORT

- **VEHICLE FLEET (2011)**
396,749 vehicles. Growth (2000-2011): 43.8%
668.9 vehicle/1,000 inhab

- **PASSENGER CAR FLEET (2011)**
288,003 passenger cars. Growth (2000-2011): 36.25%
485.6 passenger cars/1,000 inhab
- **AIR TRANSPORT (2012)**
1,117,617 passengers. Growth (2000-2012): 0.1%
- **PORT FREIGHT TRAFFIC (2011)**
8.4 million t. Decline (2000-2011): 16.3%

URBAN AND INVESTMENT POLICY

- **LENGTH OF CYCLE PATHS (2012)**
217 km
- **MUNICIPALITIES WITH A COUNCIL-APPROVED LOCAL AGENDA 21 (2012)**
96 municipalities. 58 of which have a ratified Action Plan and are implementing Action Plan projects. 85 municipalities have completed the LA21 assessment
- **INTERNAL EXPENDITURE ON R&D (2011)**
€ 141.8 million (1.16% of GDP)

ACCESS AND DISSEMINATION OF ENVIRONMENTAL INFORMATION IN THE AC

- **APPLICATIONS FOR ENVIRONMENTAL INFORMATION (2010)**
4,719 applications
- **VISITS TO THE ENVIRONMENT WEBSITE (2010)**
150,230 visits (page views)

RELEVANT INFORMATION

- Legislation with environmental interest approved by the autonomous community of Cantabria in 2012:
 - Law 3/2012, of 21 June, modifying the Law 2/2001, of 25 June, on Land Use and Urban Regime of the Soil of Cantabria.
 - Law 5/2012, of 11 December, on the Reform of the Transitional Regime for Land Use and Urbanism.
 - Decree 57/2012, of 6 September, modifying the Decree 39/2011, of 12 May, developing the provisions on Administrative Organization contained in the Law 3/2007, of 4 April, relative to Fishing in Inland Waters.
 - Decree 58/2012, of 6 September, modifying the Decree 45/2010, of 15 July, developing the provisions on Administrative Organization contained in the Law 12/2006, of 17 July, relative to Hunting.
 - Regulation MED/10/2012, of 28 June, approving the Air Quality Improvement Plan for PM10 Particulates for the municipality of Torrelavega.
 - Regulation MED/11/2012, of 28 June, approving the Air Quality Improvement Plan for PM10 Particulates for the municipality of Camargo.
 - Regulation MED/18/2012, of 18 December, setting the public prices of the Government of Cantabria for certain urban and medical waste management activities for 2013.

RECOMMENDED WEBSITES

- www.cantabria.es
- www.medioambientecantabria.es
- www.medioambientecantabria.es/calidad_aire
- www.territoriodecantabria.es
- www.urbanismodecantabria.es
- www.dgmontes.org
- www.icane.es

RECOMMENDED PUBLICATIONS

- Catalogue of the Documentation Centre and Resources for the Environmental Education of Cantabria. cedreac. medioambientecantabria.es:9090/ABSYS/abwebp.exe
- Contains publications and offer digital access to environmental legislation at regional, national and European level. And also offer a virtual thematic catalogue of resources hosted in others websites.



Castile-La Mancha



Statute of Autonomy: Organic Law 9/82, of 10 August (BOE N°: 195, 16 August 1982)

Area: 79,462 km²

Capital: Toledo **Provinces:** 5 **Municipalities:** 919

Population (2012): 2,121,888 inhab

Population density (2012): 26.7 inhab/km²

Change in No. of inhabitants (2011-2012): 6,554

• DEMOGRAPHIC DISTRIBUTION (%) BY MUNICIPALITY SIZE (2012)

< 2,001 inhabitants: 14.8

2,001-10,000 inhabitants: 29.6

10,001-100,000 inhabitants: 47.5

100,001-500,000 inhabitants: 8.1

> 500,000 inhabitants: 0.0

• EMPLOYMENT BREAKDOWN BY SECTOR (%) (2012)

Agriculture: 7.2

Industry: 16.6

Construction: 8.6

Services: 67.6

• UNEMPLOYMENT RATE (2012)

28.5% (22.9% en 2011)

• GDP MP (2011)

18,155 €/inhab. (Spanish average = 100: 78.7%)

Variation 2010-2011: 0.1%

• GROSS DISPOSABLE HOUSEHOLD INCOME (2011)

12,521 €/inhab. Variation rate 2010-2011: -2.8%

• GVA BREAKDOWN BY SECTOR (%) (2011)

Agriculture: 6.7

Industry: 19.9

Construction: 13.0

Services: 60.5

AIR

• NO. OF AIR-QUALITY MONITORING STATIONS IN THE AC (2011)

Urban: 3 / Suburban: 9 / Rural: 2

• EXCEEDANCES OF THE LEGISLATIVE VALUES IN THE URBAN STATIONS OF THE CAPITAL OF THE AUTONOMOUS COMMUNITY (2011)

- Annual mean concentration of NO₂ in µg/m³ (limit value since 2010: 40 µg/m³): 23

- No. days/year average daily PM₁₀ concentration exceeds 50 µg/m³ excluding African dust outbreaks (limit value since 2005: 35 days/year): 7

WATER

• AVERAGE HOUSEHOLD WATER CONSUMPTION (2010)

152 litres/inhabitant/day. Between 2000 and 2010, consumption decreased by 19.1%

• WATER DISTRIBUTION BY SECTOR (%) (2010)

Households: 79.2 / Municipal and other consumption: 7.6 / Economic sectors: 13.2

• WASTEWATER TREATMENT (2012)

84.1% of population equivalent provided with wastewater treatment compliant with Directive 91/271/EEC

• QUALITY OF INLAND BATHING WATER % SAMPLING POINT (2012)

Excellent: 83.9; Good: 12.9; Sufficient: 0.0; Poor: 3.2

LAND

• BREAKDOWN BY LAND USE (%) (2006)

Artificial surface: 1.0 / Agriculture: 59.1 / Forest: 39.3 / Wetlands and water bodies: 0.7

NATURE

• TERRESTRIAL PROTECTED AREA (2012)

580,215 ha (7.3% of the AC)

• TERRESTRIAL NATURA 2000 NETWORK (2012)

1,838,181 ha (23.1% de la de the AC)

• FOREST AREA ACCORDING TO IEPNB 2012

Wooded: 2,708,097 ha / Non-wooded: 889,462 ha

• FOREST FIRES (2011)

825 outbreaks and 316 fires, affecting 11,804.4 ha

• FLORA AND FAUNA SPECIES (2012)

- No. of species of fauna and flora protected: 370 fauna and 473 flora

- No. of invasive alien species of fauna and flora: 26 fauna and 10 flora

- No. of alien species of fauna and flora included in the Catalogue of Alien Species classified as "potentially invasive": 3 fauna and 13 flora

WASTE

• MUNICIPAL WASTE PER INHABITANT (2011)

- Total urban waste: 465.6 kg/inhab

- Separately collected paper/cardboard: 12.2 kg/inhab

- Separately collected glass: 10.1 kg/inhab

- Separately collected packaging: 8.5 kg/inhab

AGRICULTURE

- **ORGANIC FARMLAND (2012)**
307,612.4 ha (7.3% of the total agricultural area)
- **IRRIGATED AREA (2011)**
497,591.5 (11.8% of the total agricultural area)
- **ORGANIC LIVESTOCK FARMING (2012)**
197
- **LIVESTOCK TRAILS LENGTH (2012)**
14,579 km

ENERGY

- **ELECTRICITY DEMAND (POWERPLANT BUSBARS) (2011)**
12,173 GWh. Change compared with 2010: -1.5%
- **INSTALLED ELECTRIC POWER FROM RENEWABLE SOURCES (2011)**
4,925 MW: 2.6% hydraulic; 75.3% wind; 17.9% photovoltaic solar; 4.2% other renewable

TOURISM

- **No. OF FOREIGN TOURISTS PER INHABITANT (2012)**
0.08
- **HOTEL CAPACITY (2012)**
34,578 hotel beds (16.3 beds/1,000 inhab) y 12,422 beds in rural accommodation (5.9 beds/1,000 inhab)

TRANSPORT

- **VEHICLE FLEET (2011)**
1,437,139 vehicles. Growth (2000-2011): 57.8%
679.4 vehicle/1,000 inhab
- **PASSENGER CAR FLEET (2011)**
981,875 passenger cars. Growth (2000-2011): 54.0%
464.2 passenger cars/1,000 inhab
- **AIR TRANSPORT (2012)**
3,914 passengers. Growth (2000-2012): -53.5%

URBAN AND INVESTMENT POLICY

- **MUNICIPALITIES WITH A COUNCIL-APPROVED LOCAL AGENDA 21 (2011)**
801 municipalities. 300 of which have a ratified Action Plan and are implementing Action Plan projects. 693 municipalities have completed the LA21 assessment, of which 374 need the approval of the Local Authority
- **INTERNAL EXPENDITURE ON R&D (2011)**
€ 259.4 million (0.71% of GDP)

ACCESS AND DISSEMINATION OF ENVIRONMENTAL INFORMATION IN THE AC

- **APPLICATIONS FOR ENVIRONMENTAL INFORMATION (2011)**
3,691

RELEVANT INFORMATION

- In 2011 94.40% of the population of Castile-La Mancha and 87.30% of the municipalities are involved in Local Agenda 21 processes.
- Decree 120/2012, of 26 July, creating a network for feeding carrion-eating species of Castile-La Mancha and regulating the use of animal by-products not destined for human consumption for the feeding of certain species of wild fauna within the territory of Castile-La Mancha.
- Regulation of 20 November 2012, of the Regional Department of Agriculture, creating the Public Register of Livestock Trails of the Regional Network.
- Resolution of 16 July 2012, of the Regional Department of Agriculture, approving the updating and revision of the Catalogue of Public Utility Mountains of the five provinces of Castile-La Mancha.
- Agreement of 3 May 2012, of the Government Council, on the commencement of the procedure for the declaration of Special Areas Conservation of the Natura Network 2000 in Castile-La Mancha for the period 2012 to 2018, by means of Regulation of 24 May 2012 of the Regional Department of Agriculture.
- Annual Program of the Environmental Inspection 2012.
- Decree 133/2012, of 6 September, creating the Regional Commission for Climate Change.

RECOMMENDED WEBSITES

- www.castillalamancha.es/gobierno/agricultura
- www.castillalamancha.es/tema/medio-ambiente/calidad-ambiental
- www.castillalamancha.es/tema/medio-ambiente/medio-natural
- www.castillalamancha.es/tema/medio-ambiente/gesti%C3%B3n-del-agua-y-energ%C3%ADas-renovables

SOURCES

- **Cattle trails** : Order of 20/11/2012 , creating the Public Registry of cattle trails of the Regional Network .
- **Forest area**: Data from the publication *Los Montes en Castile-La Mancha*
- **Number of protected species**: Decree 33 /1998 of 5 May 1998, which created the Regional Catalogue of Threatened Species in Castile-La Mancha. Decree 200/2001 of 6 November 2001 redrafting the Regional Catalogue of Threatened Species.
- **Wastewater treatment**: Water Agency of Castile-La Mancha. The percentage refers to the total population of municipalities with more than 2,000 inhabitants.
- **Tourism**: Survey on Tourist Accommodation Occupancy from INE (EOH, EOTR and EOATE (From May 2012 data are provisional). INE data has been used instead of the Registry of Tourism Establishments from JCCM. The population data has been obtained from INE (Municipal Register at 01-01-12).



Castile-Leon

Statute of Autonomy: Organic Law 14/2007, of 30 November, on Reform of the Statute of Autonomy of Castile-Leon

Area: 94,227 km²

Capital: Valladolid **Provinces:** 9 **Municipalities:** 2,248

Population (2012): 2,546,078 inhab

Population density (2012): 27.0 inhab/km²

Change in No. of inhabitants (2011-2012): - 12,385



• DEMOGRAPHIC DISTRIBUTION (%) BY MUNICIPALITY SIZE (2012)

< 2,001 inhabitants: 26.1

2,001-10,000 inhabitants: 18.1

10,001-100,000 inhabitants: 25.4

100,001-500,000 inhabitants: 30.4

> 500,000 inhabitants: 0.0

• EMPLOYMENT BREAKDOWN BY SECTOR (%) (2012)

Agriculture: 7.4 **Industry:** 16.0

Construction: 8.2 **Services:** 68.4

• UNEMPLOYMENT RATE (2012)

19.7% (16.7% en 2011)

• GDP MP (2011)

22,848 €/inhab. (Spanish average = 100: 97.5%)

Variation 2010-2011: 2.2%

• GROSS DISPOSABLE HOUSEHOLD INCOME (2011)

15,176 €/inhab. Variation rate 2010-2011: - 2.3%

• GVA BREAKDOWN BY SECTOR (%) (2011)

Agriculture: 6.5 **Industry:** 21.1

Construction: 10.3 **Services:** 62.1

AIR

• NO. OF AIR-QUALITY MONITORING STATIONS IN THE AC (2011)

Urban: 18 / Suburban: 11 / Rural: 12

• EXCEEDANCES OF THE LEGISLATIVE VALUES IN THE URBAN STATIONS OF THE CAPITAL OF THE AUTONOMOUS COMMUNITY (2011)

- Annual mean concentration of NO₂ in µg/m³ (limit value since 2010: 40 µg/m³): 25

- No. days/year average daily PM10 concentration exceeds 50 µg/m³ excluding African dust outbreaks (limit value since 2005: 35 days/year): 4

WATER

• AVERAGE HOUSEHOLD WATER CONSUMPTION (2010)

167 litres/inhabitant/day. Between 2000 and 2010, consumption increased by 9.2%

• WATER DISTRIBUTION BY SECTOR (%) (2010)

Households: 68.7 / Municipal and other consumption: 8.9 / Economic sectors: 22.4

• WASTEWATER TREATMENT (2012)

92.8% of population equivalent provided with wastewater treatment compliant with Directive 91/271/EEC

• QUALITY OF INLAND BATHING WATER % SAMPLING POINT (2012)

Excellent: 54.8; Good: 19.4; Sufficient: 3.2; Poor: 22.6

LAND

• BREAKDOWN BY LAND USE (%) (2006)

Artificial surface: 0.9 / Agriculture: 53.0 / Forest: 45.7 / Wetlands and water bodies: 0.4

• LAND AREA AFFECTED BY EROSION (INES 2002-2012)

With moderate rates of erosion: 88.79%; intermediate rates: 8.19%; high rates: 3.02% (Data for León, Valladolid, Zamora, Avila, Palencia and Salamanca)

NATURE

• TERRESTRIAL PROTECTED AREA (2012)

717,626 ha (7.6% of the AC)

• TERRESTRIAL NATURA 2000 NETWORK (2012)

2,460,878 ha (26.1% of the AC)

• FOREST AREA ACCORDING TO IEPNB (2012)

Wooded: 2,944,949 ha / Non-wooded: 1,870,336 ha

• FOREST FIRES (2012)

1,537 outbreaks and 1,074 fires, affecting 43,523.7 ha

• FLORA AND FAUNA SPECIES

- No. of species of fauna and flora protected: 355 fauna and 332 flora

- Regarding fauna: 25 invasive alien species, 13 endangered species and 32 catalogued as vulnerable

WASTE

- **MUNICIPAL WASTE PER INHABITANT (2011)**
 - Total urban waste: 416.1 kg/inhab
 - Separately collected paper/cardboard: 16.29 kg/inhab
 - Separately collected glass: 21.79 kg/inhab
 - Separately collected packaging: 10.31 kg/inhab

AGRICULTURE

- **ORGANIC FARMLAND (2011)**
31,350.6 ha (0.6% of the total agricultural area)
- **IRRIGATED AREA (2012)**
443,307.6 (8.0% of the total agricultural area)
- **ORGANIC LIVESTOCK FARMING (2011)**
45 operators
- **LIVESTOCK TRAILS LENGTH (2012)**
31,846.35 km

ENERGY

- **ELECTRICITY DEMAND (POWERPLANT BUSBARS) (2011)**
14,318 GWh. Change compared with 2010: - 3.2%
- **INSTALLED ELECTRIC POWER FROM RENEWABLE SOURCES (2011)**
5,562 MW: 4.5% hydraulic; 86.9% wind; 8.2% photovoltaic solar; 0.4% other renewable

TOURISM

- **No. OF FOREIGN TOURISTS PER INHABITANT (2012)**
0.38
- **HOTEL CAPACITY (2012)**
60,189 hotel beds (23.6 beds/1,000 inhab) y 29,360 beds in rural accommodation (11.5 beds/1,000 inhab)

TRANSPORT

- **VEHICLE FLEET (2011)**
1,730,942 vehicles. Growth (2000-2011): 35.8%
676.6 vehicle/1,000 inhab
- **PASSENGER CAR FLEET (2011)**
1,254,131 passenger cars. Growth (2000-2011): 29.8%
490.2 passenger cars/1,000 inhab
- **AIR TRANSPORT (2012)**
473,027 passengers. Growth (2000-2012): - 23.8%

URBAN AND INVESTMENT POLICY

- **LENGTH OF CYCLE PATHS (2012)**
274 km
- **MUNICIPALITIES WITH A COUNCIL-APPROVED LOCAL AGENDA 21 (2010)**
103 municipalities
- **INTERNAL EXPENDITURE ON R&D (2011)**
€ 574.4 million (1.06% of GDP)

ACCESS AND DISSEMINATION OF ENVIRONMENTAL INFORMATION IN THE AC

- **APPLICATIONS FOR ENVIRONMENTAL INFORMATION (2012)**
8,589 applications
- **VISITS TO THE ENVIRONMENT WEBSITE (2012)**
572,119 visits (page views)

RELEVANT INFORMATION

- Launch of the Regional Waste Plan for Castile-Leon.
- Program 'Sponsor a Wood'
- Environmental Virtual Library
- Environmental Thematic Cartography

RECOMMENDED WEBSITES

- www.jcyl.es/medioambiente
- www.patrimoniounatural.org/
- www.miespacionatural.es/
- www.jcyl.es/cazaypesca
- www.jcyl.es/calidadambiental
- www.jcyl.es/educacionambiental
- www.jcyl.es/normativa-cma

RECOMMENDED PUBLICATIONS

- Statistical year book of Castile-Leon 2012 (Chapter 5)
- Environmental information Bulletin of Castile-Leon
- E-book of the Centres of Environmental Information of Castile-Leon (CIDA-REN)
- Electronic bulletin: sustainable development in Castile-Leon
- Catalogue on Good Practices in Sustainability and R+D+I (New edition)
- Periodical Official information bulletin
- Study of accidents in the works of the Directorate General of the Environment in 2011 (electronic publication).



Catalonia

Statute of Autonomy: Organic Law 6/2006, of 19 July (BOE NO. 172, 22 July 2006)

Area: 32,091 km²

Capital: Barcelona **Provinces:** 4 **Municipalities:** 947

Population (2012): 7,570,908 inhab

Population density (2012): 235.8 inhab/km²

Change in No. of inhabitants (2011-2012): 31,290



• DEMOGRAPHIC DISTRIBUTION (%) BY MUNICIPALITY SIZE (2012)

< 2,001 inhabitants: 4.6

2,001-10,000 inhabitants: 14.0

10,001-100,000 inhabitants: 39.7

100,001-500,000 inhabitants: 20.2

> 500,000 inhabitants: 21.4

• EMPLOYMENT BREAKDOWN BY SECTOR (%) (2012)

Agriculture: 1.9

Industry: 18.6

Construction: 6.5

Services: 73.0

• UNEMPLOYMENT RATE (2012)

22.7% (19.3% en 2011)

• GDP MP (2011)

27,236 €/inhab. (Spanish average = 100: 118.1%)

Variation 2010-2011: 2.3%

• GROSS DISPOSABLE HOUSEHOLD INCOME (2011)

17,093 €/inhab. Variation rate 2010-2011: -3.2%

• GVA BREAKDOWN BY SECTOR (%) (2011)

Agriculture: 1.2

Industry: 20.7

Construction: 8.8

Services: 69.2

AIR

• No. OF AIR-QUALITY MONITORING STATIONS IN THE AC (2011)

Urban: 41 / Suburban: 50 / Rural: 39

• EXCEEDANCES OF THE LEGISLATIVE VALUES IN THE URBAN STATIONS OF THE CAPITAL OF THE AUTONOMOUS COMMUNITY(2011)

- Annual mean concentration of NO₂ in µg/m³ (limit value since 2010: 40 µg/m³): 45

- No. days/year average daily PM10 concentration exceeds 50 µg/m³ excluding African dust outbreaks (limit value since 2005: 35 days/year): 18

WATER

• AVERAGE HOUSEHOLD WATER CONSUMPTION (2010)

133 litres/inhabitant/day. Between 2000 and 2010, consumption decreased by 28.5%

• WATER DISTRIBUTION BY SECTOR (%) (2010)

Households: 68.8 / Municipal and other consumption: 5.6 / Economic sectors: 25.6

• WASTEWATER TREATMENT (2011)

99% of population equivalent provided with wastewater treatment compliant with Directive 91/271/EEC

• QUALITY OF INLAND BATHING WATER % SAMPLING POINT (2012)

Excellent: 91.7; Good: 0.0; Sufficient: 8.3; Poor: 0.0

LAND

• BREAKDOWN BY LAND USE (%) (2006)

Artificial surface: 4.6 / Agriculture: 39.4 / Forest: 55.4 / Wetlands and water bodies: 0.6

• LAND AREA AFFECTED BY EROSION (INES 2002-2012)

With moderate rates of erosion: 54.41%; intermediate rates: 24.86%; high rates: 20.74%

NATURE

• TERRESTRIAL PROTECTED AREA (2012)

989,968 ha (30.8% of the AC)

• TERRESTRIAL NATURA 2000 NETWORK (2012)

979,019 ha (30.5% of the AC)

• FOREST AREA ACCORDING TO IEPNB (2012)

Wooded: 330,718 ha / Non-wooded: 1,870,336 ha

• FOREST FIRES (2012)

625 outbreaks and 105 fires, affecting 15,625.6 ha

COAST

• LENGTH COASTLINE

699 km

• SEA BATHING WATER QUALITY. % OF SAMPLE POINTS (2012)

Excellent: 98.0; Good: 1.6; Sufficient: 0.4; Poor: 0.0

WASTE

- **MUNICIPAL WASTE PER INHABITANT (2010)**
 - Total urban waste: 558.5 kg/ inhab
 - Separately collected paper/cardboard: 60.6 kg/ inhab
 - Separately collected glass: 24.9 kg/ inhab
 - Separately collected packaging: 18.2 kg/ inhab

AGRICULTURE

- **ORGANIC FARMLAND (2011)**
92,435.0 ha (9.0% of the total agricultural area)
- **IRRIGATED AREA (2012)**
247,879.6 ha (24.1% of the total agricultural area)
- **ORGANIC LIVESTOCK FARMING (2011)**
573

ENERGY

- **ELECTRICITY DEMAND (POWERPLANT BUSBARS) (2011)**
49,356 GWh. Change compared with 2010: -1.3%
- **INSTALLED ELECTRIC POWER FROM RENEWABLE SOURCES (2011)**
1,589 MW: 17.7% hydraulic; 64.2% wind; 14.5% photovoltaic solar; 3.7% other renewable

TOURISM

- **No. OF FOREIGN TOURISTS PER INHABITANT (2011)**
1.91
- **HOTEL CAPACITY (2011)**
229,099 hotel beds (30.3 beds/1,000 inhab) y 13,844 beds in rural accommodation (1.8 beds/1,000 inhab)

TRANSPORT

- **VEHICLE FLEET (2011)**
5,036,883 vehicles. Growth (2000-2011): 25.9%
668.1 vehicle/1,000 inhab
- **PASSENGER CAR FLEET (2011)**
3,368,069 passenger cars. Growth (2000-2011): 18.1%
446.7 passenger cars/1,000 inhab
- **AIR TRANSPORT (2012)**
38,927,906 passengers. Growth (2000-2012): 0.4%
- **PORT FREIGHT TRAFFIC (2011)**
78.4 million t. Growth (2000-2011): 28.7%

URBAN AND INVESTMENT POLICY

- **MUNICIPALITIES WITH A COUNCIL-APPROVED LOCAL AGENDA 21 (2009)**
716 municipalities. 365 of which have a ratified Action Plan and are implementing Action Plan projects. 91 municipalities have completed the LA21 assessment and 90 have the Action Plan finished but still not ratified
- **INTERNAL EXPENDITURE ON R&D (2011)**
€ 3,103.7 million (1.63% of GDP)

ACCESS AND DISSEMINATION OF ENVIRONMENTAL INFORMATION IN THE AC

- **APPLICATIONS FOR ENVIRONMENTAL INFORMATION (2012)**
6,055 applications
- **VISITS (PAGE VIEWS) A LA PÁGINA WEB DE MEDIO AMBIENTE (2012)**
417,573 visits (page views)

RECOMMENDED WEBSITES

- www.gencat.cat/temes/cas/mediambient.htm
- www20.gencat.cat/portal/site/mediambient?newLang=es_ES



Ceuta

Statute of Autonomy: Organic Law 2/1995, of 13 March (BOE Nº 14 March 1995)

Area: 19 km²

Capital: Ceuta **Provinces:** 1 **Municipalities:** 1

Population (2012): 84,018 inhab

Population density (2012): 4,422.0 inhab/km²

Change in No. of inhabitants (2011-2012): 1,642



• DEMOGRAPHIC DISTRIBUTION (%) BY MUNICIPALITY SIZE (2012)

< 2,001 inhabitants: 0.0

2,001-10,000 inhabitants: 0.0

10,001-100,000 inhabitants: 100.0

100,001-500,000 inhabitants: 0.0

> 500,000 inhabitants: 0.0

• EMPLOYMENT BREAKDOWN BY SECTOR (%) (2012)

Agriculture: 0.0

Industry: 2.8

Construction: 5.2

Services: 92.0

• UNEMPLOYMENT RATE (2012)

38.5% (29.4% en 2011)

• GDP MP (2011)

19,952 €/inhab. (Spanish average = 100: 86.5%)

Variation 2010-2011: -1.4%

• GROSS DISPOSABLE HOUSEHOLD INCOME (2011)

14.163 €/inhab. Variation rate 2010-2011: -5.7%

• GVA BREAKDOWN BY SECTOR (%) (2011)

Agriculture: 0.2

Industry: 4.8

Construction: 8.9

Services: 86.2

WATER

• WATER DISTRIBUTION BY SECTOR (%) (2011). Data joint for Ceuta and Melilla

Households: 71.0 / Municipal and other consumption: 21.2 / Economic sectors: 7.8

• WASTEWATER TREATMENT(2012)

100% of population equivalent provided with wastewater treatment compliant with Directive 91/271/EEC

LAND

• BREAKDOWN BY LAND USE (%) (2006)

Artificial surface: 37.2 / Forest: 62.8 / Wetlands and water bodies: 0.0

NATURE

• SUPERFICIE RED NATURA 2000 (2012)

630 ha (33.2 % of the Autonomous City)

• FOREST FIRES (2012)

No forest fires occurred

• FLORA AND FAUNA SPECIES (2012)

No. of species of fauna and flora protected: 168 Included in the Catalogue of Endangered Species List or Wildlife in Special Protection Regime

COAST

• LENGTH COASTLINE

21 km

• SEA BATHING WATER QUALITY. % OF SAMPLE POINTS (2012)

Excellent: 100.0; Good: 0.0; Sufficient: 0.0; Poor: 0.0

WASTE

• MUNICIPAL WASTE PER INHABITANT (2012)

- Total urban waste: 446.3 kg/ hab

- Separately collected paper/cardboard: 8.7 kg/ hab

- Separately collected glass: 1.4 kg/ hab

- Separately collected glass: 0.6 kg/ hab

ENERGY

• ELECTRICITY DEMAND (POWERPLANT BUSBARS) (2011)

203 GWh. Change compared with 2010 : -6.7%

TOURISM

• HOTEL CAPACITY (2012)

818 hotel beds (9.7 beds/1,000 inhab)

TRANSPORT

- **VEHICLE FLEET (2011)**
117,353 vehicles. Growth (2000-2011): 141.4%
729.6 vehicle/1,000 inhab (Joint Data for Ceuta and Melilla)
- **PASSENGER CAR FLEET (2011)**
81,431 passenger cars. Growth (2000-2011): 110.2%
506.2 passenger cars/1,000 inhab (Joint data for Ceuta and Melilla)
- **AIR TRANSPORT (2012)**
18,289 passengers. Growth (2000-2012): -60.9%
- **PORT FREIGHT TRAFFIC (2011)**
2.8 million t. Variation (2000-2011): -3.2%

URBAN AND INVESTMENT POLICY

- **MUNICIPALITIES WITH A COUNCIL-APPROVED LOCAL AGENDA 21 (2010)**
1 municipality has completed the LA21 assessment
- **INTERNAL EXPENDITURE ON R&D (2011)**
€ 1.3 million (0.09% of GDP).

ACCESS AND DISSEMINATION OF ENVIRONMENTAL INFORMATION IN THE AC

- **APPLICATIONS FOR ENVIRONMENTAL INFORMATION (2012)**
900 applications

RELEVANT INFORMATION

- The data on selective collection of paper/cardboard makes reference to the collection made in containers located in the public street used for paper/cardboard of households. Additionally, in 2012 selective collection was carried out of 2,696 tonnes of cardboard generated at industrial sites.
- There are 110 units of selective collection containers for paper/board (ratio: 1 container/763 inhabitants), 86 units of glass containers (ratio: 1 container/977 inhabitants) and 60 units of light packaging containers (ratio: 1 container/1400 inhabitants). There are also two recycling centres, one fixed, the other mobile, which regularly travel around different areas of the city.

RECOMMENDED WEBSITES

- www.ceuta.es/ceuta/
- www.ceuta.es/ceuta/por-consejerias/medio-ambiente-servicios-comunitarios-y-barriadas



Valencia

Statute of Autonomy: Organic Law 1/2006 of 10 April on Reform of the Organic Law 5/1982 of 1 July of the Statute of Autonomy of Comunidad Valenciana
Area: 23,255 km²
Capital: Valencia **Provinces:** 3 **Municipalities:** 542
Population (2012): 5,129,266 inhab
Population density (2012): 220.6 inhab/km²
Change in No. of inhabitants (2011-2012): 12,076



• DEMOGRAPHIC DISTRIBUTION (%) BY MUNICIPALITY SIZE (2012)

< 2,001 inhabitants: 4.1
 2,001-10,000 inhabitants: 13.3
 10,001-100,000 inhabitants: 50.5
 100,001-500,000 inhabitants: 16.6
 > 500,000 inhabitants: 15.5

• EMPLOYMENT BREAKDOWN BY SECTOR (%) (2012)

Agriculture: 3.7 **Industry:** 17.2
Construction: 6.9 **Services:** 72.2

• UNEMPLOYMENT RATE (2012)

27.7% (99.4% en 2011)

• GDP MP (2011)

20,287 €/inhab. (Spanish average = 100: 88.0%)
 Variation 2010-2011: 0.7%

• GROSS DISPOSABLE HOUSEHOLD INCOME (2011)

13,371 €/inhab. Variation rate 2010-2011: -2.8%

• GVA BREAKDOWN BY SECTOR (%) (2011)

Agriculture: 1.9 **Industry:** 16.9
Construction: 11.7 **Services:** 69.4

AIR

- **No. OF AIR-QUALITY MONITORING STATIONS IN THE AC (2011)**
 Urban: 25 / Suburban: 22 / Rural: 13
- **EXCEEDANCES OF THE LEGISLATIVE VALUES IN THE URBAN STATIONS OF THE CAPITAL OF THE AUTONOMOUS COMMUNITY (2011)**
 - Annual mean concentration of NO₂ in µg/m³ (limit value since 2010: 40 µg/m³): 30
 - No. days/year average daily PM10 concentration exceeds 50 µg/m³ excluding African dust outbreaks (limit value since 2005: 35 days/year): 10

WATER

- **AVERAGE HOUSEHOLD WATER CONSUMPTION (2010)**
 157 litres/inhabitant/day. Between 2000 and 2010, consumption decreased by un 5.4%
- **WATER DISTRIBUTION BY SECTOR (%) (2010)**
 Households: 78.6 / Municipal and other consumption: 7.5 / Economic sectors: 13.9
- **WASTEWATER TREATMENT (2011)**
 98.8% of population equivalent provided with wastewater treatment compliant with Directive 91/271/EEC
- **QUALITY OF INLAND BATHING WATER % SAMPLING POINT (2012)**
 Excellent: 33.3; Good: 66.7; Sufficient: 0.0; Poor: 0.0

LAND

- **BREAKDOWN BY LAND USE (%) (2006)**
 Artificial surface: 4.8 / Agriculture: 44.7 / Forest: 49.8 / Wetlands and water bodies: 0.8
- **LAND AREA AFFECTED BY EROSION (INES 2002-2012)**
 With moderate rates of erosion: 70.12%; intermediate rates: 16.04%; high rates: 13.83%

NATURE

- **TERRESTRIAL PROTECTED AREA (2012)**
 241,647 ha (10.4% of the AC)
- **TERRESTRIAL NATURA 2000 NETWORK (2012)**
 872,281 ha (37.5% of the AC)
- **WETLANDS INCLUDED IN THE SPANISH WETLANDS INVENTORY (2012)**
 49 wetlands 44,840.4 ha
- **FOREST AREA ACCORDING TO IEPNB (2012)**
 Wooded: 747,820 ha / Non-wooded: 519,216 ha
- **FOREST FIRES (2012)**
 396 outbreaks and 106 fires, affecting 57,608.0 ha
- **FLORA AND FAUNA SPECIES (2012)**
 - No. of species of fauna and flora protected: 54 fauna and 125 flora
 - No. of alien species of fauna and flora included in the Catalogue of Alien Species classified as 'invasive': 20 fauna, 37 flora and 8 genera of flora

COAST

- **LENGTH COASTLINE**
518 km
- **SEA BATHING WATER QUALITY. % OF SAMPLE POINTS (2012)**
Excellent: 90.7; Good: 4.9; Sufficient: 3.1; Poor: 1.3

WASTE

- **MUNICIPAL WASTE PER INHABITANT (2011)**
- Total urban waste: 533.3 kg/inhab including selective collection and 395.2 kg/inhab without including it
- Separately collected paper/cardboard: 12.7 kg/inhab
- Separately collected glass: 14.8 kg/inhab
- Separately collected packaging: 8.2 kg/inhab

AGRICULTURE

- **ORGANIC FARMLAND (2011)**
65,461.0 ha (9.1% of the total agricultural area)
- **IRRIGATED AREA (2012)**
283,360.8 ha (39.2% of the total agricultural area)
- **ORGANIC LIVESTOCK FARMING (2011)**
21
- **LIVESTOCK TRAILS LENGTH (2012)**
14,104 km

ENERGY

- **ELECTRICITY DEMAND (POWERPLANT BUSBARS) (2011)**
26,639 GWh. Change compared with 2010: -3.2%
- **INSTALLED ELECTRIC POWER FROM RENEWABLE SOURCES (2011)**
1,557 MW: 2.0% hydraulic; 76.4% wind; 19.5% photovoltaic solar; 2.1% other renewable

TOURISM

- **No. OF FOREIGN TOURISTS PER INHABITANT (2011)**
1.04
- **HOTEL CAPACITY (2011)**
120,818 hotel beds (23.3 beds/1,000 inhab) y 9,235 beds in rural accommodation (1.8 beds/1,000 inhab)

TRANSPORT

- **VEHICLE FLEET (2011)**
3,333,887 vehicles. Growth (2000-2011): 32.0%
651.5 vehicle/1,000 inhab
- **PASSENGER CAR FLEET (2011)**
2,390,594 passenger cars. Growth (2000-2011): 28.2%
467.2 passenger cars/1,000 inhab
- **AIR TRANSPORT (2012)**
13,607,461 passengers. Growth (2000-2012): -8.6%
- **PORT FREIGHT TRAFFIC (2011)**
82.0 million t. Growth (2000-2011): 107.7%

URBAN AND INVESTMENT POLICY

- **MUNICIPALITIES WITH A COUNCIL-APPROVED LOCAL AGENDA 21 (2010)**
245 municipalities. 83 of which have a ratified Action Plan and are implementing Action Plan projects. 138 municipalities have completed the LA21 assessment
- **INTERNAL EXPENDITURE ON R&D (2011)**
€ 1,044.4 million (1.06% of GDP)

ACCESS AND DISSEMINATION OF ENVIRONMENTAL INFORMATION IN THE AC

- **APPLICATIONS FOR ENVIRONMENTAL INFORMATION (2012)**
5,512 applications

RELEVANT INFORMATION

- Approval of the Law on Urgent Measures for the promotion of the Implementation of Strategic Land Actions.
- Processing of the Law on Land Use, Urbanism and Landscape in the autonomous community of Valencia.
- Processing the PAT on Revitalisation and Protection of Orchards in Valencia.
- Approval of the Law on Mobility of the autonomous community of Valencia.
- Definitive approval of the Integral Waste Plan.
- Approval of the Forest Land Action Plan of the autonomous community of Valencia.
- Processing of the Revision of the Sectorial Land Action Plan on Flood Risk Prevention within the autonomous community of Valencia.
- Processing of the Law on Livestock Trails of the autonomous community of Valencia.

RECOMMENDED WEBSITES

- www.gva.es/
- www.citma.gva.es
- <http://bdb.cma.gva.es>
- www.icv.gva.es
- <http://parquesnaturales.gva.es>
- www.epsar.gva.es
- www.dival.es
- www.dipc.as/
- www.ladipu.com/
- www.patfor.es

RECOMMENDED PUBLICATIONS

- Magazine "Biodiversity" (www.cma.gva.es/biodiversidad).
- Plan of agriculture in Valencia (final version) (2 vol.).
- Territorial Strategy of "Comunitat Valenciana"



Extremadura

Statute of Autonomy: Organic Law 1/83, of 25 February (BOE Nº 49, 26 February 1983)

Area: 41,635 km²

Capital: Mérida **Provinces:** 2 **Municipalities:** 385

Population (2012): 1.108.130 inhab

Population density (2012): 26.6 inhab/km²

Change in No. of inhabitants (2011-2012): - 1,237



• DEMOGRAPHIC DISTRIBUTION (%) BY MUNICIPALITY SIZE 2012)

- < 2,001 inhabitants: 20.0
- 2,001-10,000 inhabitants: 30.9
- 10,001-100,000 inhabitants: 35.7
- > 500,000 inhabitants: 0.0

• EMPLOYMENT BREAKDOWN BY SECTOR (%) (2012)

Agriculture: 11.2	Industry: 11.5
Construction: 8.6	Services: 68.7

• UNEMPLOYMENT RATE (2012)

33.0% (25.1% en 2011)

• GDP MP (2011)

15,771 €/inhab. (Spanish average = 100: 68.4%)
Variation 2010-2011: - 0.5%

• GROSS DISPOSABLE HOUSEHOLD INCOME (2011)

11,541 €/inhab. Variation rate 2010-2011: - 2.0%

• GVA BREAKDOWN BY SECTOR (%) (2011)

Agriculture: 6.2	Industry: 12.3
Construction: 14.0	Services: 67.5

AIR

- **No. OF AIR-QUALITY MONITORING STATIONS IN THE AC (2011)**
Urban: 3 / Suburban: 2 / Rural: 2
- **EXCEEDANCES OF THE LEGISLATIVE VALUES IN THE URBAN STATIONS OF THE CAPITAL OF THE AUTONOMOUS COMMUNITY (2011)**
 - Annual mean concentration of NO₂ in µg/m³ (limit value since 2010: 40 µg/m³): 9
 - No. days/year average daily PM10 concentration exceeds 50 µg/m³ excluding African dust outbreaks (limit value since 2005: 35 days/year): 14

WATER

- **AVERAGE HOUSEHOLD WATER CONSUMPTION (2010)**
160 litres/inhabitant/day. Between 2000 and 2010, consumption increased by 2.6%
- **WATER DISTRIBUTION BY SECTOR (%) (2010)**
Households: 80.9 / Municipal and other consumption: 11.5 / Economic sectors: 7.6
- **WASTEWATER TREATMENT (2010)**
71% of population equivalent provided with wastewater treatment compliant with Directive 91/271/EEC. Data relative to the province of Cáceres
- **QUALITY OF INLAND BATHING WATER % SAMPLING POINT (2012)**
Excellent: 30.0; Good: 10.0; Sufficient: 10.0; Poor: 50.0

LAND

- **BREAKDOWN BY LAND USE (%) (2006)**
Artificial surface: 0.7 / Agriculture: 55.4 / Forest: 42.2 / Wetlands and water bodies: 1.7
- **LAND AREA AFFECTED BY EROSION (INES 2002-2012)**
With moderate rates of erosion: 83.75%; intermediate rates: 9.81%; high rates: 6.44%

NATURE

- **TERRESTRIAL PROTECTED AREA (2012)**
314,028 ha (7.6% of the AC)
- **TERRESTRIAL NATURA 2000 NETWORK (2012)**
1,264,075 ha (30.4% of the AC)
- **FOREST AREA ACCORDING TO IEPNB (2012)**
Wooded: 1,897,505 ha / Non-wooded: 830,353 ha
- **FOREST FIRES (2012)**
772 outbreaks and 319 fires, affecting 3,525.0 ha
- **FLORA AND FAUNA SPECIES**
450 species of fauna and flora included in the Regional Catalogue of Threatened Species

WASTE

- **MUNICIPAL WASTE PER INHABITANT (2011)**
 - Total urban waste: 458.0 kg/inhab
 - Separately collected paper/cardboard: 11.3 kg/inhab
 - Separately collected glass: 7.59 kg/inhab
 - Separately collected packaging: 10.35 kg/inhab

AGRICULTURE

- **ORGANIC FARMLAND (2011)**
91,108.6 ha (2.8% of the total agricultural area)
- **IRRIGATED AREA (2012)**
256,830.5 (8.0% of the total agricultural area)
- **ORGANIC LIVESTOCK FARMING (2011)**
193 operators

ENERGY

- **ELECTRICITY DEMAND (POWERPLANT BUSBARS) (2011)**
4,477 GWh. Change compared with 2010: - 3.5%
- **INSTALLED ELECTRIC POWER FROM RENEWABLE SOURCES (2011)**
868 MW: 2.3% hydraulic; 0.0% wind; 61.3% photovoltaic solar; 36.5% other renewable

TOURISM

- **No. OF FOREIGN TOURISTS PER INHABITANT (2012)**
0.15
- **HOTEL CAPACITY (2012)**
19,981 hotel beds (18.0 beds/1,000 inhab) y 5,985 beds in rural accommodation (5.4 beds/1,000 inhab)

TRANSPORT

- **VEHICLE FLEET (2011)**
765,586 vehicles. Growth (2000-2011): 47.8%
690.1 vehicle/1,000 inhab
- **PASSENGER CAR FLEET (2011)**
549,078 passenger cars. Growth (2000-2011): 43.1%
494.9 passenger cars/1,000 inhab
- **AIR TRANSPORT (2012)**
65,637 passengers. Growth (2000-2012): - 15.2%

URBAN AND INVESTMENT POLICY

- **MUNICIPALITIES WITH A COUNCIL-APPROVED LOCAL AGENDA 21 (2010)**
103 municipalities
- **INTERNAL EXPENDITURE ON R&D (2011)**
€ 143.8 million (0.83% of GDP)

ACCESS AND DISSEMINATION OF ENVIRONMENTAL INFORMATION IN THE AC

- **APPLICATIONS FOR ENVIRONMENTAL INFORMATION (2012)**
8,589 applications
- **VISITS TO THE ENVIRONMENT WEBSITE (2012)**
572,119 visits (page views)

RECOMMENDED WEBSITES

- www.gobex.es,
- <http://estadistica.gobex.es/>
- <http://extremambiente.gobex.es>
- www.rsextremadura.es

RECOMMENDED PUBLICATIONS

- Environmental Report of Extremadura 2011.



Galicia

Statute of Autonomy: Organic Law 1/81, of 6 April (BOE Nº 101, 28 April 1981)

Area: 29,575 km²

Capital: Santiago de Compostela **Provinces:** 4 **Municipalities:** 315

Population (2012): 2,781,498 inhab

Population density (2012): 94.1 inhab/km²

Change in No. of inhabitants (2011-2012): -13,924



• DEMOGRAPHIC DISTRIBUTION (%) BY MUNICIPALITY SIZE (2012)

< 2,001 inhabitants: 4.7

2,001-10,000 inhabitants: 25.1

10,001-100,000 inhabitants: 46.7

100,001-500,000 inhabitants: 23.4

> 500,000 inhabitants: 0.0

• EMPLOYMENT BREAKDOWN BY SECTOR (%) (2012)

Agriculture: 7.7 **Industry:** 15.8

Construction: 7.6 **Services:** 69.0

• UNEMPLOYMENT RATE (2012)

20.7% (17.4% en 2011)

• GDP MP (2011)

20,806 €/inhab. (Spanish average = 100: 90.2%)

Variation 2010-2011: 0.9%

• GROSS DISPOSABLE HOUSEHOLD INCOME (2011)

14,131 €/inhab. Variation rate 2010-2011: -2.6%

• GVA BREAKDOWN BY SECTOR (%) (2011)

Agriculture: 4.7 **Industry:** 19.2

Construction: 11.8 **Services:** 64.4

AIR

• No. OF AIR-QUALITY MONITORING STATIONS IN THE AC (2011)

Urban: 12 / Suburban: 11 / Rural: 13

• EXCEEDANCES OF THE LEGISLATIVE VALUES IN THE URBAN STATIONS OF THE CAPITAL OF THE AUTONOMOUS COMMUNITY (2011)

- Annual mean concentration of NO₂ in µg/m³ (limit value since 2010: 40 µg/m³): 19

- No. days/year average daily PM₁₀ concentration exceeds 50 µg/m³ excluding African dust outbreaks (limit value since 2005: 35 days/year): 6

WATER

• AVERAGE HOUSEHOLD WATER CONSUMPTION (2010)

132 litres/inhabitant/day. Between 2000 and 2010, consumption increased by 3.1%

• WATER DISTRIBUTION BY SECTOR (%) (2010)

Households: 69.9 / Municipal and other consumption: 12.8 / Economic sectors: 17.3

• WASTEWATER TREATMENT (2012)

79% of population equivalent provided with wastewater treatment compliant with Directive 91/271/EEC

• QUALITY OF INLAND BATHING WATER % SAMPLING POINT (2012)

Excellent: 40.8; Good: 36.6; Sufficient: 9.9; Poor: 12.7

LAND

• BREAKDOWN BY LAND USE (%) (2006)

Artificial surface: 2.7 / Agriculture: 27.8 / Forest: 68.7 / Wetlands and water bodies: 0.8

• LAND AREA AFFECTED BY EROSION (INES 2002-2012)

With moderate rates of erosion: 74.34%; intermediate rates: 13.06%; high rates: 12.61%

NATURE

• TERRESTRIAL PROTECTED AREA (2012)

357,657 ha (12.1% of the AC)

• TERRESTRIAL NATURA 2000 NETWORK (2012)

352,016 ha (11.9% of the AC)

• FOREST AREA ACCORDING TO IEPNB (2012)

Wooded: 1,454,301 ha / Non-wooded: 586,422 ha

• FOREST FIRES (2012)

2,713 outbreaks and 1,085 fires, affecting 15,364.7 ha

COAST

• LENGTH COASTLINE

1,498 km

• SEA BATHING WATER QUALITY. % OF SAMPLE POINTS (2012)

Excellent: 75.8; Good: 9.9; Sufficient: 7.6; Poor: 6.7

WASTE

- **MUNICIPAL WASTE PER INHABITANT (2011)**
 - Total urban waste: 410.5 kg/inhab
 - Separately collected paper/cardboard: 13.0 kg/inhab
 - Separately collected glass: 13.7 kg/inhab
 - Separately collected packaging: 7.9 kg/inhab

AGRICULTURE

- **ORGANIC FARMLAND (2011)**
14,430.1 ha (1.7% of the total agricultural area)
- **IRRIGATED AREA (2012)**
29,399.2 (3.6% of the total agricultural area)
- **ORGANIC LIVESTOCK FARMING (2011)**
193 operators

ENERGY

- **ELECTRICITY DEMAND (POWERPLANT BUSBARS) (2011)**
20,198 GWh. Change compared with 2010: - 2.6%
- **INSTALLED ELECTRIC POWER FROM RENEWABLE SOURCES (2011)**
3,874 MW: 12.7% hydraulic; 85.0% wind; 0.3% photovoltaic solar; 2.0% other renewable

TOURISM

- **No. OF FOREIGN TOURISTS PER INHABITANT (2012)**
0.32
- **HOTEL CAPACITY (2012)**
63,146 hotel beds (22.7 beds/1,000 inhab) y 6,671 beds in rural accommodation (2.4 beds/1,000 inhab)

TRANSPORT

- **VEHICLE FLEET (2011)**
1,916,657 vehicles. Growth (2000-2011): 33.4%
685.6 vehicle/1,000 inhab
- **PASSENGER CAR FLEET (2011)**
1,461,449 passenger cars. Growth (2000-2011): 27.4%
522.8 passenger cars/1,000 inhab
- **AIR TRANSPORT (2012)**
3,868,783 passengers. Growth (2000-2012): -13.1%
- **PORT FREIGHT TRAFFIC (2011)**
33.0 million t. Growth (2000-2011): 10.1%

URBAN AND INVESTMENT POLICY

- **MUNICIPALITIES WITH A COUNCIL-APPROVED LOCAL AGENDA 21 (2010)**
96 processes initiated
- **INTERNAL EXPENDITURE ON R&D (2011)**
€ 526.5 million (0.96% of GDP)

ACCESS AND DISSEMINATION OF ENVIRONMENTAL INFORMATION IN THE AC

- **APPLICATIONS FOR ENVIRONMENTAL INFORMATION (2012)**
3,253 applications

RELEVANT INFORMATION

- Urban Waste Management Plan of Galicia 2010-2020, which can be visited in the following web: <http://sirga.cmtai.xunta.es/plans-e-programas-sirga>.

RECOMMENDED WEBSITES

- www.xunta.es
- www.xunta.es/cmati
- www.cmati.xunta.es/
- <http://siam.cmati.xunta.es/>
- <http://sirga.cmati.xunta.es/>
- <http://augasdegalicia.xunta.es/>



Rioja

Statute of Autonomy: Organic Law 3/82, of 9 June (BOE Nº 146, 19 June 1982)

Area: 5,045 km²

Capital: Logroño **Provinces:** 1 **Municipalities:** 174

Population (2012): 323,609 inhab

Population density (2012): 64.1 inhab/km²

Change in No. of inhabitants (2011-2012): 654



• DEMOGRAPHIC DISTRIBUTION (%) BY MUNICIPALITY SIZE (2012)

< 2,001 inhabitants: 12.9

2,001-10,000 inhabitants: 23.8

10,001-100,000 inhabitants: 15.8

100,001-500,000 inhabitants: 47.4

> 500,000 inhabitants: 0.0

• EMPLOYMENT BREAKDOWN BY SECTOR (%) (2012)

Agriculture: 5.4

Industry: 24.2

Construction: 9.0

Services: 61.4

• UNEMPLOYMENT RATE (2012)

20.5% (17.0% en 2011)

• GDP MP (2011)

25,762 €/inhab. (Spanish average = 100: 111.7%)

Variation 2010-2011: 1.9%

• GROSS DISPOSABLE HOUSEHOLD INCOME (2011)

15,977 €/inhab. Variation rate 2010-2011: -2.9%

• GVA BREAKDOWN BY SECTOR (%) (2011)

Agriculture: 5.1

Industry: 27.6

Construction: 10.1

Services: 57.2

AIR

• No. OF AIR-QUALITY MONITORING STATIONS IN THE AC (2011)

Urban: 1 / Suburban: 0 / Rural: 4

• EXCEEDANCES OF THE LEGISLATIVE VALUES IN THE URBAN STATIONS OF THE CAPITAL OF THE AUTONOMOUS COMMUNITY (2011)

- Annual mean concentration of NO₂ in µg/m³ (limit value since 2010: 40 µg/m³): 12

- No. days/year average daily PM₁₀ concentration exceeds 50 µg/m³ excluding African dust outbreaks (limit value since 2005: 35 days/year): 11

WATER

• AVERAGE HOUSEHOLD WATER CONSUMPTION (2010)

131 litres/inhabitant/day. Between 2000 and 2010, consumption decreased by 29.6%

• WATER DISTRIBUTION BY SECTOR (%) (2010)

Households: 49.8 / Municipal and other consumption: 22.7 / Economic sectors: 27.4

• WASTEWATER TREATMENT (2012)

99% of population equivalent provided with wastewater treatment compliant with Directive 91/271/EEC

• QUALITY OF INLAND BATHING WATER % SAMPLING POINT (2012)

Excellent: 100; Good: 0.0; Sufficient: 0.0; Poor: 0.0

LAND

• BREAKDOWN BY LAND USE (%) (2006)

Artificial surface: 1.2 / Agriculture: 41.8 / Forest: 56.7 / Wetlands and water bodies: 0.4

• LAND AREA AFFECTED BY EROSION (INES 2002-2012)

With moderate rates of erosion: 65.84%; intermediate rates: 20.43%; high rates: 13.72%

NATURE

• TERRESTRIAL PROTECTED AREA (2012)

166,418 ha (33.0% of the AC)

• TERRESTRIAL NATURA 2000 NETWORK (2012)

167,558 ha (33.2% of the AC)

• WETLANDS INCLUDED IN THE SPANISH WETLANDS INVENTORY (2012)

49 wetlands 754.6 ha

• FOREST AREA ACCORDING TO IEPNB (2012)

Wooded: 165,813 ha / Non-wooded: 1,35,381 ha

• FOREST FIRES (2012)

77 outbreaks and 28 fires, affecting 109.0 ha

• FLORA AND FAUNA SPECIES (2012)

- 208 species of fauna and flora included in the list of Wildlife in Special Protection Regime of which 23 are catalogued as threatened

- 21 species of fauna and flora included in the Spanish Catalogue of invasive alien species

WASTE

- **MUNICIPAL WASTE PER INHABITANT (2011)**
 - Total urban waste: 395.2 kg/inhab (only waste collected by urban container)
 - Separately collected paper/cardboard: 18.4 kg/inhab
 - Separately collected glass: 26.6 kg/inhab
 - Separately collected packaging: 14.2 kg/inhab

AGRICULTURE

- **ORGANIC FARMLAND (2011)**
7,017.3 ha (3.2% of the total agricultural area)
- **IRRIGATED AREA (2012)**
47,896.6 (21.6% of the total agricultural area)
- **ORGANIC LIVESTOCK FARMING (2011)**
18 operators
- **LIVESTOCK TRAILS LENGTH (2012)**
1,038 km

ENERGY

- **ELECTRICITY DEMAND (POWERPLANT BUSBARS) (2011)**
1,725 GWh. Change compared with 2010: -1.9%
- **INSTALLED ELECTRIC POWER FROM RENEWABLE SOURCES(2011)**
- 565 MW: 4.87% hydraulic; 79.3% wind; 15.0% photovoltaic solar; 0.9% other renewable

TOURISM

- **No. OF FOREIGN TOURISTS PER INHABITANT (2011)**
0.14
- **HOTEL CAPACITY (2012)**
6,002 hotel beds (18.5 beds/1,000 inhab) y 1,041 beds in rural accommodation (3.2 beds/1,000 inhab)

TRANSPORT

- **VEHICLE FLEET (2011)**
198,126 vehicles. Growth (2000-2011): 37.6%
613.5 vehicle/1,000 inhab
- **PASSENGER CAR FLEET (2011)**
134,699 passenger cars. Growth (2000-2011): 32.5%
417.1 passenger cars/1,000 inhab
- **AIR TRANSPORT (2012)**
19,263 passengers. Growth (2000-2012): 7.8%

URBAN AND INVESTMENT POLICY

- **MUNICIPALITIES WITH A COUNCIL-APPROVED LOCAL AGENDA 21 (2011)**
7 municipalities with Action Plan and LA21 assessment approved. They are also implementing Action Plan projects
- **INTERNAL EXPENDITURE ON R&D (2011)**
€ 81.8 million (1.08% of GDP)

ACCESS AND DISSEMINATION OF ENVIRONMENTAL INFORMATION IN THE AC

- **APPLICATIONS FOR ENVIRONMENTAL INFORMATION (2012)**
565 applications
- **VISITS TO THE ENVIRONMENT WEBSITE (2012)**
1,484,177 visits (page views)

RECOMMENDED WEBSITES

- www.larioja.org/ma



Madrid



Statute of Autonomy: Organic Law 3/83, of 25 February (BOE Nº 51, 1 March 1983)

Area: 8,028 km²

Capital: Madrid **Provinces:** 1 **Municipalities:** 179

Population (2012): 6,498,560 inhab

Population density (2012): 809.5 inhab/km²

Change in No. of inhabitants (2011-2012): 8,880

• DEMOGRAPHIC DISTRIBUTION (%) BY MUNICIPALITY SIZE (2012)

< 2,001 inhabitants: 0.7

2,001-10,000 inhabitants: 5.0

10,001-100,000 inhabitants: 21.5

100,001-500,000 inhabitants: 23.0

> 500,000 inhabitants: 49.8

• EMPLOYMENT BREAKDOWN BY SECTOR (%) (2012)

Agriculture: 0.3 **Industry:** 9.6

Construction: 5.0 **Services:** 85.0

• UNEMPLOYMENT RATE (2012)

19.0% (16.7% en 2011)

• GDP MP (2011)

28,845 €/inhab. (Spanish average = 100: 129.5%)

Variation 2010-2011: 0.9%

• GROSS DISPOSABLE HOUSEHOLD INCOME (2011)

17,870 €/inhab. Variation rate 2010-2011: -4.9%

• GVA BREAKDOWN BY SECTOR (%) (2011)

Agriculture: 0.1 **Industry:** 10.8

Construction: 8.5 **Services:** 80.6

AIR

• No. OF AIR-QUALITY MONITORING STATIONS IN THE AC (2011)

Urban: 37 / Suburban: 7 / Rural: 6

• EXCEEDANCES OF THE LEGISLATIVE VALUES IN THE URBAN STATIONS OF THE CAPITAL OF THE AUTONOMOUS COMMUNITY (2011)

- Annual mean concentration of NO₂ in µg/m³ (limit value since 2010: 40 µg/m³): 45

- No. days/year average daily PM₁₀ concentration exceeds 50 µg/m³ excluding African dust outbreaks (limit value since 2005: 35 days/year): 11

WATER

• AVERAGE HOUSEHOLD WATER CONSUMPTION (2010)

140 litres/inhabitant/day. Between 2000 and 2010, consumption decreased by 20.5%

• WATER DISTRIBUTION BY SECTOR (%) (2010)

Households: 73.3 / Municipal and other consumption: 7.9 / Economic sectors: 18.8

• WASTEWATER TREATMENT (2012)

100% of population equivalent provided with wastewater treatment compliant with Directive 91/271/EEC

• QUALITY OF INLAND BATHING WATER % SAMPLING POINT (2012)

Excellent: 50.0; Good: 50.0; Sufficient: 0.0; Poor: 0.0

LAND

• BREAKDOWN BY LAND USE (%) (2006)

Artificial surface: 13.7 / Agriculture: 36.8 / Forest: 48.6 / Wetlands and water bodies: 0.8

• LAND AREA AFFECTED BY EROSION (INES 2002-2012)

With moderate rates of erosion: 81.28%; intermediate rates: 10.89%; high rates: 7.83%

NATURE

• TERRESTRIAL PROTECTED AREA (2012)

110,150 ha (13.7% of the AC)

• TERRESTRIAL NATURA 2000 NETWORK (2012)

319,605 ha (39.8% of the AC)

• WETLANDS INCLUDED IN THE SPANISH WETLANDS INVENTORY (2012)

23 wetlands 928.6 ha

• FOREST AREA ACCORDING TO IEPNB (2012)

Wooded: 258,105 ha / Non-wooded: 163,225 ha

• FOREST FIRES (2012)

307 outbreaks and 84 fires, affecting 2,364.5 ha

• FLORA AND FAUNA SPECIES (2012)

- No. of species of fauna and flora protected (Decree

18/1992): 485 (Fauna: 133, with 42 invertebrates, 4 fish, 11 amphibians and reptiles, 61 birds and 15 mammals.

Flora: 95)

Singular trees: 257

- No. of alien species catalogued as invasive: 26, of which:

19 are in the Spanish Catalogue of invasive alien species

(2 crustacean, 10 fish, 1 reptile, 4 birds y 2 mammals)

and 6 are included in the List of Alien Species 'Potentially Invasive' (3 fish, 1 reptile and 2 birds)

WASTE

• MUNICIPAL WASTE PER INHABITANT (2011)

- Total urban waste: 461.0 kg/inhab

- Separately collected paper/cardboard: 19.5 kg/inhab

- Separately collected glass: 12.6 kg/inhab

- Separately collected packaging: 21.7 kg/inhab

AGRICULTURE

- **ORGANIC FARMLAND (2011)**
6,677.6 ha (2.0% of the total agricultural area)
- **IRRIGATED AREA (2012)**
18,998.4 (5.9% of the total agricultural area)
- **ORGANIC LIVESTOCK FARMING (2011)**
17 operators
- **LIVESTOCK TRAILS LENGTH (2012)**
4,104.4 km (about 13,000 ha) of which: 178 and 703.1 km length of 'cañadas' (less than 75 metres in width), 311 and 1,020.0 km length of 'cordeles' (less than 37.5 m in width), 350 and 1,096.1 km length of 'veredas' (less than 20 m in width), 928 and 1,285.3 km length of 'coladas' and 'others'

ENERGY

- **ELECTRICITY DEMAND (POWERPLANT BUSBARS) (2011)**
30,817 GWh. Change compared with 2010: -0,1%
- **INSTALLED ELECTRIC POWER FROM RENEWABLE SOURCES (2011)**
135 MW: 32,6% hydraulic; 0,0% wind; 36,3% photovoltaic solar; 31,9% other renewable

TOURISM

- **No. OF FOREIGN TOURISTS PER INHABITANT (2011)**
0,69
- **HOTEL CAPACITY (2012)**
104,569 hotel beds (16.1 beds/1,000 inhab) y 4,196 beds in rural accommodation (0.6 beds/1,000 inhab)

TRANSPORT

- **VEHICLE FLEET (2011)**
4,332,140 vehicles. Growth (2000-2011): 26.3%
667.5 vehicle/1,000 inhab
- **PASSENGER CAR FLEET (2011)**
3,321,620 passenger cars. Growth (2000-2011): 19.0%
511.8 passenger cars/1,000 inhab
- **AIR TRANSPORT (2012)**
45,224,305 passengers. Growth (2000-2012): -9.0%

URBAN AND INVESTMENT POLICY

- **LENGTH OF CYCLE PATHS (2012)**
841.70 km. Of which, 281 km in Madrid city
- **MUNICIPALITIES WITH A COUNCIL-APPROVED LOCAL AGENDA 21 (2012)**
81 municipalities. 27 of which have a ratified Action Plan and are implementing Action Plan projects. 70 municipalities have completed the LA21 assessment
- **INTERNAL EXPENDITURE ON R&D (2011)**
€ 3,762.8 million (2.02% of GDP)

ACCESS AND DISSEMINATION OF ENVIRONMENTAL INFORMATION IN THE AC

- **APPLICATIONS FOR ENVIRONMENTAL INFORMATION (2012)**
13,906 applications
- **VISITS TO THE ENVIRONMENT WEBSITE (2012)**
26,404,395 visits (page views)

RELEVANT INFORMATION

- Regarding the applications for environmental information received by the Regional Department of Environment and Land Use in 2012, 68% out of the total 13,906 were processed by phone, 23% in person and 9% in writing. The average time to answer the written applications was six days.
- The 11 centres of the Environmental Education Centres Network of the Regional Department of Environment and Land Use received 313,311 visitors.
- Visitors to the Waste Information Centres of the treatment Plants during 2011-2012: 6,918, with 79.9% school groups.
- A total of 22 companies applied for the validation of certificates of investments on environmental matters. A total of 147 files were submitted, most of them for investments made for the reduction and proper treatment of waste, with the final validated amount being €37,692,763.38.
- Launch and publication on the website of the Autonomous Community of Madrid of the Environmental Cartography Viewer that allows consultations relative to environmental parameters of five categories (physical environment, natural environment, protected areas, environmental quality and environmental education), which also connects with the contents from the website [madrid.org](http://www.madrid.org).
- Approval of legislation with environmental interest:
 - Action Program for the Areas Vulnerable to nitrate pollution from agricultural sources within the Autonomous Community of Madrid.
 - Declaration as a Special Area of Conservation of the Site of Community Importance of the 'Basins of the rivers Jarama and Henare', and approval of the Management Plans for this SAC and the Special Protection Area for Birds 'Cereal Steppes of the rivers Jarama and Henares'.

RECOMMENDED WEBSITES

- www.madrid.org
- www.madrid.org/rfma_web
- http://gestiona.madrid.org/azul_internet
- www.madrid.org/cartografia_ambiental
- <http://www.madrid.org/cartografia/idem>
- www.madrid.org/iestadis
- www.viaspecuariasdemadrid.org
- www.sendasdemadrid.es

RECOMMENDED PUBLICATIONS

- The environment in Madrid 2010-2011
- Leaflets on environmental information. Booklet series:
 - Ecosystems with human intervention.
 - The urban sprawl.
 - Variety of grapevine.
 - Madrid Extra Virgen Oil.



Melilla

Statute of Autonomy: Organic Law 2/1995, of 13 March (BOE Nº 14-03-1995)

Area: 13 km²

Capital: Melilla **Provinces:** 1 **Municipalities:** 1

Population (2012): 80,802 inhab

Population density (2012): 6,215.5 inhab/km²

Change in No. of inhabitants (2011-2012): 32,326



• DEMOGRAPHIC DISTRIBUTION (%) BY MUNICIPALITY SIZE (2012)

< 2,001 inhabitants: 0.0

2,001-10,000 inhabitants: 0.0

10,001-100,000 inhabitants: 100.0

100,001-500,000 inhabitants: 0.0

> 500,000 inhabitants: 0.0

• EMPLOYMENT BREAKDOWN BY SECTOR (%) (2012)

Agriculture: 0.0

Industry: 1.7

Construction: 8.3

Services: 90.0

• UNEMPLOYMENT RATE (2012)

28.6% (24.4% en 2011)

• GDP MP (2011)

18.069 €/inhab. (Spanish average = 100: 78.4%)

Variation 2010-2011: -1.9%

• GROSS DISPOSABLE HOUSEHOLD INCOME (2011)

12,812 €/inhab. Variation rate 2010-2011: -6.3%

• GVA BREAKDOWN BY SECTOR (%) (2011)

Agriculture: 0.1

Industry: 5.2

Construction: 9.6

Services: 85.1

WATER

• WATER DISTRIBUTION BY SECTOR (%) (2011)

Joint figures for Ceuta and Melilla

Households: 71.0 / Municipal and other consumption: 21.2 / Economic sectors: 7.8

• WASTEWATER TREATMENT (2011)

100% of population equivalent provided with wastewater treatment compliant with Directive 91/271/EEC

LAND

• BREAKDOWN BY LAND USE (%) (2006)

Artificial surface: 53.7 / Agriculture: 27.0 / Forest: 19.2 / Wetlands and water bodies: 0.0

NATURE

• AREA OF RED NATURA 2000 (2012)

46 ha (3.5% of the Autonomous City)

• FOREST FIRES (2012)

No forest fires occurred

COAST

• LENGTH COASTLINE

9 km

• SEA BATHING WATER QUALITY. % OF SAMPLE POINTS (2012)

Excellent: 77.8; Good: 22.2; Sufficient: 0.0; Poor: 0.0

WASTE

• MUNICIPAL WASTE PER INHABITANT (2010)

Total urban waste: 450 kg/inhab

Separately collected paper/cardboard: 36.8 kg/inhab

Separately collected glass: 3.0 kg/inhab

ENERGY

• ELECTRIC ENERGY DEMAND (B.C.) IN GWh (2011)

215 GWh. Change compared with 2010: 0.7%

TOURISM

• HOTEL CAPACITY (2012)

850 hotel beds (10.5 beds/1,000 inhab)

TRANSPORT

• VEHICLE FLEET (2011)

117,353 vehicles. Growth (2000-2011): 141.4%

729.6 vehicle/1,000 inhab (Combined data for Ceuta and Melilla)

• PASSENGER CAR FLEET (2011)

81,431 passenger cars. Growth (2000-2011): 110.2%

506.2 passenger cars/1,000 inhab (Combined data for Ceuta and Melilla)

• AIR TRANSPORT (2012)

315,852 passengers. Growth (2000-2012): 10.2%

• PORT FREIGHT TRAFFIC (2011)

0.9 million t. Variation (2000-2011): 11.6%

URBAN AND INVESTMENT POLICY

- **MUNICIPALITIES WITH A COUNCIL-APPROVED LOCAL AGENDA 21 (2010)**
1 municipality implementing Action Plan projects
- **INTERNAL EXPENDITURE ON R&D (2009)**
€ 1.8 million (0.14% of GDP).

ACCESS AND DISSEMINATION OF ENVIRONMENTAL INFORMATION IN THE AC

- **APPLICATIONS FOR ENVIRONMENTAL INFORMATION (2012)**
42 applications

RECOMMENDED WEBSITES

- www.melillamedioambiente.com/



Murcia

Statute of Autonomy: Organic Law 4/82, of 9 June (BOE Nº 146, 19 June 1982)

Area: 11,314 km²

Capital: Murcia **Provinces:** 1 **Municipalities:** 45

Population (2012): 1,474,449 inhab

Population density (2012): 130.3 inhab/km²

Change in No. of inhabitants (2011-2012): 4,380



• DEMOGRAPHIC DISTRIBUTION (%) BY MUNICIPALITY SIZE (2012)

< 2,001 inhabitants: 0.4

2,001-10,000 inhabitants: 3.5

10,001-100,000 inhabitants: 51.5

100,001-500,000 inhabitants: 44.6

> 500,000 inhabitants: 0.0

• EMPLOYMENT BREAKDOWN BY SECTOR (%) (2012)

Agriculture: 13.5 **Industry:** 13.1

Construction: 6.4 **Services:** 67.0

• UNEMPLOYMENT RATE (2012)

27.9% (25.4% en 2011)

• GDP MP (2011)

18,933 €/inhab. (Spanish average = 100: 82.1%)

Variation 2010-2011: -0.4%

• GROSS DISPOSABLE HOUSEHOLD INCOME (2011)

12,446 €/inhab. Variation rate 2010-2011: -3.0%

• GVA BREAKDOWN BY SECTOR (%) (2011)

Agriculture: 4.9 **Industry:** 16.1

Construction: 11.0 **Services:** 68.0

AIR

• No. OF AIR-QUALITY MONITORING STATIONS IN THE AC (2011)

Urban: 1 / Suburban: 6 / Rural: 1

• EXCEEDANCES OF THE LEGISLATIVE VALUES IN THE URBAN STATIONS OF THE CAPITAL OF THE AUTONOMOUS COMMUNITY (2011)

- Annual mean concentration of NO₂ in µg/m³ (limit value since 2010: 40 µg/m³): 30

- No. days/year average daily PM10 concentration exceeds 50 µg/m³ excluding African dust outbreaks (limit value since 2005: 35 days/year): 28

WATER

• AVERAGE HOUSEHOLD WATER CONSUMPTION (2010)

158 litres/inhabitant/day. Between 2000 and 2010, consumption increased by 9.0%

• WATER DISTRIBUTION BY SECTOR (%) (2010)

Households: 78.9 / Municipal and other consumption: 7.2 / Economic sectors: 13.9

• WASTEWATER TREATMENT (2012)

100% of population equivalent provided with wastewater treatment compliant with Directive 91/271/EEC

• QUALITY OF INLAND BATHING WATER % SAMPLING POINT (2012)

Excellent: 0.0; Good: 100.0; Sufficient: 0.0; Poor: 0.0

LAND

• BREAKDOWN BY LAND USE (%) (2006)

Artificial surface: 3.1 / Agriculture: 56.6 / Forest: 38.9 / Wetlands and water bodies: 1.5

• LAND AREA AFFECTED BY EROSION (INES 2002-2012)

With moderate rates of erosion: 66.41%; intermediate rates: 18.13%; high rates: 15.46%

NATURE

• TERRESTRIAL PROTECTED AREA (2012)

59,911 ha (5.3% of the AC)

• TERRESTRIAL NATURA 2000 NETWORK (2012)

264,779 ha (23.4% of the AC)

• FOREST AREA ACCORDING TO IEPNB (2012)

Wooded: 308,223 ha / Non-wooded: 203,074 ha

• FOREST FIRES (2012)

112 outbreaks and 16 fires, affecting 1,503.7 ha

• FLORA AND FAUNA SPECIES (2012)

- No. of protected species: 332 flora (without including Annex II Decree 50/2003) and 440 (including Annex II Decree 50/2003) and 45 vertebrate species (Law 7/95, without including extinct species)

- To these 45 species must be added four species that are not extinct (marbled duck, griffon vulture, collared pratincole, pin-tailed sandpiper). Other species from the national catalogue should also be included: malvasia, bottlenose dolphin, loggerhead sea turtle (internal waters) and the Spanish painted frog.

- In total there are 53 vertebrate species catalogued as being at risk (including national and regional)

- Invasive species: 12 species of flora (15 in the draft New Royal Decree) and nine species of fauna (Annex I of

Royal Decree 1628/2011), as well as the Barbary Sheep where it is outside authorised hunting zones. In Annex 2 (potentially invasive) there are two fish species, with an exception for fishing and, once again, the Barbary Sheep, outside authorised zones.

COAST

- **LENGTH COASTLINE**
274 km
- **SEA BATHING WATER QUALITY. % OF SAMPLE POINTS (2012)**
Excellent: 96.3; Good: 3.8; Sufficient: 0.0; Poor: 0.0

WASTE

- **MUNICIPAL WASTE PER INHABITANT (2011)**
 - Total urban waste: 618.2 kg/inhab
 - Separately collected paper/cardboard: 16.7 kg/inhab
 - Separately collected glass: 21.5 kg/inhab
 - Separately collected packaging: 19.7 kg/inhab

AGRICULTURE

- **ORGANIC FARMLAND (2011)**
59,645.4 ha (12.4% of the total agricultural area)
- **IRRIGATED AREA (2012)**
174,399 (36.4% of the total agricultural area)
- **ORGANIC LIVESTOCK FARMING (2011)**
5 operators
- **LIVESTOCK TRAILS LENGTH (2012)**
2,850 km,

ENERGY

- **ELECTRICITY DEMAND (POWERPLANT BUSBARS) (2011)**
7,778 GWh. Change compared with 2010: -3.3%
- **INSTALLED ELECTRIC POWER FROM RENEWABLE SOURCES (2011)**
624 MW: 2.2% hydraulic; 30.6% wind; 63.8% photovoltaic solar; 3.2% other renewable

TOURISM

- **NO. OF FOREIGN TOURISTS PER INHABITANT (2012)**
0.40
- **HOTEL CAPACITY (2012)**
17,638 hotel beds (12.0 beds/1,000 inhab) y 2,900 beds in rural accommodation (2.0 beds/1,000 inhab)

TRANSPORT

- **VEHICLE FLEET (2011)**
984,074 vehicles. Growth (2000-2011): 46.1%
669.4 vehicle/1,000 inhab
- **PASSENGER CAR FLEET (2011)**
690,188 passenger cars. Growth (2000-2011): 40.7%
469.5 passenger cars/1,000 inhab
- **AIR TRANSPORT (2012)**
1,181,490 passengers. Growth (2000-2012): -6.4%
- **PORT FREIGHT TRAFFIC (2011)**
22.7 million t. Growth (2000-2011): 30.7%

URBAN AND INVESTMENT POLICY

- **INTERNAL EXPENDITURE ON R&D (2011)**
€ 234.1 million (0.94% of GDP)

ACCESS AND DISSEMINATION OF ENVIRONMENTAL INFORMATION IN THE AC

- **APPLICATIONS FOR ENVIRONMENTAL INFORMATION (2012)**
3,925 applications
- **VISITS TO THE ENVIRONMENT WEBSITE (2012)**
202,914

RECOMMENDED WEBSITES

- www.murcianatural.carm.es

RECOMMENDED PUBLICATIONS

- Magazine "Enclave ambiental"
- Bulletines on "Protected Areas"
- Manual for procedures for the diagnosis and monitoring of desertification using degradation chemical indicators
- Promotion of residual forest biomass in the mediterranean basin (booklet)
- The Natural path "Mahoya-El Cajer" (booklet)
- First meeting of drawing outdoors: Urbansketch (booklet)
- Ricardo Codorniu and Starico (booklet)



Navarre

Statute of Autonomy: Organic Law 13/82, of 10 August, on reincorporation and revision of the Regional Government of Navarre

Area: 10,390 km²

Capital: Pamplona **Provinces:** 1 **Municipalities:** 272

Population (2012): 644,566 inhab

Population density (2012): 62.0 inhab/km²

Change in No. of inhabitants (2011-2012): 2,515



• DEMOGRAPHIC DISTRIBUTION (%) BY MUNICIPALITY SIZE (2012)

- < 2,001 inhabitants: 14.1
- 2,001-10,000 inhabitants: 31.5
- 10,001-100,000 inhabitants: 23.8
- 100,001-500,000 inhabitants: 30.7
- > 500,000 inhabitants: 0.0

• EMPLOYMENT BREAKDOWN BY SECTOR (%) (2012)

- | | |
|--------------------------|-----------------------|
| Agriculture: 3.6 | Industry: 25.5 |
| Construction: 6.7 | Services: 64.2 |

• UNEMPLOYMENT RATE (2012)

16.2% (12.9% en 2011)

• GDP MP (2011)

29,640 €/inhab. (Spanish average = 100: 128.6%)
Variation 2010-2011: 2.7%

• GROSS DISPOSABLE HOUSEHOLD INCOME (2011)

19,089 €/inhab. Variation rate 2010-2011: -1.9%

• GVA BREAKDOWN BY SECTOR (%) (2011)

- | | |
|--------------------------|-----------------------|
| Agriculture: 2.7 | Industry: 30.7 |
| Construction: 9.2 | Services: 57.4 |

AIR

• NO. OF AIR-QUALITY MONITORING STATIONS IN THE AC (2011)

Urban: 3 / Suburban: 2 / Rural: 3

• EXCEEDANCES OF THE LEGISLATIVE VALUES IN THE URBAN STATIONS OF THE CAPITAL OF THE AUTONOMOUS COMMUNITY (2011)

- Annual mean concentration of NO₂ in µg/m³ (limit value since 2010: 40 µg/m³): 31
- No. days/year average daily PM10 concentration exceeds 50 µg/m³ excluding African dust outbreaks (limit value since 2005: 35 days/year): 7

WATER

• AVERAGE HOUSEHOLD WATER CONSUMPTION (2010)

128 litres/inhabitant/day. Between 2000 and 2010, consumption decreased by 19.5%

• WATER DISTRIBUTION BY SECTOR (%) (2010)

Households: 52.0 / Municipal and other consumption: 18.1 / Economic sectors: 29.9

• WASTEWATER TREATMENT (2012)

100% of population equivalent provided with wastewater treatment compliant with Directive 91/271/EEC

• QUALITY OF INLAND BATHING WATER % SAMPLING POINT (2012)

Excellent: 55.6; Good: 22.2; Sufficient: 11.1; Poor: 11.1

LAND

• BREAKDOWN BY LAND USE (%) (2006)

Artificial surface: 1.3 / Agriculture: 46.3 / Forest: 52.2 / Wetlands and water bodies: 0.3

• LAND AREA AFFECTED BY EROSION (INES 2002-2012)

With moderate rates of erosion: 65.64%; intermediate rates: 18.79%; high rates: 15.57%

NATURE

• TERRESTRIAL PROTECTED AREA (2012)

59,911 ha (5.3% of the AC)

• TERRESTRIAL NATURA 2000 NETWORK (2012)

264,779 ha (23.4% of the AC)

• FOREST AREA ACCORDING TO IEPNB (2012)

Wooded: 308,223ha / Non-wooded: 203,074 ha

• FOREST FIRES (2012)

112 outbreaks and 16 fires, affecting 1,503.7 ha

• FLORA AND FAUNA SPECIES (2012)

- No. of species of fauna and flora protected: 495 fauna and 89 flora
- No. of invasive alien species: 51 (22 fauna and 29 flora)

WASTE

• MUNICIPAL WASTE PER INHABITANT (2011)

- Total urban waste: 433 kg/inhab
- Separately collected paper/cardboard: 39.5 kg/inhab
- Separately collected glass: 25.2 kg/inhab
- Separately collected packaging: 19.9 kg/inhab

AGRICULTURE

• ORGANIC FARMLAND (2011)

73,432.0 ha (16.0% of the total agricultural area)

• IRRIGATED AREA (2012)

96,779.9 (21.1% of the total agricultural area)

• ORGANIC LIVESTOCK FARMING (2011)

63 operators

- **LIVESTOCK TRAILS LENGTH (2012)**

2,289 km, with the following distribution: 914.9 km length of 'cañadas' (40 m average width), 284.3 km length of 'traviesas' (20-30 m average width), 820.8 km length of 'pasadas' (> 15 m width), 269.1 km length of 'ramales'

ENERGY

- **ELECTRICITY DEMAND (POWERPLANT BUSBARS) (2011)**

4,911 GWh. Change compared with 2010: -4.3%

- **INSTALLED ELECTRIC POWER FROM RENEWABLE SOURCES (2011)**

1,329 MW: 11.4% hydraulic; 74.0% wind; 11.1% photovoltaic solar; 3.4% other renewable

TOURISM

- **No. OF FOREIGN TOURISTS PER INHABITANT (2011)**

0.38

- **HOTEL CAPACITY (2012)**

12,430 hotel beds (19.3 beds/1,000 inhab) y 5,033 beds in rural accommodation (7.8 beds/1,000 inhab)

TRANSPORT

- **VEHICLE FLEET (2011)**

436,173 vehicles. Growth (2000-2011): 31.0%
679.3 vehicle/1,000 inhab

- **PASSENGER CAR FLEET (2011)**

301,238 passenger cars. Growth (2000-2011): 25.3%
469.2 passenger cars/1,000 inhab

- **AIR TRANSPORT (2012)**

190,295 passengers. Growth (2000-2012): -20.2%

URBAN AND INVESTMENT POLICY

- **MUNICIPALITIES WITH A COUNCIL-APPROVED LOCAL AGENDA 21 (2012)**

182 municipalities. 170 of which have a ratified Action Plan and are implementing Action Plan projects (NELS Network). 172 municipalities have completed the LA21 assessment

- **INTERNAL EXPENDITURE ON R&D (2011)**

€ 383.9 million (1.97% of GDP)

ACCESS AND DISSEMINATION OF ENVIRONMENTAL INFORMATION IN THE AC

- **APPLICATIONS FOR ENVIRONMENTAL INFORMATION (2012)**

775 applications

- **VISITS TO THE ENVIRONMENT WEBSITE (2012)**

1,415,055 visits (page views)

RELEVANT INFORMATION

- Renewable energy contributed more than the 75% of the electric consumption of Navarre in 2011.
- The target value for the protection of human health from pollution by tropospheric ozone has been achieved in three of the four areas of Navarre: populated areas of the region of Pamplona, Mountain and Middle Area, it was not achieved in the Ribera region. More information is available on the website www.calidadelaire.navarra.es.
- The recovery rate of non-hazardous industrial waste is greater than 75% and greater than 45% for hazardous waste.
- The population exposed to noise in the region of Pamplona is 317,142 inhabitants. The affected area is 134.12 km².
- In the network for physicochemical control of surface waters, 65% of the sample points have very good water quality. In the network for physicochemical control of ground waters, 75% of the sample points have very good water quality.
- In the network for biological control of waters, 81% of the spring sample points in spring and 86% of minimum flood levels comply with the objectives of the 2012 Water Framework Directive.
- GHG emissions decreased over the past year by 5%
- The percentage of damaged trees in 2011 was 6.7%.
- The forest surface certificated was 32.4% in 2011.

RECOMMENDED WEBSITES

- www.navarra.es/
- www.navarra.es/home_es/Temas/Medio+Ambiente/
- www.agua.navarra.es
- www.calidadelaire.navarra.es/
- <http://meteo.navarra.es/>
- <http://cazaypesca.navarra.es>
- www.crana.org/
- <http://guiaderecursos.crana.org/>
- <http://idena.navarra.es/>

RECOMMENDED PUBLICATIONS

- Environmental report:
 - www.navarra.es/home_es/Temas/Medio+Ambiente/Informe+de+estado
- Bulletin "Entornos de Navarra":
 - www.navarra.es/home_es/Gobierno+de+Navarra/Organigrama/Los+departamentos/Desarrollo+Rural+Industria+Empleo+y+Medio+Ambiente/Publicaciones/Publicaciones+propias/Publicaciones+medio+ambiente/Publicaciones+Periodicas/boletines.htm



Basque Country

Statute of Autonomy: Organic Law 3/79, of 18 December (BOE Nº 306, 22 December 1979)

Area: 7,230 km²

Capital: Vitoria **Provinces:** 3 **Municipalities:** 251

Population (2012): 2,193,093 inhab

Population density (2012): 303.1 inhab/km²

Change in No. of inhabitants (2011-2012): 8,487



• DEMOGRAPHIC DISTRIBUTION (%) BY MUNICIPALITY SIZE (2012)

< 2,001 inhabitants: 5.2

2,001-10,000 inhabitants: 13.9

10,001-100,000 inhabitants: 40.7

100,001-500,000 inhabitants: 40.2

> 500,000 inhabitants: 0.0

• EMPLOYMENT BREAKDOWN BY SECTOR (%) (2012)

Agriculture: 1.3

Industry: 21.0

Construction: 6.1

Services: 71.6

• UNEMPLOYMENT RATE (2012)

14.9% (12.0% en 2011)

• GDP MP (2011)

31.058 €/inhab. (Spanish average = 100: 134.7%)

Variation 2010-2011: 3.0%

• GROSS DISPOSABLE HOUSEHOLD INCOME (2011)

20,034 €/inhab. Variation rate 2010-2011: -1.9%

• GVA BREAKDOWN BY SECTOR (%) (2011)

Agriculture: 0.7

Industry: 26.8

Construction: 9.7

Services: 62.8

AIR

• No. OF AIR-QUALITY MONITORING STATIONS IN THE AC (2011)

Urban: 21 / Suburban: 13 / Rural: 4

EXCEEDANCES OF THE LEGISLATIVE VALUES IN THE URBAN STATIONS OF THE CAPITAL OF THE AUTONOMOUS COMMUNITY (2011)

- Annual mean concentration of NO₂ in µg/m³ (limit value since 2010: 40 µg/m³): 20

- No. days/year average daily PM10 concentration exceeds 50 µg/m³ excluding African dust outbreaks (limit value since 2005: 35 days/year): 13

WATER

• AVERAGE HOUSEHOLD WATER CONSUMPTION (2010)

122 litres/inhabitant/day. Between 2000 and 2010, consumption decreased by 20.8%

• WATER DISTRIBUTION BY SECTOR (%) (2010)

Households: 52.1 / Municipal and other consumption: 17.0 / Economic sectors: 30.9

• WASTEWATER TREATMENT (2011)

96.8% of population equivalent provided with wastewater treatment compliant with Directive 91/271/EEC

• QUALITY OF INLAND BATHING WATER % SAMPLING POINT (2012)

Excellent: 100.0; Good: 0.0; Sufficient: 0.0; Poor: 0.0

LAND

• BREAKDOWN BY LAND USE (%) (2006)

Artificial surface: 3.6 / Agriculture: 31.1 / Forest: 64.7 /

Wetlands and water bodies: 0.7

NATURE

• TERRESTRIAL PROTECTED AREA (2011)

99,064 ha (13.7% of the AC)

• TERRESTRIAL NATURA 2000 NETWORK (2011)

145,500 ha (20.1% de la of the AC)

• WETLANDS INCLUDED IN THE SPANISH WETLANDS INVENTORY (2012)

30 wetlands 2,865.0 ha

• FOREST AREA ACCORDING TO IEPNB (2012)

Wooded: 397,306 ha / Non-wooded: 98.696 ha

• FOREST FIRES(2011)

113 outbreaks and 63 fires, affecting 347.4 ha

• FLORA AND FAUNA SPECIES

- No. of species of fauna and flora protected: 357

- No. of invasive alien species of fauna and flora: 48

COAST

• LENGTH COASTLINE

246 km

• SEA BATHING WATER QUALITY. % OF SAMPLE POINTS (2012)

Excellent: 72.2; Good: 18.5; Sufficient: 1.9; Poor: 7.4

WASTE

- **MUNICIPAL WASTE PER INHABITANT (2011)**
Total urban waste: 480 kg/inhab
Separately collected paper/cardboard: 76 kg/inhab
Separately collected glass: 24.9 kg/inhab
Separately collected packaging: 14.2 kg/inhab

AGRICULTURE

- **ORGANIC FARMLAND (2011)**
1,960.5 ha (0.9% of the total agricultural area)
- **IRRIGATED AREA (2012)**
9,911.8 (4.5% of the total agricultural area)
- **ORGANIC LIVESTOCK FARMING (2011)**
84 operators

ENERGY

- **ELECTRICITY DEMAND (POWERPLANT BUSBARS) (2011)**
19,706 GWh. Change compared with 2010: -4.9%
- **INSTALLED ELECTRIC POWER FROM RENEWABLE SOURCES (2011)**
335 MW: 16.1% hydraulic; 57.9% wind; 6.6% photovoltaic solar; 19.4% other renewable

TOURISM

- **No. OF FOREIGN TOURISTS PER INHABITANT (2012)**
0.61
- **HOTEL CAPACITY (2012)**
26,385 hotel beds (12.0 beds/1,000 inhab) y 4,068 beds in rural accommodation (1.9 beds/1,000 inhab)

TRANSPORT

- **VEHICLE FLEET (2011)**
1,309,534 vehicles. Growth (2000-2011): 24.5%
599.4 vehicle/1,000 inhab
- **PASSENGER CAR FLEET (2011)**
955,598 passenger cars. Growth (2000-2011): 16.4%
437.4 passenger cars/1,000 inhab
- **AIR TRANSPORT (2012)**
4,457,062 passengers. Growth (2000-2012): 3.1%
- **PORT FREIGHT TRAFFIC (2011)**
32.2 million t. Growth (2000-2011): 10.6%

URBAN AND INVESTMENT POLICY

- **LENGTH OF CYCLE PATHS (2011)**
621.9 km. Of which: 222.2 km in Araba, 236.0 km in Bizcaia y 163.7 km in Gipuzkoa
- **MUNICIPALITIES WITH A COUNCIL-APPROVED LOCAL AGENDA 21 (2012)**
239 municipalities. Of these, 198 have a ratified Action Plan and are implementing Action Plan projects. 239 municipalities have completed the LA21 assessment
- **INTERNAL EXPENDITURE ON R&D (2011)**
€ 1,397.2 million (1.95% of GDP)

ACCESS AND DISSEMINATION OF ENVIRONMENTAL INFORMATION IN THE AC

- **APPLICATIONS FOR ENVIRONMENTAL INFORMATION (2012)**
38 applications

RECOMMENDED WEBSITES

- www.ingurumena.net
- www.euskadi.net/natura
- www.ingurumena.ejgv.euskadi.net/r49-estamapt/es/

INFORMATION SOURCES AND NOTES ON METHODOLOGY

SOCIOECONOMIC DATA

Area: INEbase: Operaciones estadísticas: clasificación por temas: Entorno físico y medio ambiente / Entorno físico / Territorio / Población, superficie y densidad por CCAA y provincias.

Provinces and number of municipalities: INEbase / Demografía y población / Cifras de población. Padrón /Cifras oficiales de población: Revisión del Padrón municipal /Resumen por comunidades y ciudades autónomas/Distribución de los municipios por comunidades y ciudades autónomas y tamaño de los municipios.

Population: INEbase: Operaciones estadísticas: clasificación por temas: Demografía y población / Padrón. Población por municipios/ Población de municipios y unidades poblacionales / Cifras Oficiales de Población de los Municipios Españoles: Revisión del Padrón Municipal / Población por municipios, islas, provincias y CCAA / Último dato publicado: Población a 1 de enero de 2012.

Population density and change in population: Own preparation using previous data.

Demographic distribution by municipality size: INEbase: Operaciones estadísticas: clasificación por temas: Demografía y población / Padrón. Población por municipios / Población de municipios y unidades poblacionales / Padrón. Población por municipios / Cifras oficiales de población resultantes de la revisión del Padrón municipal a 1 de enero de 2012 (Real Decreto 1697/2012, de 21 de diciembre) / Resumen por Comunidades y Ciudades Autónomas / 3.2 Distribución de los municipios por comunidades y ciudades autónomas y tamaño de los municipios.

Employment breakdown by sector: INEbase / Sociedad / Mercado laboral / Encuesta de Población Activa / Comunidades Autónomas / 6.24 Ocupados por sector económico, sexo y comunidad autónoma. Valores absolutos.

Unemployment rate: INEbase / Sociedad / Mercado laboral / Encuesta de Población Activa / Comunidades Autónomas / 6.42 .

GDP (MP): INEbase / Economía / Cuentas económicas / Contabilidad nacional de España / Cuentas económicas / Contabilidad nacional de España. Base 2008 / Resultados / Serie contable 2000-2011 / PIB a precios de mercado.

Gross disposable household income: INEbase / Economía / Cuentas económicas / Contabilidad regional de España/Cuentas Económicas / Contabilidad Regional de España. Base 2008/ Enfoque institucional. Cuentas de Renta de los Households Último dato publicado: Serie 2008-2010 (28 diciembre 2012) / Principales resultados.

GVA breakdown by sector: INEbase / Economía / Cuentas económicas / Contabilidad Regional de España. Base 2008 / Serie contable / Tablas por comunidades autónomas. Serie 2008-2012.

AIR

- **Data from:** Air Quality Database. Directorate-General for Environmental Quality and Assessment and Natural Environment. MAGRAMA.

Notes on methodology: The indicator reflects the situation in the capital of the AC in 2011. For the purpose of calculating the exceedances, every station (urban, suburban, rural or background, industrial and traffic) with a suitable volume of data was included. The minimum data volume used for NO₂ was 50% (i.e., 4,380 hours per year), while for PM10 the minimum volume was 86% (minimum amount of data established by legislation for the purposes of assessment, i.e., 314 days per year). This distinction is made because the statistic chosen as the indicator for PM10 (number of days per year in which concentration exceeded 50 µg/m³) reflects isolated episodes and it is vital to obtain comprehensive data to ensure that the statistic is representative. However, in the case of NO₂, as the statistic is a mean, it is considered that a minimum data volume of 50% provides a representative figure.

WATER

- **Average household water consumption (2010):** INE, 2012. Survey on water supply and water treatment. Year 2010. Press release of 5/0//2012. Year 2000: Water statistics 2000. Press release of 12/12/ 2002.
- **Water distribution by sector (2010):** INEbase / Estadísticas sobre medio ambiente. Estadísticas medioambientales sobre el agua / Encuesta sobre el suministro y saneamiento del

agua / Resultados / Año 2010 Encuesta sobre el suministro y saneamiento del agua. Año 2010 / Suministro y tratamiento del agua / 1.4 Distribución de agua registrada por comunidades y ciudades autónomas y grandes grupos de usuarios.

- **Waste water treatment:** Information provided by Spanish EIONET Regional Focal Points.
- **Quality of inland bathing waters:** Ministry of Health, Social Services and Equality, 2013. Calidad de las Aguas de Baño en España. 2012. Colección Estudios, Informes e Investigación. Secretaría General Técnica.

LAND

- **Breakdown by land use (%) (2006):** Corine Land Cover 2006. National Geographic Institute (IGN in Spanish). Ministry of Development.

Notes on methodology: Forest area includes woodland, areas of natural vegetation and open spaces.

- **Area affected by erosion (INES 2002-2012):** Data from Soil Erosion National Inventory, 2002-2012. General Directorate for Rural Development and Forestry Policy. MAGRAMA.

NATURE

- **Protected area:** Nature Data Bank. Directorate General for Environmental Quality and Assessment and Natural Environment. MAGRAMA.
- **Wetlands included in the Spanish wetlands inventory:** Spanish Wetland Inventory. MAGRAMA web site. Inicio / Biodiversidad / Inventarios nacionales / Inventario Nacional de Zonas Húmedas.

Notes on methodology: The Spanish Wetlands Inventory only includes wetlands covered by resolutions published in the Official State Bulletin.

- **Forest area:** Directorate General for Rural Development and Forestry Policy. MAGRAMA.
- **Forest fires: MAGRAMA, 2013:** Forest fires in Spain. 1 January to 31 December 2012. Forest Fire Prevention Area. Directorate General of Nature, Environment and Forest Policy. MAGRAMA
- **Flora and fauna species:** Information provided by Spanish EIONET Regional Focal Points.

COAST

- **Length of coastline:** National Statistics Institute (INE). INEbase / Entorno físico y medio ambiente / Entorno físico / Operaciones estadísticas elaboradas por otros organismos / Territorio/ Principales resultados /Longitud de las costas y fronteras y Longitud de la costa española.
- **Sea bathing water quality:** Ministry of Health, Social Services and Equality, 2013. Calidad de las Aguas de Baño en España. 2012. Colección Estudios, Informes e Investigación. Secretaría General Técnica.

WASTE

- **Municipal waste:** Information provided by Spanish EIONET Regional Focal Points.
Notes on methodology: Differences may exist in the methodologies used in the calculations by the various autonomous communities, as well as in their definitions of waste.

AGRICULTURE

- **Organic farmland:** MAGRAMA, 2012. Agricultura ecológica en España. Estadísticas 2011.
- **Irrigated area:** Survey on Area and Yield of Crops (ESYRC 2012). MAGRAMA web site: MAGRAMA / Inicio / Estadísticas / Estadísticas agrarias / AGRICULTURE / ESYRC (Encuesta de superficies y rendimientos de cultivos).
Notes on methodology: total agricultural area includes arable and fallow land, greenhouses and family smallholdings.
- **Operators in organic livestock farming:** MAGRAMA, 2012. Agricultura ecológica en España. Estadísticas 2011.
- **Livestock trails length:** Information provided by Spanish EIONET Regional Focal Points.

ENERGY

- **Electricity demand at power plant busbars and installed capacity from renewable sources:** Red Eléctrica de España, 2012. El sistema eléctrico español, 2011.

TOURISM

- **No. of foreign tourists per inhabitant:** Institute of Tourism Studies web site (www.iet.tourspain.es): IET / Inicio > Estadísticas > Frontur > Informes Dinámicos > Información anual / Últimos informes. Año - 2012 / Entradas de turistas según Comunidad autónoma de destino principal
- **Hotel capacity:** National Statistics Institute web site (www.ine.es): INEbase: Operaciones estadísticas: clasificación por temas / Servicios / Hostelería y Turismo / Encuesta de Ocupación

Hotelería / Resultados anuales / Último dato publicado: Año 2012 (29 enero 2013)

- **Accommodation capacity in rural tourism establishments:** National Statistics Institute web site (www.ine.es): INEbase: Operaciones estadísticas: clasificación por temas / Servicios / Hostelería y Turismo / Encuesta de Ocupación en Alojamientos de Turismo Rural / Resultados anuales / Último dato publicado: Año 2012 (31 enero 2013)

TRANSPORT

- **Vehicle fleet and passenger car fleet:** Directorate General of Traffic, 2012. Anuario Estadístico General. 2011.
Notes on methodology: Vehicle fleet refers to trucks, vans, buses, passenger cars, motorcycles, tractors and other industrial vehicles.
- **Air transport:** AENA. Web site: Estadísticas de Aeropuertos. Estadísticas de tráfico. Pasajeros, operaciones y carga. Informes anuales. Reports for 2000 y 2012.
- **Port freight traffic:**
Data for 2011: Puertos del Estado web site 2012. Puertos del Estado » Estadísticas tráfico portuario » Resto de estadísticas » Anuarios estadísticos » Anuario Estadístico 2011 > Annex 1: Comunidades Autónomas > Tráfico portuario > Capítulo 2 Tráfico de mercancías embarcadas y desembarcadas.
Datos for 2000: Puertos del Estado, 2012. Anuario estadístico. Consulta en web: Puertos del Estado » Estadísticas de Tráfico Portuario » Anuarios Estadísticos de Puertos del Estado » Anuario Estadístico 2008 > Comunidades Autónomas. Tráfico portuario
Notes on methodology: Includes the total freight traffic (cabotage and foreign), fishing, provisioning and regulating traffic on ports managed both by the state and the ACs.

URBAN AND INVESTMENT POLICY

- **Length of cycle paths:** Data from Autonomus Focal Point of the Spanish Eionet Network.
- **Municipalities with a council-approved local Agenda 21:** Information provided by Spanish EIONET Regional Focal Points.
- **Internal expenditure on R&D:** National Statistics Institute web site (www.ine.es): INEbase: Operaciones estadísticas: clasificación por temas / Ciencia y Tecnología / Investigación y desarrollo tecnológico /Estadística sobre actividades de I+D / Resultados detallados / Año 2011 / Estadística de I+D 2011 / Resultados por Comunidades Autónomas / 4.1 Total sectores. Gastos internos totales y personal en I+D por comunidades autónomas y tipo de indicador. 4.1 Total sectores. Gastos internos totales y personal en I+D por comunidades autónomas y tipo de indicador.

ACCESS AND DISSEMINATION OF ENVIRONMENTAL INFORMATION

- **Applications for environmental information and visits to the environment website:** Data from the Office of Environmental Information. Technical Deputy Secretary General. Technical Secretariat. MAGRAMA.

RELEVANT INFORMATION, AND RECOMMENDED WEBSITES AND PUBLICATIONS

Information provided by Spanish EIONET Regional Focal Points.





Appendices

- I Index of acronyms, abbreviations and units
- II Thematic index of indicators
- III Contributors to report production and review

APPENDICES I: INDEX OF ACRONYMS AND ABBREVIATIONS

10YFP	10-Year Framework on Sustainable Consumption and Production
AC	Autonomous Community
AEMET	Spanish State Meteorological Agency (Agencia Estatal de Meteorología)
AENA	Spanish Airports Authority (Aeropuertos Españoles y Navegación Aérea)
BOE	Spanish Official State Gazette (Boletín Oficial del Estado)
CAMP	Comprehensive Air Monitoring Programme
CAP	Common Agricultural Policy
CFP	Common Fisheries Policy
CLC	Corine Land Cover (1990, 2000 and 2006)
CNAE	Spanish National Catalogue of Endangered Species (Catálogo Nacional de Especies Amenazadas)
DGT	Spanish Directorate-General for Traffic (Dirección General de Tráfico)
EC	European Commission
Ecoembes	Ecoembalajes España, S.A.
EEA	European Environment Agency
EEC	European Economic Community
EIONET	Environment Information and Observation Network (EEA)
EMAS	Eco-Management and Audit Scheme
EMEP/GAW/CAMP	European Monitoring and Evaluation of Pollutants/Global Atmospheric Watch/ Comprehensive Air Monitoring Programme
EMS	Environmental Management System
EU-15	Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, United Kingdom
EU-27	Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, United Kingdom
EUROPARC	Federation of Nature and National Parks of Europe
EUROSTAT	Statistical Office of the European Union
FAMILITUR	Spanish national tourism survey (IET)
FRONTUR	Spanish Border Survey of Inbound Tourism
GAW	Global Atmospheric Watch
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GVA	Gross Value Added
HISPAGUA	Spanish Water Information System

IDAE	Spanish Institute for Energy Saving and Diversification (Instituto para la Diversificación y Ahorro de Energía)
IEPNEB	Spanish inventory of Natural Heritage and Biodiversity
IET	Spanish Institute for Tourism Studies (Instituto de Estudios Turísticos)
IFN1, IFN2, IFN3, IFN4	Spanish National Forest Inventory – IFN1:1966-1975; IFN2:1986-1996; IFN3:1997-2007; IFN4: (commenced 2008)
INE	Spanish National Statistics Institute (Instituto Nacional de Estadística)
INES	Spanish National Soil Erosion Inventory (Inventario Nacional de Erosion de Suelos)
IPCC	Intergovernmental Panel on Climate Change
IPI	Industrial Production Index
JACLUMAR	Spanish National Sea Harvest Advisory Board (Junta Nacional Asesora de Cultivos Marinos)
MAHB	Major Accidents Hazards Bureau
MAGRAMA	Ministry of Agriculture, Food and Environment (Ministerio de Agricultura, Alimentación y Medio Ambiente)
MARM	Ministry of the Environment and Rural and Marine Affairs (Ministerio de Medio Ambiente y Medio Rural y Marino)
MFESO	Forest Map of Spain (Mapa forestal de España) [1:50,000 scale]
MITYC	Spanish Ministry of Industry, Tourism and Trade (Ministerio de Industria, Turismo y Comercio)
NP	National Park
OECD	Organisation for Economic Co-operation and Development
OMM	Observatory of Metropolitan Mobility (Observatorio de la Movilidad Metropolitana)
OSPAR	Oslo-Paris Convention for the Protection of the Marine Environment of the North-East Atlantic
PA	Protected Area
PM	Particulate Matter in the air
REPACAR	Spanish Paper and Cardboard Recycling Association (Asociación Epanola de Recuperación de Papel y Cartón)
RUSLE	Revised Universal Soil Loss Equation
SAC	Special Area of Conservation
SCI	Site of Community Importance
SEO	Spanish Ornithological Society (Sociedad Española de Ornitología)
SEPRONA	Nature Protection Service of the Civil Guard (Servicio de Protección de la Naturaleza de la Guardia Civil)
SICA	Basic Information System on Acoustic Pollution (Sistema Básico de Información sobre la Contaminación Acústica)
SNAP	Selected Nomenclature for sources of Air Pollution
SPA	Special Protection Area
TPE	Tourist Population Equivalent
UAA	Utilised Agricultural Area
UN	United Nations
UNEP	United Nations Environment Programme
UNWTO	World Tourism Organisation
UTM	Universal Transversal Mercator
WFD	Water Framework Directive

SYMBOLS, UNITS AND CHEMICAL COMPOUNDS

<	Less than
>	More than
µg	Microgram
€	Euro
1000 t	Thousand tonnes
AOT40	Accumulation Over Threshold: index of exceedance of the ozone threshold
BOD ₅	Five-day Biochemical Oxygen Demand
CCl ₄	Carbon Tetrachloride
CFC	Chlorofluorocarbon
CH ₄	Methane
CO	Carbon Monoxide
CO ₂	Carbon Dioxide
COD	Chemical Oxygen Demand
dB	Decibel. Measure of sound pressure level
dB(A)	A-weighted decibel
GRT	Gross Registered Tonnage
GT	Gross Tonnage: measure of tonnage of fishing vessels. In use since 1998 when it replaced Gross Registered Tonnage (GRT)
GWh	Gigawatt-hour
h	Hour
ha	Hectare
HBFC	Hydrobromofluorocarbon
HCFC	Hydrochlorofluorocarbon
hm ³	Cubic hectometre
inhab	Inhabitant
kg	Kilogram
km	Kilometre
km ²	Square kilometre
Kt	Thousand tonnes
Ktoe	Kilotonne of oil equivalent
kW	Kilowatt
kWh	Kilowatt-hour
l	Litre
L _{Aeq}	Equivalent continuous A-weighted sound pressure level. Expressed in A-weighted decibels (A)

L_{den}	Day-evening-night noise indicator. Measured in dB
Leq	Equivalent continuous noise level. Expressed in dB
L_n	Night time noise indicator. Measured in dB
m²	Square metre
m³	Cubic metre
mg	Miligram
Mt	Megatonne
MW	Megawatt
MWp	Megawatt peak
MWt	Megawatt thermal
N	Nitrogen
NH₃	Ammonia
N₂O	Nitrous Oxide
NO_x	Nitrogen Oxide
O₃	Ozone
P	Phosphorous
P₂O₅	Orthophosphate
PCB	Polychlorinated biphenyl
PCT	Polychlorinated terphenyl
PFC	Perfluorocarbon
p-km	Passenger-kilometre. Unit of measurement used for passenger transport, calculated by multiplying the annual number of passengers by the kilometres travelled.
PM₁₀	Particulate matter with a diameter of 10 microns or less
PM_{2.5}	Particulate matter with a diameter of 2.5 microns or less
POP	Persistent Organic Pollutant
ppb	Parts per billion
ppm	Parts per million
SF₆	Sulphur hexafluoride
SO₂	Sulphur dioxide
t	Tonne
TJ	Terajoule
t-km	Tonne-kilometre. Unit of measurement used for freight transport, calculated by multiplying the number of tonnes transported by the number of kilometres travelled.
VOC	Volatile Organic Compound

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APPENDICE III: CONTRIBUTORS TO REPORT PRODUCTION AND REVIEW

Spanish EIONET National Reference Centres

Alberto Orio Hernández (Air quality), Marta Muñoz Cuesta (Mitigation of Air Pollution and Climate Change), Susana Magro Andrade (Climate Change Impacts, Vulnerability and Adaptation), José Manuel Sanz Sa (Noise), Víctor Manuel Arqued Esquia (Inland water), Ainhoa Pérez Puyol (Coasts and marine environment), Carmen Asencio Castillejo (Fishing), Miguel Aymerich Huyghues-Despointes (Nature), Antonio Arozarena Villar (Land cover), Antonio Callaba de Roa (Contaminated sites), Carmen Tapia Carrasco (Waste), Teresa Barrés Benlloch (Sustainable Consumption and Production), Miguel Llorente Isidro (Natural and technological disasters), Daniel Rodríguez Álvarez Encabo (Energy), Mercedes Gómez Álvarez (Transport), José Luis Nicolás Rodrigo (Urban environment), Antonio García de la Paz (Environmental Information Systems), Fernando Die ortega (Instrumentos Económicos), Fernando Carreras Vaquer (Health and environment), Luis Eugenio Bernardo Carrascal and María Luisa Ballesteros Jarreño (Agriculture), Roberto Vallejo Bombín (Forest).

Spanish EIONET Regional Focal Points

José Manuel Moreira Madueño (Andalusia), Ana Martínez Prados (Aragon), Paz Orviz Ibáñez (Asturias), Margarita Femenia Riutort (Balearic Islands), Marifé Rivero Suárez (Canary Islands), Alfonso Peña Rotella (Cantabria), Sagrario Ruiz Díaz (Castile-La Mancha), Blanca Blanco García (Castile-Leon), Francesc Xavier Camps Fernández (Catalonia), Francisco Javier Martínez Medina (Ceuta), Vicente Domenech Gregori (Valencia), Martín Bastos Martín (Extremadura), María José Echevarría Moreno (Galicia), Ángel Martínez Garrido (Rioja), María José Gallego Muñoz (Madrid), Noelia Jodar García (Melilla), Inmaculada Ramírez Santigosa (Murcia), Fernando Alonso-Pastor del Coso (Navarre), Marta Iturribarría (Basque Country).

Other contributing experts

Air quality, air emissions and climate change: María José Cornide Cristóbal, Ana Isabel de la Peña, Marta Dopazo González, Rebeca Javato Martín, Santiago Jiménez Beltrán, María Pallarés Querol, David Poderoso Godoy, Francisco Reina Velázquez.

Water: Laura Acacio Sánchez, Miguel Ángel Bordás Martínez, María del Carmen Coletto Fiaño, Alfredo Corrochano Codorniú, Margarita Palau Miguel, Fernando Pastor Arguello, Antonio Pérez Baviera, Alejandra Puig Infante, Javier Ruza Rodríguez.

Soil: M Elena Caballero García, Jaume Fons-Esteve, Ángela Haro Maestro, Luís Martín Fernández, Araceli Martínez Rúa, Eduardo del Palacio Fernández-Montes.

Nature: Georgina Álvarez Jiménez, Alfredo Goenaga Sánchez, Ricardo Gómez Calmaestra, Elena Robla González, Araceli Gonzalo Delgado, Jaime Hervás González, Salustiano Iglesias Sauce, Mónica Puebla Estrada, José Luis Rubio García, Blanca Ruiz Franco, María Luisa Sánchez López, Gerardo Sánchez Peña, Iñigo Vázquez-Dodero Estevan, Cristina Viejo Téllez.

Coasts and marine environment: Sagrario Arrieta Algarra, Antonio Fernández and García de Vinuesa, María Jesús de la Fuente Álvaro, Itziar Martín Partida, José Ramón Martínez Cordero, Victoria Palacios Quereda, Javier Pantoja Trigueros, Concepción Rey Mejías.

Green economy: Gema de Esteban Curiel.

Environmental research, development and innovation: Laura Valeria Bonora Eve, Laura Hernández Garvayo.

Waste: Cesar Berrade Ursúa, Alicia Pollo Albéniz, Margarita Ruiz Sainz- Aja.

Agriculture: Yago Delgado Moya, Mónica Domench, Patricia López- Mancisidor.

Tourism: María Antonia Medina Muñoz.

Transport: Jesús Merchán Rubio.

Urban environment: María Soledad Perlado Hergueta, Iván Fernández Fernández.

Natural and technological disasters: Carlos Dueñas Molina, Raquel Fernández Peiteado, Antonia Garcés de Marcilla Val, Antonio Mestre, Gregorio Pascual Santamaría, Laura de la Torre Gutiérrez, Eugenio Sillero Maté.

In autonomous communities: Saray Aguinaga Alzate, Francisco Cáceres, Pilar Flores González, Luis Miguel Ginto Lacarcel, Pablo López García, Sonia Luján Gómez, Susana Llanos Serrano, María del Mar Martínez Beltrán, Carmen Raíndo Dávila, Margarita Vaquer Caballería, Covadonga Viedma Gil de Vergara.

Other contributing institutions

Spanish Plant Protection Association (Aepla).

Spanish Science and Technology Foundation, FECYT. Ministry of the Economy and Competitiveness. Institute for Energy Saving and Diversification (IDAE). Ministry of Industry, Energy and Tourism.

Nature Protection Service of the Civil Guard (SEPRONA) and the Civil Guard's Information Public Assistance Office. Directorate General of the Police and the Civil Guard. Ministry of the Interior.

Drafting and production

Miguel-Álvaro Aguirre Royuela, María Calvar Cerecedo, Javier Fernández Martínez, Óscar Herranz Baquero, Germán Méndez Magaña, Alfredo Quiroga Rodríguez, Raul Sabina Maldonado, Eva Vallejo González, María Tourné Whyte.



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PUBLICATIONS CENTER
Paseo de la Infanta Isabel, 1 - 28014 Madrid