



2011 Survey of resource efficiency policies in EEA member and cooperating countries

COUNTRY PROFILE:

Spain



Country information on resource efficiency policies,
instruments, objectives, targets and indicators,
institutional setup and information needs

May 2011

This country profile is based on information provided by Miguel Aguirre, Teresa Barres, and Carmen Requejo from the Ministry of Environment, and Rural and Marine Affairs (MARM). The information is current as of April 2011.

This country profile was prepared as part of the EEA-ETC/SCP 2011 survey of resource efficiency policies, which aims to collect, analyze and disseminate information about national experience in the development and implementation of resource efficiency policies in EEA member and collaborating countries. The work resulted in the following outcomes:

- **Short 'country profiles' (this document)** - self assessments prepared by countries, describing the current status of resource efficiency policies, including key strategies and action plans, policy objectives, instruments, targets and indicators used, institutional setup and information needs.
- **Summary report** - prepared by the EEA and ETC/SCP, the report reflects on trends, similarities and differences in policy responses, showcases selected policy initiatives from member countries and identifies information needs and knowledge gaps.
- A session on resource efficiency policies during the 2011 EIONET workshop to discuss further needs and to facilitate information sharing and experience exchange among EIONET members.

More information about resource efficiency policies, including an analytical report "Resource efficiency in Europe" and thirty one country profiles, can be found at:

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

1. Resource use in Spain – facts and figures

1.1 General Facts and figures about the country



Source:
<https://www.cia.gov/library/publications/the-world-factbook/index.html>

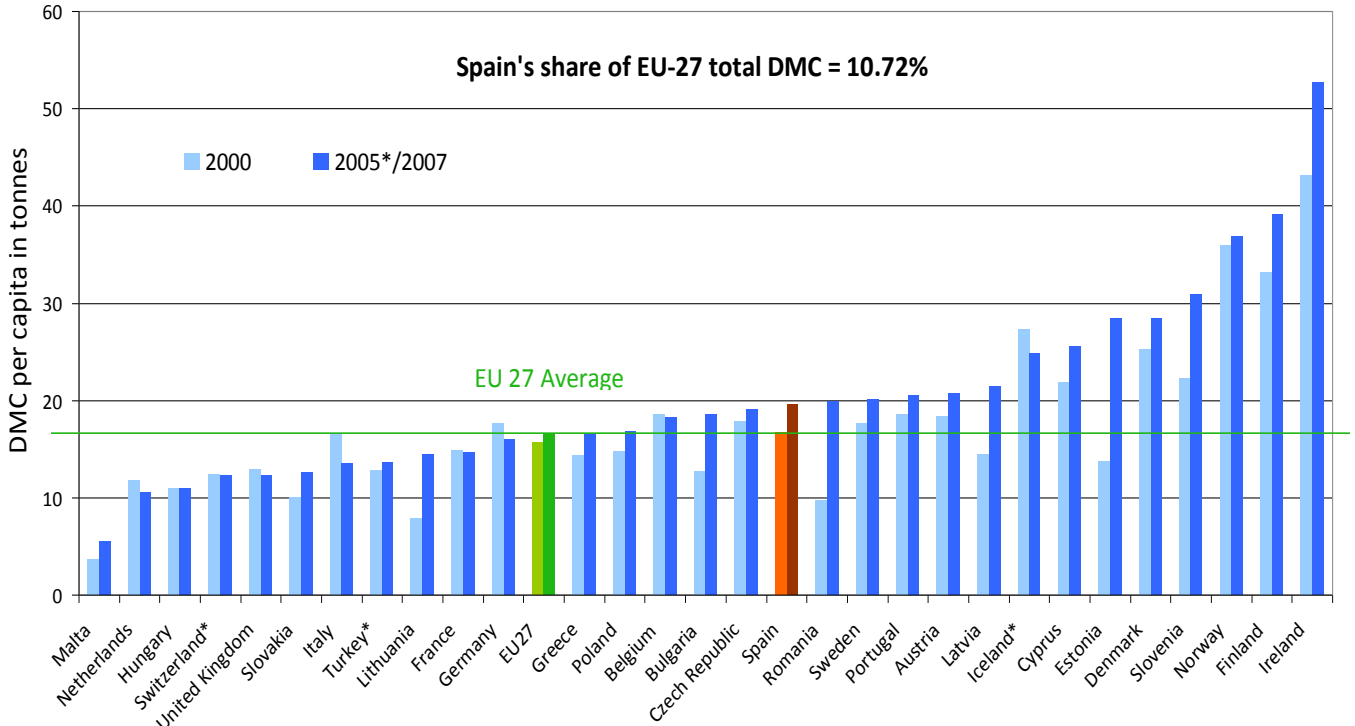
Population (projected inhabitants for 2010) [1]	47,021,031
➤ Percent of total EEA-32	7.8%
Surface area (km ²) [2]	505,370
➤ Percent of total EEA-32	8.9%
GDP at market prices – Purchasing Power Standard – Current Prices (Million Euro, 2009) [3]	1,116,305
➤ Percent of total EEA-32 (minus Liechtenstein)	8.6%
GDP per capita in Purchasing Power Standards (PPS) [4] EU27=100 (2009)	103
Urban population (rate of pop., 2010) [1]	78.9%
Main economic sectors and their share in total GDP (2009 est.) [2]	
Agriculture and fishing	2.9%
Industry, Energy and Construction	25.5%
Services (2010 est.)	71.6%
EU accession date [6]	1.1.1986

Additional relevant background information on Spain (and on 37 other EEA other member and cooperating countries) can be found at the SOER2010 website:

<http://www.eea.europa.eu/soer/countries/es>

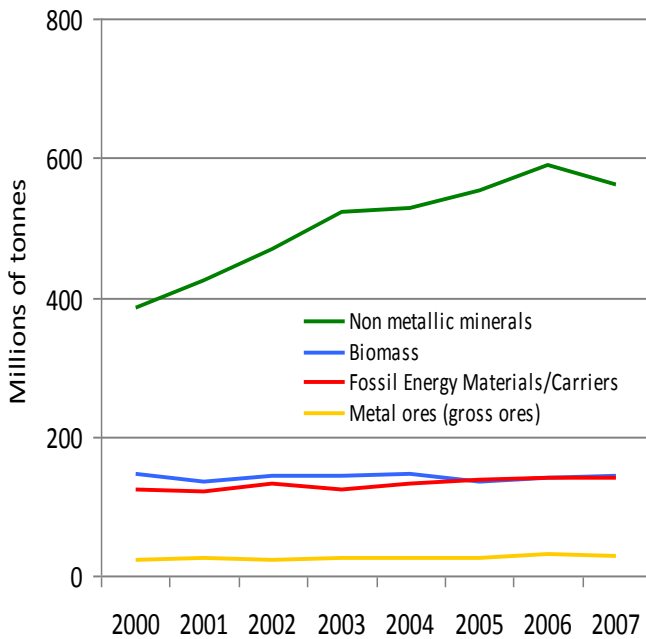
1.2 Facts and figures on resource efficiency for Spain

Use of resources per capita 2000 and 2007 [tonnes DMC/capita]



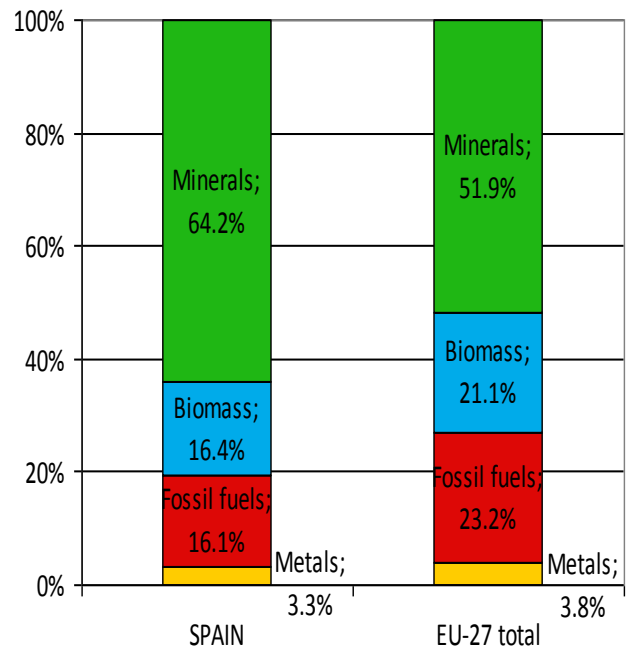
Source: Eurostat, OECD and Total Economy Database [7] * = For these countries data is for 2000 and 2005

Domestic Material Consumption by category over time, Spain



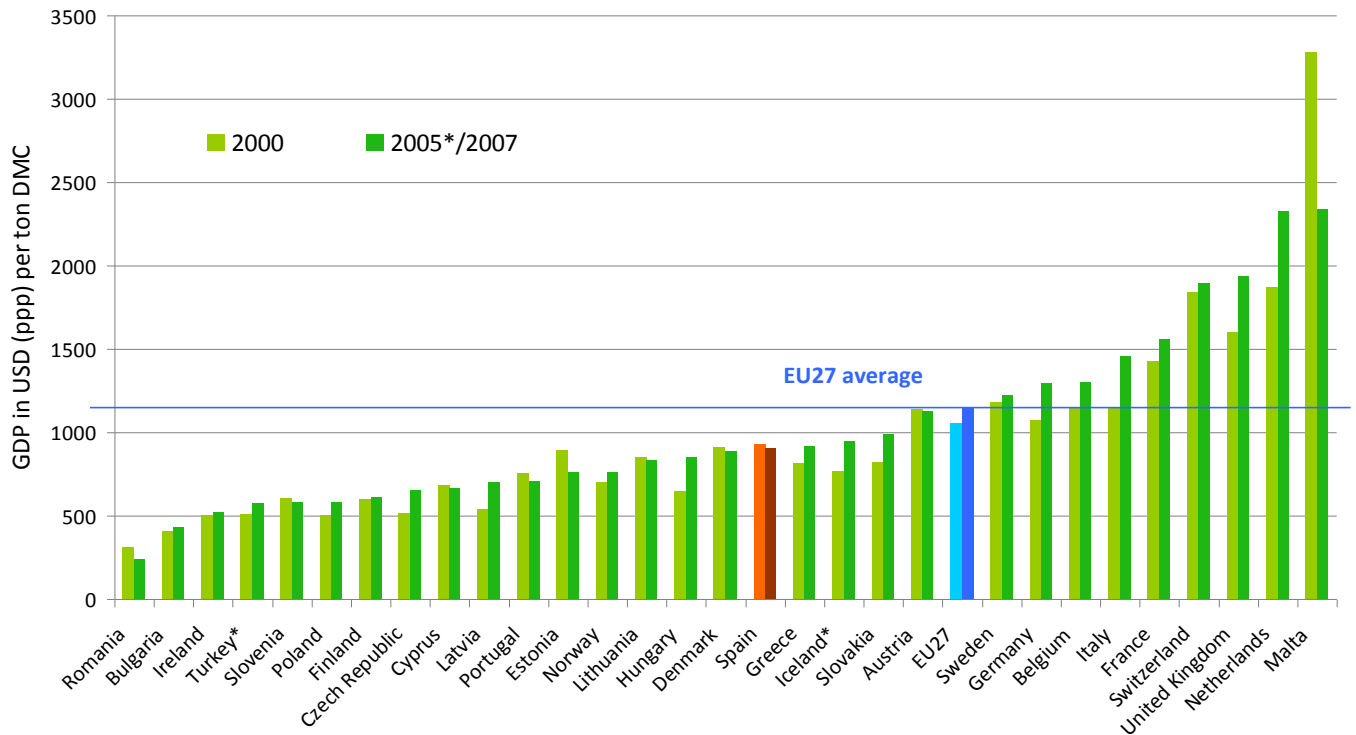
Source: Eurostat [8]

Breakdown of DMC by type of materials (2007)



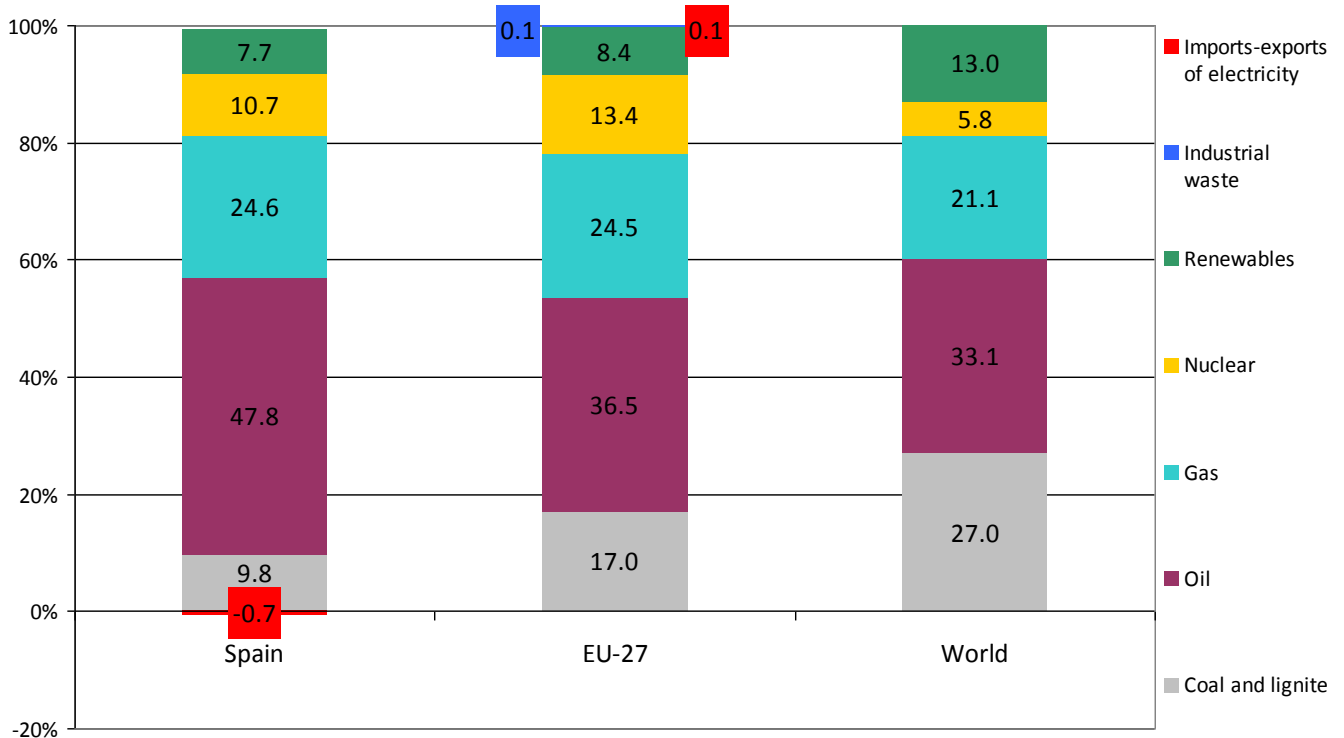
Source: Eurostat [8]

Material productivity 2000 and 2007 [USD ppp/ton DMC]



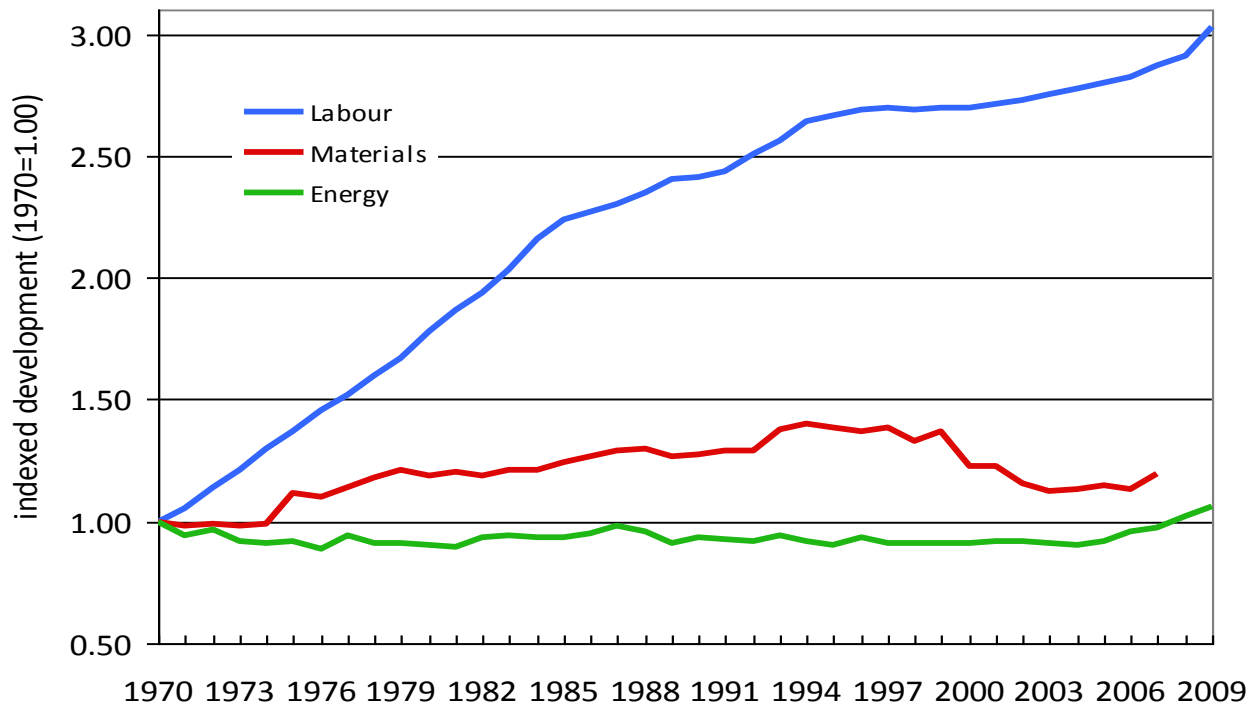
Source: The Conference Board, Total Economy Database, Eurostat [9]
 * = For these countries data is for 2000 and 2005.

Primary energy consumption



Source: Eurostat [10]

Trends in labour, materials and energy productivity, 1970-2009



Source: Total Economy Database, IFF Database, WI Database, Eurostat, OECD, IEA Database [11]

2. Evolution and main drivers for the development of resource efficiency policies

Waste policies are important pillars of resource efficiency policies. Promoting recycling, as well as prevention on waste, is a part of these policies.

The priority of waste prevention has been taken into account in the **National Integrated Plan on Waste (2008-2015)**, in its chapter on urban waste coming from households. It includes some general objectives on waste packaging, as well as some specific ones for one single use carrier plastic bags. These objectives include the diminishing of 50% from 2010 and a timetable to replace non bio-degradable plastic bags.

The **Draft of Waste Law** (transposition of the Waste 98/2008/EC Directive) includes some objectives for the reduction of this type of waste.

3. Overall Policy Approach for Resource Efficiency

Up to now, the topic of resource efficiency in Spain is addressed in different plans and strategies. Among them:

Spanish Strategy on Sustainable Development, approved in November 2007

http://www.la-moncloa.es/NR/rdonlyres/96270D48-C981-430E-8C19-352904495879/0/folleto_desarrollo_sost_DEF.pdf.

The Strategy establishes the need to use natural resources efficiently and rationally, particularly energy, water, biodiversity and soils, as well as to develop active policies to mitigate the determinants of climate change in all production sectors, and among them, energy and transport, in a holistic approach, in a framework of responsible consumption and production, ensuring the availability and quality of these resources in a compatible way with economic growth and climate change threats. Specific chapters of the Strategy, mainly the one on Consumption and Production, as well as the one on Climate Change, focus on increasing efficiency in the use and saving of resources in all the economic sectors. Measures foreseen in the Strategy include the Action Plan 2008-2012 on Energy Saving and Efficiency, National Plan on Waste 2008-2015, Sustainable Mobility Plans, Local and Urban Sustainability Strategies, Inter-modal systems in transport, particularly in merchandises, as well as promoting Tourism Sustainability Future E Plan, approved in 2009 (Ministry of Industry, Trade and Tourism). The Strategy takes into account indicators to facilitate the accomplishment and evolution in the different sectors.

Act 2/2011, March 4th, of **Sustainable Economy (BOE nº 55, March 5th)**.

This initiative aims at renewing the Production & Consumption model, going towards a more sustainable one, in terms of economic, social and environmental views and takes into account the objectives of the EU 2020 Strategy. The Law promotes competitiveness, public and private contracting, innovation, energy efficiency and saving, security and safety in energy supply, as well as sustainable mobility. The Law foresees an assessment of the accomplishment of its objectives, plans and programmes, particularly in terms of energy generation models planning, infrastructures

and energy networks, renewable energy plans, energy efficiency and saving plans. The Law includes initiatives to improve efficiency in infrastructures and transport services, and, among them, railway transport and networks, particularly merchandise transport. It also sets up the development of plans to assess the efficiency in the management, and policies to improve the training of managers, drivers, other workers, etc.

4. Strategies or action plans to improve resource efficiency for individual economic sectors, products or product groups

Several sector-strategies and plans focus on improving resource efficiency. Among them:

The **National Integrated Plan on Waste** (2008-2015) includes urban waste, dangerous waste, waste with specific legislation (such as WEEEs, old tyres, end of life vehicles, batteries, PCB/PCT, construction and demolition waste), polluted soils, as well as some agricultural waste and non dangerous industry waste that do not have a specific legislation but are relevant because of their amount and impact on the environment. The Plan includes the Biodegradable Waste Landfill Reduction Strategy, with which legal constrain is accomplished, landfill life becomes longer and impacts on the environment and particularly greenhouse gas emissions are reduced. Waste prevention and a more sustainable management of waste that cannot be avoided are basic objectives of this Plan, thus linked to efficiency objectives and criteria. The draft of Law on Waste (transposition of Waste Framework Directive 98/2008/EC) promotes resource efficiency through the promotion of waste prevention and a sustainable management of waste.

<http://www.boe.es/boe/dias/2009/02/26/pdfs/BOE-A-2009-3243.pdf>

There are several public and private initiatives to reduce the consumption of plastic bags in Spain, to change the consumption models, and contribute to reduce their waste production and saving resources related to their production as well as the impacts related to their production, management of their waste and eventual littering.

<http://www.marm.es/es/calidad-y-evaluacion-ambiental/temas/prevencion-y-gestion-de-residuos/>

The Spanish Ministry of Environment, and Rural and Marine Affairs is conducting in 2010 and 2011 a communication initiative aimed at consumers, producers and markets, all over the country. Some conferences and workshops are organized in the framework of the initiative.

www.deunavezportodas.es

Technical Code on Building: As the main background we should mention Royal Decrees 314/2006 (approval of Building Technical Code), 1027/2007 (approval of the review of the RITE regulation) and 47/2007 (approval of the procedure of New Built Buildings Energy Certification) and Law 38/1999 of 5th November, of the Town and Building Planning and Development Act. A new Decree on existing buildings energy certification was also prepared. Technical Code on Building is the legal framework that establishes the requirements to be accomplished by the new buildings with respect to the basic requirements on safety and fitness established in the legal framework on this subject. It includes some basic documents, among them one aimed at energy saving and other one to protection against noise, thus linked to efficiency criteria and requirements.

Other instruments are Solar Ordinances for Thermal Uses within the building sector. IDAE (National Agency responsible to promote energy efficiency and renewable energy in Spain) published a model on these Ordinances in 2001.

Council of Ministers of 20th July 2007 approved the agreement to establish a Saving and Energy Efficiency in State General Administration Buildings Plan, so that these Public Administrations and dependent Institutions, Societies and Organisms incorporate management and technical measures to save energy and exert a positive influence and example before the citizens.

Green Public Procurement (GPP): The National Plan on Green Public Procurement, approved by the Council of Ministers on 11th January 2008, aims at promoting environmentally-friendly practices in General State Administrations, Public Institutions and Social Security Entities Public Procurement, and, among them, those aimed at promoting resource efficiency. With respect to that, the Plan promotes measures that may have effects to reduce carbon footprint, to move toward climate change objectives, to reduce pressure on the environment, to contribute to a more sustainable use of natural resources, to drive innovation and to boost the competitiveness of the industries that supply goods and services to the Administrations and set an example for private and corporate consumers, so that citizens' expectations are met.

Its general objective is to reach the goal established by the EC in the Reviewed Sustainable Development Strategy before 31.12.2010. The Plan considers 8 products groups: Construction and maintenance; Transport; Electricity; Office equipment; Paper and publication; Furniture; Cleaning products and services; Events. It contains specific targets and goals for each product group in terms of % of purchasing and consumption, as well as purchasing guidelines. It establishes objectives to specific quantitative objectives of energy and water savings.

GPP in the State Administration of Spain is being monitored. The methodology is divided in two parts:

1. Internal audit through a questionnaire;
2. External audit through the study of tendering procedures.

The internal audit consists of an on- line questionnaire to evaluate the compliance with the targets set in the Plan. A preliminary report is under revision. The main conclusions are that there is a need to better compile the information and set specific relevant indicators. Some targets and goals should be revised. An extra support to some public entities to raise awareness and implement GPP strategies will be necessary. The external audit consists of the study of the tendering procedures in all the Spanish Ministries and product groups considered in the Plan, particularly consumption of paper, water and bio- fuel. The indicators include:

- % GPP of total procurement in terms of monetary value (indicator I),
- % GPP of total procurement in terms of number of contracts (indicator II).

Analysis will be done on compliance with the Plan (goals, guidelines and criteria) and inclusion of comprehensive GPP criteria and tender documents and awarded offer.

Water Resources

A.G.U.A. Programme (Actions for the Management and Use of Water) was presented in 2004. This Programme puts into new order water policy, through the explanation and extension of the specific actions designed to guarantee the availability and quality of water in each territory. The Programme includes actions to improve the management and supply of water of quality to optimize the existing storage and distribution infrastructures (both irrigation and urban supply ones), treatment, re-use and removing salt. Other specific plans and programmes are being executed to face up to the main water challenges in a sustainable way, particularly related to environmental management, improving water uses guarantee, management of risks like drought, floods, climate change, water planning, management of water in an international context, as well as Research, Development and Innovation. Among them:

- **National Plan on Water Quality: Water Treatment and Sanitation (2007-2015)**
- **Action Plan for a sustainable underground water management (2006-2010)**

National Plan on Irrigated Lands- Horizon 2008. Approved by Royal Decree 329/2002. Basic instrument for modernization, planning and promotion of irrigated lands. Royal Decree 287/2006, of 10th March, that regulates urgent works to improve and consolidate irrigated lands, with the aim to obtain adequate water saving to diminish damages caused by drought.

Action Strategy to improve and consolidate irrigated lands (2006-2007). The Strategy contributed to perform on 866,000 hectares, and included objectives such as repair of damaged structural elements, replacement of the old ones, rationalization of courses network, and replacement of non-efficient irrigation systems by more water efficient systems.

The approval of the Royal Decree on the **Irrigated Lands Sustainable Modernization National Strategy-Horizon 2015** is foreseen in 2011. Its aims include increasing efficiency in water management, promoting this resource saving, improving environment sustainability, harmonizing irrigation lands modernization with the maintenance of good agricultural practices and use of the most advanced technologies to avoid pollution of surface water and groundwater as well as improving conditions of flora and fauna, soils and landscape in irrigated areas.

Marine Environment Planning criteria foreseen in the **Law 41/2010, of 29th December, of marine environment protection.** This Law establishes the legal framework to achieve or maintain a good condition of the marine environment through its planning, conservation, protection and improvement. The marine environment is a public resource, and sustainable use shall be guaranteed. Criteria to plan marine environment will include precautionary principle and an ecosystemic approach taking into account scientist knowledge, so that the whole pressure of the activities is maintained in levels compatible with good environmental conditions. A sustainable use of marine goods and services by current and future generations shall be favoured.

Marine environment pollution shall be minimized (= minimize direct or indirect introduction or insertion in the marine environment of substances or energies as a result of human activity, included submarine sound sources, that cause or may cause harmful or damaging effects on live resources or on marine ecosystems, biodiversity loss included, risks for human health, obstacles for maritime activities, mainly fisheries, tourism, leisure activities and other authorised uses of the sea, as well as marine water quality changes that restrict its use and reduce its leisure value, or, in

general terms, a damage on the sustainable use of marine goods and services, its resources included). Sectoral policies will be compatible and shall adapt to the objectives of marine strategies.

Energy

Council of Ministers approved on 20th July 2007 a new Action Plan, period 2008 – 2012, of the **Spanish Strategy on Energy Efficiency and Saving 2004-2012**. A saving of 87.9 million oil equivalent tonnes (equivalent to 60% of the primary energy consumption in Spain in 2006) will avoid the emission of 238 million tonnes CO₂ to the air. This Plan is in accordance to Directive 2006/32/EC.

Ministry of Industry, Tourism and Trade, through Energy Diversification and Saving Institute (IDAE) has promoted a programme to encourage enterprises to do energy saving and efficiency technologies investment projects located in at least two Autonomous Communities territories, as well as innovative and outstanding projects in industry, building, services, energy transformation or transport areas. In the 2010 call 104 projects applied, from which 62 were evaluated favourably by IDAE and an Independent Experts Commission, 43 of them received a subsidy. The amount of the subsidy is 60% to 80% of the eligible investment. Like in previous calls, there are beneficiaries in industry sector (paper, food, chemistry, pharmacy, and steel industry), hotel business, trade, and public and private vehicle fleet renewal. It is estimated that energy saving and efficiency initiatives related to the implementation of these projects will save 61,000 oil equivalent tons/year and 200,000 tons CO₂ per year.

<http://www.idae.es/index.php/mod.pags/mem.detalle/idpag.514/relcategoria.1160/relmenu.138>

With reference to biomass for energy use, **Renewable Energy Plan (2005-2010)** foresees increasing from 2004 production level (344 MW) to 1,695 MW by 2010. Households accounted for 48.5% of total consumption in 2005, pulp and paper 17.6%, timber & furniture industry 12.23%. Biomass in Spain is, both in electric and in thermal production, the most important renewable (IDAE data, 2009), 3.9% of energy supply contribution, followed by aeolian (2.4%) and hydraulic (1.7%). "Pellets" production in Spain has increased (x10) from 2006 to 2009 (600,000 tons in 2009). Gasification technology in co-generation <2MW plants is outstanding in Spain. Concerning co-combustion, several power-plants with agri-forest biomass are being tested.

Renewable Energy Plan (PER) established that 6% of the electric power in Spain should come from biomass. New PER and Renewable Energy National Action Plan (PANER) 2011-2020 aim at a more ambitious target (installed power 1,695 MW). According to IDAE view, to promote renewable based power generation mainly in households, energy services enterprises are essential. Andalucía is because of reasons of surface and climate the Autonomous Community with a highest potential to produce energy from biomass. Several plants in Jaen and Malaga provinces use olive waste. Main enterprises in this sector are ENCE, Valoriza Energía, Oleica el Tejar, Guascor, CGC Biomasa, Iberdrola and pulp and paper Spanish sector, represented by the Pulp and Paper Manufacturers National Association (ASPAPPEL), located most of them in Galicia, Andalucía and Asturias and generating 4,000 direct jobs.

Preliminary conclusions on the basis of the Spanish experience indicate that biomass can have very important uses, both for energy as well as material use (composting, others).

With respect to the Industry sector, Royal Decree 616/2007 that promotes co-generation (Directive 2004/8/EC) has contributed to improving energy efficiency in that sector. With respect to electricity and Gas sectors, Council of Ministers of 30th May 2008 approved an Electricity and Gas Sectors Planning document (2008-2016) that aims at ensuring safety, security and quality of energy supply in the medium and long term perspective.

Transport

The Spanish Government approved in 2005 the **Strategic Plan on Infrastructures and Transport (2005-2020)** (PEIT). PEIT deals with mobility and transport in an integrated way and establishes general guidelines on Central Administration competence transport policies. These guidelines are related to resource efficiency, in terms of correcting modal imbalances in transport system, promoting most sustainable systems, particularly railway and maritime transport; promoting inter-modal systems, both in passengers and merchandises, to better use the potentialities of all the transport systems; promoting public transport, rational use of private cars and a sustainable urban transport; promoting resources to better preservation, maintenance and improvement of the existing terrestrial, maritime and aerial transport infrastructures; promoting a better insertion in the international transport system, and mainly with other European countries.

The Council of Ministers has approved on 30th April 2009 the **Spanish Strategy on Sustainable Mobility** (EEMS). This Strategy is the national reference integrating principles and tools on sustainable and low carbon mobility. Transport systems have to respond thus to the economic, social and environmental needs and at the same time minimize their negative impacts. 48 measures are articulated in 5 areas: territory, transport and infrastructures planning, climate change and energy dependency reduction, air quality and noise, safety and health, and demand management. Mobility sustainable alternatives to private car, inter-modal alternatives and urban planning are analyzed in the Strategy. Some conclusions related to efficiency are linked to energy, as well as to updating infrastructures, mainly in railway, and logistics, and the need to coordinate transport policies and urban planning. It can be underlined that the current State Soil Law includes also important principles and techniques linked to mobility.

Implementing the Strategy requires the participation of all the Administrations involved and stakeholders. Current coordinating instruments are: Cities in Climate network, Sustainable Local Development network of networks, National Council on Climate, Coordination Commission for Policies on Climate Change, Metropolitan Mobility Observatory and several mobility *fora*.

The **Draft of Sustainable Economy Law** modifies the Law 16/1987 and updates economic, energy and environment efficiency criteria. It deals with improvement on energy efficiency of transport fleet, efficient fleet management and training plans, promotion of new technologies in fleet management with the criteria of energy efficiency, development of transport enterprises energy certification, fleet renewal of public passenger and merchandise fleet and incorporation of more energy efficient vehicles, development of training programmes, promoting energy efficiency labels, among others. Law 12/2007, of 2nd July, that modifies Law 34/1998 of Hydrocarbure Sector () includes the obligation to use bio fuels in transport in accordance with Directive 2003/55/EC on common rules for natural gas internal market.

Green Public Contracting and Purchase gives important opportunities on resource efficiency in sustainable transport.

With reference to public transport resource efficiency, some analysis exercises have been done on fiscal instruments on electric drive with respect to diesel drive, as well as on allowances on CO₂ emissions in electric railway and other modal transports. Some preliminary conclusions indicate that taxes on electricity supported by electric railway and exemption of payment of hydrocarbon tax in air transport would also need a further analysis in terms of resource efficiency in Spain.

There are also some research projects on the reduction of energy consumption in public transport. Among them, in the case of railway, EnerTrans and ElecRail. Other initiatives are those of the Spanish Railway Foundation (FFE). In cooperation with the Diversification and Energy Saving Institute (IDAE), FFE has developed a methodology to assess the energy efficiency of mobile railway material and furniture. The methodology aims at defining a homogeneous and commonly acceptable method to attribute to each train, in each one of the types of service and infrastructure, its energy consumptions and associated CO₂ emissions.

Other initiatives related to railway transport refer to energy stock/accumulation and return to public network (Madrid Underground Railway and ADIF are examples of operators that are testing stock in ground and CAF has trains that make possible stock on board in the train; Bilbao Underground Railway returns energy in direct current); promoting electrical drive both in local/suburban trains and in high speed and long distance trains foreseen in PEIT; economic driving and operation (experience in economic driving in high speed since 1994 in Madrid-Sevilla railway line); use of solar panels in Valencia Underground Railway facilities (10,400 panels in a surface of 18,000 square meters, 3,100 MWh/year production, saving 3,260 ton CO₂, saving 1.3 Million € in electrical invoice).

Talgo system being used in most important long distance services in Spain (as well as in some High Speed Trains (HST) and international trains) is another example of resource efficiency (=energy savings in traction and train maintenance; Talgo cars are much lighter and safer than other alternatives; HST consume the same or less energy than conventional trains in terms of consumption magnitude order; according to some studies, not only energy efficiency is increased in train operation, but also in the whole transport system, although each particular case must be studied separately: it doesn't state that HST are the best solution for all purposes, and that all but local services served by conventional rolling stock should be replaced by HST. Conventional trains are a good supplement for HST and in some cases may be more effective than the others. One of the best options for implementing HST is in those corridors in which they can be a suitable alternative to air transport).

TOURISM

Tourism in Spain is an important economic sector (10% to 12% GDP), that has or may have strong effects on natural resources, due to the population increase in short time periods and concentration in the coastal areas. **Tourism Plan 2020** approved by Council of Ministers on 8th November 2007 aims at making more competitive and sustainable the Spanish tourism system. This Plan promotes a new model for mature tourist destinations, innovative products and sustainability commitments. It also revalues resources that promote a socio-territorial tourism balance, and promotes a deeper knowledge of tourism and innovation. "Renove" Plan (2008 and 2009) of tourist facilities and infrastructures has been approved by the Spanish Council of Ministers on 21st November 2008.

Food safety. Natural resources provide human food. The best guarantee to avoid dangers related to food is to consider it in a holistic and integrated way. Food chain can be considered a “whole cycle, from farm to table, that starts by primary production and finishes by consumption”. European as well as Spanish policies have promoted protection regulations and control institutions. The starting point is **the 2000 White Book on food safety** and the Directive 2001/95/EC, transposed by the Royal Decree 1901/2003, of 26th December, on general safety of products, and the Law 44/2006 of 29th December, of improvement of consumers’ protection (BOE 312, 30th December 2006).

The Spanish Agency for Food Safety attached to the Spanish Health Ministry is the Authority that guarantees the highest food safety as a public health basic aspect, promotes citizens health and their confidence and choice capacity in and on food that they consume, guarantees the effectiveness of food controls to reduce the risks of diseases transmitted or vectored by food, promotes a production sector that considers food safety as a strategy of competitiveness, promotes the consumption, access and information on healthy food to consumers and agri-food sector stakeholders.

Law 11/2011, of 5th July, Royal Decree 709/2002, of 19th July,

http://www.aesan.msc.es/AESAN/web/sobre_aesan/sobre_aesan.shtml

Green Public Contracting and Purchase gives important opportunities on resource efficiency in sustainable and safe food consumption through best procedures, logistics and management of food resources in Public Institutions, also as an example for private action.

Current works to prepare the **Draft of National Plan on Agricultural Environmental Quality**. The Law 45/2007, of 13th December, of Rural Environment Sustainable Development, establishes in its Article 19.3 on Environmental Planning, that a National Plan on Agricultural Environmental Quality will be approved. It will include Programmes on agriculture and organic farming waste reduction, re-use and sustainable management, as well as Programmes on fertilizers and pesticides sustainable use and reduction. A working group is identifying the main items to proceed to prepare the Draft of Plan. The Plan takes into account other existing experiences, Plans and Strategies. Among them, the Spanish Strategy to reduce biodegradable waste landfill; the execution of the Royal Decree 1973/2008, of 28th November, that regulates subsidies to the Autonomous Communities of Andalucía, Aragón, Baleares, Castilla-La Mancha, Castilla and León and La Rioja to implement and develop degasification infrastructures in waste landfills; the urgent execution of initiatives established in the Royal Decree 1823/2009, of 27th November, to close illegal landfills in accomplishment of landfill regulation, as well as biogas collection from landfills; bio digestion infrastructures; etc.

Cross-cutting issues. Long-term cross-cutting issues linked to efficiency have been included in the Spanish Strategy on Sustainable Development. Some of them are developed as follows: implementation of REACH Regulation (Register, Assessment and Authorisation of Chemicals); development of the Spanish Strategy on Air Quality; implementation of Stockholm Convention on Persistent Organic Pollutants (POP) through the National Plan on POP; 2nd Emissions Reduction National Programme; “Renove” Plan to restore houses and buildings and energy efficiency; energy audits and saving and efficiency plans on General Public Administration buildings; National Integrated Plan on Waste (2008-2015); Renewable Energy Promoting Plan (2005-2010); Spanish Coastline Environmental Strategic Study on marine aeolian energy development; “Vive” Plan for

cars less than 3.5 tonnes and subsequent 2000E Plan; National Allowance Plan on Emissions (2008-2012).

Concerning CO₂ geologic storage, Council of Ministers approved on 9th April 2010 to send to the Spanish Parliament the draft of Law on CO₂ geologic storage, that transposes Directive 2009/31/EC of EP and Council modifying Directives 85/337/EEC of the Council, 2000/60/EC, 2001/80/EC, 2004/35/EC, 2006/12/EC, 2008/1/EC and Regulation (EC) 1013/2006 (Law 40/2010, of 29th December, <http://www.boe.es/boe/dias/2010/12/30/pdfs/BOE-A-2010-20049.pdf>) This transition technology can contribute to mitigate climate change in terms of storage of CO₂ of industry plants on the basis of previous EU studies that estimate potential emissions reductions in 2030, quantified tentatively in 15% of the average required reductions in EU. A safe development for people and environment of this technology and industry investments in the framework and specific energy, industry and geologic Spanish conditions has been considered in the draft of Law.

5. Individual types of resources identified as priority for national or sector-specific resource efficiency policies

The topic of resource efficiency in Spain is directly or indirectly addressed in some related legal definitions. Among them, Natural Resources, Biological Resources, Genetic Resources, Fishery resources, Sustainable Use of Natural Heritage, as well as Sustainability.

Law 42/2007, of the Natural Heritage and the Biodiversity:

- **Natural Resources:** every component in the nature, susceptible to be used by the human being to satisfy his/her needs and with a real or potential value, such as natural landscape, surface and underground water, soil, subsoil and agricultural, forest, hunting and protecting land, biodiversity, geo-diversity, genetic resources and ecosystems that support life, hydrocarbons, hydroelectric, aeolian, solar, geothermal and similar resources, air, radio-electric spectrum, minerals, rocks, other geological renewable and non renewable resources.
- **Biological Resources:** genetic resources, organisms or part of them, populations, or any other type of biotic component of the ecosystems with a value or actual or potential use for the human being.
- **Genetic Resources:** genetic material with an actual or potential value.
- **Sustainable Use of Natural Heritage:** use of its components in a way and rhythm that do not cause their reduction in the long term, so that possibilities to contribute to satisfaction of the needs of current and future generations are maintained. [In this sense, sustainable and efficient could be considered synonyms]

Law 3/2001, of Sea Fisheries:

- **Fishery Resources:** live marine usable resources, as well as their skeletons and other products from them.

Resource efficiency is included in several national and sectoral policies.

AIR

An outstanding instrument in the framework of the fight against climate change is the Action Plan 2008–2012, of the **Spanish Energy Efficiency and Saving Strategy 2004-2012**. The Plan specifies measures for each of the 7 sectors included (Industry; Transport; Building; Public Services; Building Equipment and Office Automation; Agriculture; and Energy Transformation).

BIODIVERSITY

Law 42/2007, of 13th December, **of Natural Heritage and Biodiversity**, establishes the basic legal framework of conservation, sustainable use, improvement and restoring natural heritage and biodiversity, as a part of the duty to preserve and the right to enjoy an adequate environment for the development of the person, such as stated in the Spanish Constitution. The Law establishes the instruments needed to develop knowledge and planning of natural heritage and biodiversity: Inventory, Strategic Plan, Categorize, conservation and restoring habitats and natural spaces, etc. The Law 42/2007 also establishes general principles to regulate some species hunting and fisheries, a competence of Autonomous Communities.

Spanish Forest Strategy (1999), whose objective is forest policy planning at national level and complying with international commitments (United Nations, FAO, European Forest Strategy, etc.). This strategy is based on the **Forest Law (1957)** and takes into account current public administrations structures and competences. Instruments established to promote forest resources conservation include the National Forest Inventory, Public Interest Forest Catalogue, Forest Damage Monitoring Networks, forest fire fighting, hydro-forest restoring, pests fighting, climate change fighting, etc. The Strategy is linked to other initiatives to protect and sustainably use biodiversity, Natura 2000 network, water resources and rural development.

The Law 45/2007, of 13th December, **on Rural Environment Sustainable Development**, establishes the basis on a State rural policy, adapted to the Spanish rural environment economic, social and environmental conditions, to complement the implementation of European and sectoral policies and reach a sustainable development. The Law has been implemented through the Sustainable Rural Development Programme approved by Royal Decree 752/2010, of 4th June.

The **Law 3/2001 of Sea Fisheries** establishes the legal framework and principles of fisheries and their economic and production sector and activities based on the exploitation of live marine resources, fish industry, trade and research. A draft of Sustainable Fisheries Law to update EU legal framework is under discussion at the Parliament.

WATER

Autonomous Communities have developed legal frameworks to promote sustainable water consumption through saving measures. Thus, Madrid Community Law 3/1992, of 21st May, establishes measures on the water supply in Madrid Community. The measures were approved by Decree 97/2005, of 29th September. These include limitations on private gardens irrigation or public garden grasslands (historical gardens except), as well as swimming pools.

Municipalities have developed some initiatives. Among them, Madrid Municipality Ordinance of 31st May 2006 of Water Efficient Use and management in Madrid (ANM 2006/50). It aims at

ensuring in the long term quantity and quality of the water supply, promoting consumption reduction, use efficiency and raising public awareness.

Madrid Municipality also approved in 2005 summer a Decree that included 18 measures to save water in municipality services. In 2010 Madrid Municipality has developed a campaign (“Madrid needs more water”) to raise public awareness and small and medium size enterprises as well as institutions on World Water Day.

MINERAL AND OTHER GEOLOGICAL RESOURCES

The Law 22/1973, of 21st July, of **Mines and its implementation** regulation, approved by Royal Decree 2857/1978, are the legal framework on these resources, except hydrocarbons and gases. All these resources are public resources that can be worked directly by the Spanish Administrations or indirectly.

The Spanish Association on Standardization (AENOR) has approved Standards UNE 22470 of 2008 on Sustainable Mining Management Indicators and UNE 22480 of 2008 on Sustainable Mining Management Systems requirements. Standard UNE 22470 aims at establishing social, environmental and economic indicators to assess sustainable mining management systems. This standard is to be applied to research, mining and mining waste use. Requirements of the system are included in Standard UNE 22480. Standards are voluntary measures approved by a certified Standardisation Institution. They contain technical specifications based on experience and development results.

SOIL

The current **State Soil Law** has been approved by Legislative Royal Decree 2/2008, of 20th June. This Law establishes that public policies related to soil use aim at using this resource in a compatible way with the general interest and according to the sustainable development principle. Policies have to promote a rational use of natural resources and harmonize the economy, employment, social cohesion, equal treatment and opportunities for men and women, health, safety and security and environment protection requirements, thus contributing to preventing and reducing pollution, particularly:

- a. Effectiveness of the nature conservation and improvement measures, cultural heritage and landscape protection.
- b. Rural environment protection
- c. An efficient soil occupancy in urban environment, equipped with the proper infrastructures and services and with a functional combination of soil uses

Order ARM 2444/2008, of 12th August, approves the **National Programme on Combating Desertification (PAND)**, fulfilling United Nations Convention on Combating Desertification ratified by Spain in January 1996. 17.85% of the national surface has a desertification high or very high risk. PAND has been elaborated in synergy and coherence with sectoral policies, particularly agriculture and rural development and has taken into account the **National Plan on Adaptation to Climate Change** and the **Spanish Strategy on Biodiversity Sustainable Use and Conservation**.

COAST AND MARINE ENVIRONMENT

Law 22/1988 of 28th July, of coasts and seashore aims at determining, protecting, use and policy on the public border of land near the sea and coast. Some of the objectives of the law include:

- a. Determining the public marine-terrestrial area and ensure their integrity and proper conservation, and adoption of the necessary protection and restoring measures.
- b. Guarantee the public use of the sea, its border and other public sea-terrestrial area, with no more exceptions than these related to public interest and properly justified.
- c. Regulate the rational use of these goods in terms of compatibility with their nature, aims and landscape, environment and historical heritage respect.
- d. Achieve and maintain a proper water and border and coast quality.

One of the main instruments to protect the coast is the definition of the bounds of public sea-terrestrial area at the coast. By 30 June 2010 these works reached 93% of the 10,000 kilometres of length of the Spanish coast. On the other hand, the Water Framework Directive (2000/60/EC) and the Marine Strategy Framework Directive (2008/56/EC) is the basic legal framework to reach a good environment quality and conditions of the marine environment to be followed in the next years.

6. Strategic objectives, targets and indicators on resource efficiency

The Spanish **Strategy on Sustainable Development** (2007), (Chapter 6) establishes a follow-up mechanism through public reports to inform on the progress in measures implementing and achieving main and specific objectives. To this purpose the Strategy establishes a set of indicators.

Green Public Procurement in the State Administration of Spain is also being monitored. The methodology is divided in two parts: Internal audit through a questionnaire (part 1); External audit through the study of tendering procedures (part 2). The indicators include: % GPP of total procurement in terms of monetary value (indicator I), % GPP of total procurement in terms of nº of contracts (indicator II). Regional Governments are also putting into practice some initiatives (Basque Country).

7. The institutional setup for the development and implementation of resource efficiency policies

Promoting resource efficiency measures is a shared responsibility (Spanish Central Government, Autonomous Communities and Municipalities). There are some cross-cutting linkages to several policy fields, covering specific issues and aspects related to resource efficiency.

The Monitoring Report of the Spanish Strategy on Sustainable Development is done by the “Inter-Ministerial Group for the Review of the EU Sustainable Development Strategy and Spanish Sustainable Development Strategy”. A first report has been published in June 2010 and it includes the evolution of the main indicators which has since been put into practice in the Spanish Strategy (2007).

8. Selected policy instruments or initiatives on resource efficiency presented in more detail

Current IDAE (Energy Diversification and Saving Institute) initiatives on Energy Efficiency and Renewable in Spain:

- National Integrated Plan on waste, as well as Autonomous Communities Plans on Waste and on Waste prevention are instruments that contribute to promote resource efficiency.

Furthermore, there are a number of initiatives related to resource efficiency in Autonomous Communities and Municipalities, as well as private initiatives. Among them:

- **Initiatives in Public Transport Metropolitan Areas** (17 Areas in 2009). <http://www.observatoriomovilidad.es/es/publicaciones/informes.html>
- **Cities for Climate Network** (local policies against climate change). This network represents cities totalizing 27.3 million inhabitants. <http://www.marm.es/es/calidad-y-evaluacion-ambiental/temas/informacion-ambiental-indicadores-ambientales/>
- **Volunteer Services in Rivers Programme**. This programme implements the Rivers Restoring National Strategy in its priority to promote public participation in water mass management and restoring. 4 calls have been developed (2007, 2008, 2009 and 2010), with an increasing participation. In 2009 89 organizations applied (a total of 103 projects, from which 53 were selected). 2010 participation was estimated in 50,000 volunteers. <http://www.marm.es/es/agua/temas/delimitacion-y-restauracion-del-dominio-publico-hidraulico/dominio-publico-hidraulico/estrategia-nacional-restauracion-rios/voluntariado.aspx>
- **Environmental Education National Centre (CENEAM)**, Ministry of Environment, and Rural and Marine Affairs. This environmental education reference centre has been promoting citizens environmental responsibility for 20 years. With reference to education for efficient use of natural resources, activities are developed in projects that can be read in annual reports of CENEAM (CENEAM at school, 2009; Green Households (3,000 households in 2009) <http://www.marm.es/es/ceneam/default.aspx>

9. Topics of interest and information needs for follow up work

The following topics could be seen of interest:

- Green Public Procurement as a tool to promote resource efficiency policies.
- Raising awareness and encouraging energy efficiency worldwide and particularly improved efficiency in the generation and distribution of power, energy performance in buildings, fuel efficiency in cars, the case of efficiency in resources when promoting the railway transport of passengers and merchandises.
- Design of a road-map to promote innovative low-carbon technologies and eco-innovation (Getting from research to markets, improving market conditions, to attract private and public investments for the development and demonstration more efficient resource technologies).
- Efficiency of the entire “production and processing chain” in some study cases: food, waste food prevention, timber as a source of energy and products, efficiency in the processing of foodstuffs.
- Matching economic and environmental efficiency. Matching energy efficiency and product efficiency in goods and services production and consumption.
- Matching sustainable production of resources to market needs and requirements.
- Analyze new opportunities to internalise environmental criteria in the assessment of efficiency in assignment, allocation and distribution of public expenditure to optimize performances and market resources assignment.

10. References

10.1 Facts and figures about the country

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10.2 Resource Efficiency Policy References

National Integrated Plan on Waste

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Spanish Strategy on Energy Efficiency and Saving 2004-2012

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Law 11/2011, of 5th July, Royal Decree 709/2002, of 19th July,

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Cities for Climate Network

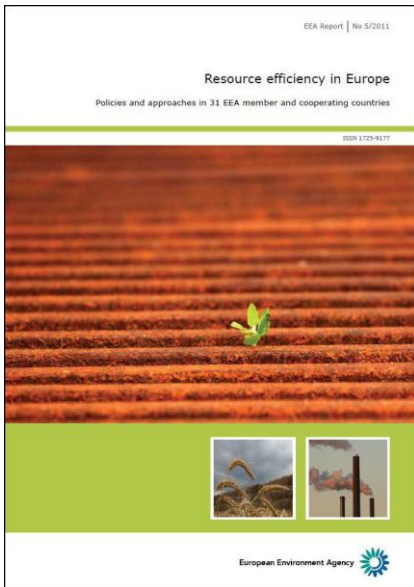
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Environmental Education National Centre (CENEAM)

<http://www.marm.es/es/ceneam/default.aspx>



Resource efficiency in Europe

Policies and approaches in 31 EEA member and cooperating countries

Further information about resource efficiency policies, including the analytical report and thirty-one detailed country profiles, are available on the EEA website:

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

Selected examples of resource efficiency policies, instruments or targets presented in the thirty one detailed country profiles

