

2.14

HOUSEHOLDS



The household sector can be approached from the point of view of consumption and the environmental pressures it generates. This chapter describes some of the most important issues, such as energy and water consumption, private vehicle use, waste generation, and CO₂ emissions. The relationship between these variables and household income is then used to estimate the sector's eco-efficiency

According to the definition established by the INE, a 'household' refers to a group of persons residing in the same family housing unit, without them necessarily being members of the same family. Households may comprise a single individual (one-person household) and each household may have more than one housing unit (primary and secondary). It should be noted that the number of 'primary family housing units' coincides approximately with the number of households (16.7 million in 2008).

In recent years, population growth has had an influence on the increase in the number of households and housing units, although the two figures have risen by differing percentages. The increase in the number of households is due to several social changes, among them immigration, while the rise in construction of housing units has been strongly driven by market interests.



INDICATOR	GOAL	TREND
Number of passenger cars per household	Promote urban and inter-urban mobility using other more eco-friendly forms of transport	Although the relationship between the number of motor vehicles and the number of households remains very stable, in 2008 the number of passenger cars per household decreased slightly
Urban waste production per household	Minimise production of urban waste	The volume of waste generated per household fell in 2007 in comparison with 2006, but the amount of waste collected separately remained practically unchanged
Energy consumption per household	Increase efficiency in energy consumption	Energy consumption per household fell by 5%, with use for heating decreasing more sharply than electrical usage
Emissions of CO ₂ by households	Reduce CO ₂ generation in the sector	The sector's CO ₂ emissions rose again in 2007 and 2008, although the volume per household fell
Water consumption per household	Minimise water consumption per household	Water consumption per household decreased significantly (7%)
Gross disposable household income	Make consumption more compatible with sustainable development	Over 2000–2007, gross disposable income per household increased, though significant differences continue to exist between autonomous communities
Eco-efficiency of households	Decouple household income from resource consumption and waste generation	According to available data (up to 2007), the rates of increase in energy consumption and amount of waste collected slowed and water consumption per household dropped significantly

POPULATION, HOUSEHOLDS AND HOUSING UNITS (2001–2008)

	2001	2004	2005	2006	2007	2008	Variation 2001–2008 (%)
Population	41,116,842	43,197,684	44,108,530	44,708,964	45,200,737	46,157,822	12.26
Households	13,468,068	14,528,259	14,865,707	15,855,594	16,280,438	16,741,379	24.30
Housing units	21,033,759	22,623,443	23,210,317	23,859,014	24,495,844	25,129,207	19.47

Source:

Population: INE. Census of Population and Housing, 2001. INE. Municipal register as at 1 January: various years.

Households: INE. Household Budget Continuous Survey 2000–2005 and Household Budget Survey 2006–2008.

Housing units: Ministry of Housing. Estimate of Housing Stock 2001–2008.

As regards the number of persons per household, all of the bands showed significant rises in 2008 in comparison with 2007, except that of households with 5 or more members, which continued to decline. Households comprising one or two people now account for 46.22% of the total. The average number of members per household, which stood at 3.0 in 2001, fell to 2.8 in 2008.

HOUSEHOLDS BY NUMBER OF MEMBERS

No. of members	2006	2007	2008	Variation 2006–2008 (%)
1	2,704,547	2,857,737	3,009,767	11.29
2	4,503,716	4,666,801	4,854,800	7.80
3	4,171,250	4,249,126	4,425,534	6.10
4	3,259,819	3,325,275	3,375,953	3.56
5	898,208	863,717	789,925	-12.06
6 o más	318,054	317,781	285,580	-10.21
TOTAL	15,855,594	16,280,438	16,741,379	5.59

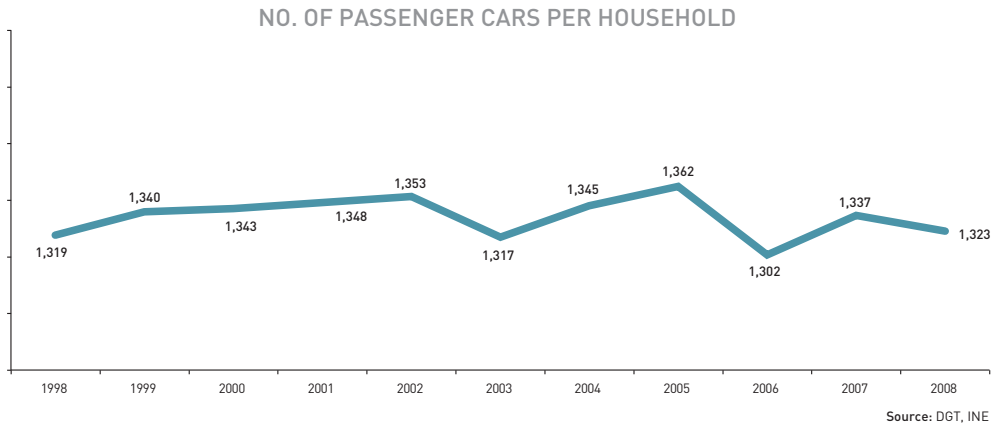
Source: INE. Household Budget Survey, 2006–2008

In general, the residential sector is exerting growing pressure on the environment. This is closely coupled to consumption patterns that have become increasingly widespread as the economy has expanded. Influencing these patterns requires implementation of awareness-raising campaigns and appropriate policies, especially in terms of consumption of resources such as water, land and energy.

Further information about the sector can be found in the '*Survey on households and the environment 2008*', published by the INE, which provides up-to-date information on consumption patterns and attitudes of household members to environmental issues (energy saving, water consumption, waste separation, etc.), as well as providing information about equipment installed in housing units. (<http://www.ine.es/prensa/np547.pdf>).

Number of passenger cars per household

In 2008, the number of passenger cars per household fell slightly in comparison with the previous year to settle at the same level as 2003



In 2008, Spain's passenger car fleet totalled 22.1 million units. This represented an increase of 1.7% on the previous year and a rise of 36.9% since 1998. At the same time, the number of households also increased between 1998 and 2008 to reach 16.7 million, equivalent to growth of 36.5% over the period. For both of these variables, the average annual increase stood at 3.7%.

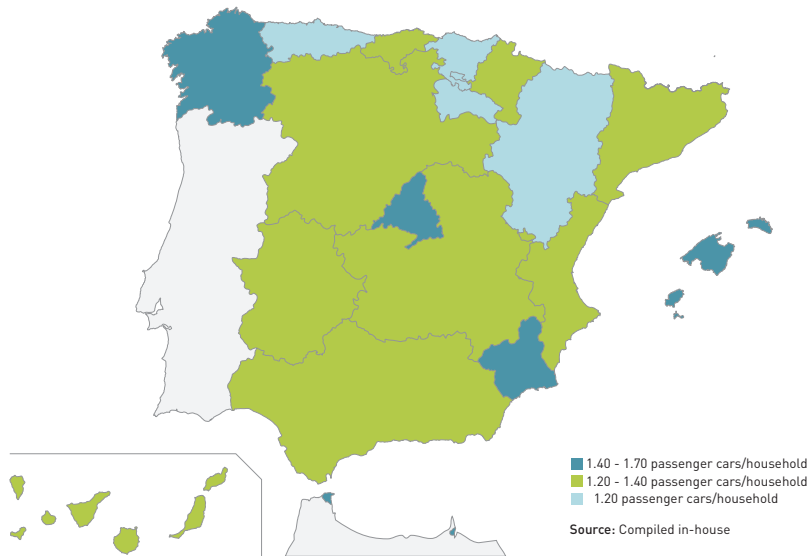
These figures reveal that the number of passenger cars per household has remained very stable throughout the period analysed. According to the INE (*Living Conditions Survey, 2008*), only 23.4% of households do not have a vehicle.

The autonomous cities of Ceuta and Melilla (1.81), together with the autonomous communities of the Balearic Islands (1.62), Madrid (1.50), Galicia (1.48), Murcia (1.40), Cantabria (1.37), the Canary Islands (1.34) and Castile-La Mancha (1.34) are above the national average, while the other autonomous communities, with the exception of Andalusia, which matches it, are all below this figure. Asturias (1.19), Aragon (1.15), the Basque Country (1.12) and Rioja (1.10) are at the other end of the scale.

According to the INE (*Survey on households and the environment, 2008*), 42.2% of Spanish households have a single vehicle, while 7.4% possess three or more. There is also a correlation between a higher number of household members and a greater number of private vehicles. By autonomous community, Spain's islands have higher percentages of households with vehicles, while in Madrid and

Catalonia the situation is the opposite. Analysing vehicle ownership in relation to average monthly household income reveals a direct relationship between income and number of private vehicles.

NO. OF PASSENGER CARS PER HOUSEHOLDS, 2008



NOTES

- On 31/12/2008, Spain's national vehicle fleet totalled 30,969,224 units (lorries and vans, buses, passenger cars, motorcycles, industrial tractors and other vehicles). Of this number, passenger cars accounted for the majority (71.5%). The figure does not include mopeds, registration of which was made compulsory with the entry into force of the General Vehicle Regulation in 1999. The number of mopeds registered rose from 1,806,758 in 2001 to 2,412,685 in 2008.
- According to the Directorate-General for Traffic (DGT), the ratio between population and vehicle fleet (all categories) stood at 278 vehicles per 1,000 inhabitants in 1980 and at 684 vehicles per 1,000 inhabitants in 2008. As regards the number of inhabitants per passenger car, this reached 2.04, one-tenth of a percentage point higher than in 2007.
- In 2008, the engine size of more than half of Spain's passenger cars (53.16%) was greater than 1,600 cm³, a percentage similar to that recorded in 2007. Nevertheless, the number of units in this category decreased by 244,340 in comparison with the year before [of which number, 180,428 were in the 1,600–1,999 cm³ band and 63,912 were in the bracket for engine sizes of 1,999 cm³ and above].

SOURCES

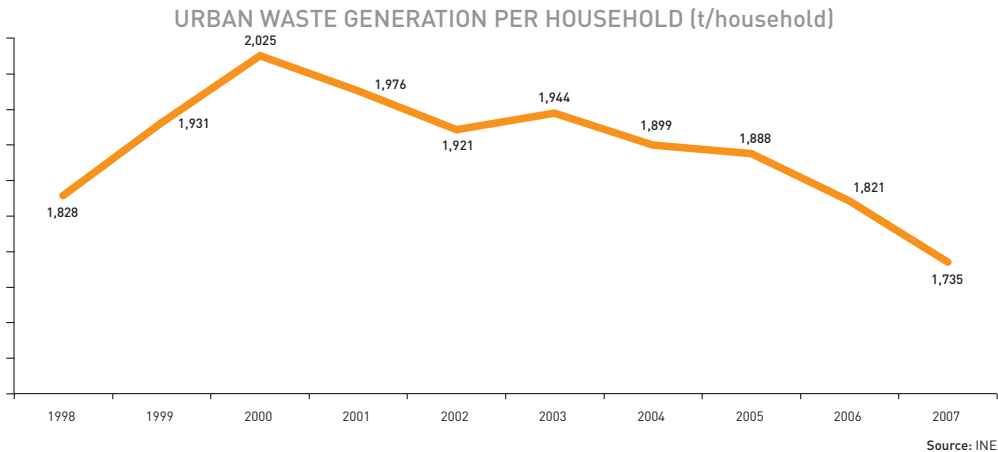
- Households: INE. Household Budget Continuous Survey 1998–2004, and Household Budget Survey. 2006 base. Series 2006–2008.
- Passenger cars: DGT. Anuario Estadístico General. 2008
- INE: Survey on households and the environment, 2008. Press release, 22 April 2008.

FURTHER INFORMATION

- [http:// www.ine.es/inebase](http://www.ine.es/inebase).
- [http:// www.dgt.es/estadisticas.htm](http://www.dgt.es/estadisticas.htm)

Urban waste production per household

The total amount of urban waste decreased in 2007 and average annual waste generated per household stood at 1.7 tonnes



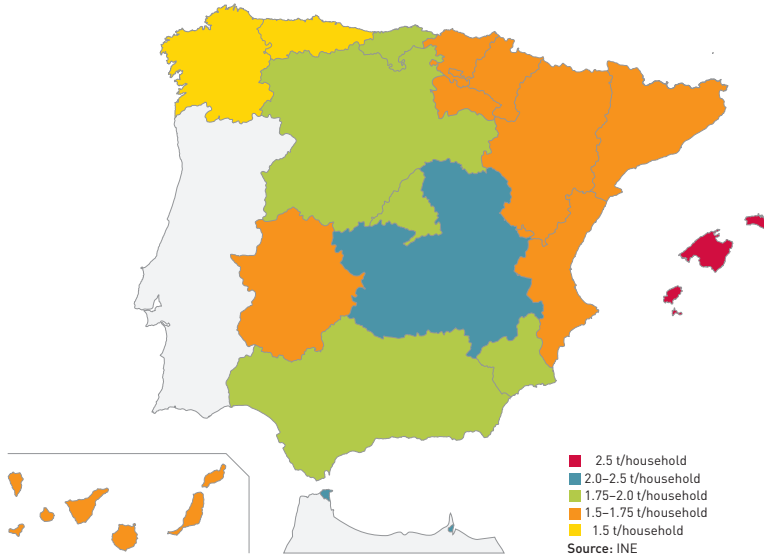
This indicator estimates the average annual amount of urban waste generated per household. According to the INE, in 2007 the residential sector generated a total of 28.2 million tonnes of waste, a figure slightly below that of 2006 (0.6%). Thus, each household was responsible for 1,735 kg of urban waste, the lowest amount recorded in the period 1998–2007.

Of the total, 77.6% of urban waste was classified as mixed waste (household waste plus waste collected from points located on public thoroughfares), while the remainder (22.4%) was classified as separately collected urban waste. Unlike previous years, the upward trend in the latter was reversed and the volume fell by 3.7%. However, equally, the total amount of waste declined and the volume of separately collected urban waste increased considerably, rising fourfold over the period 1998–2006.

In terms of kilograms per household, seven autonomous communities recorded volumes above the national average — the Balearic Islands (2,550), Castile-Leon (1,966), Cantabria (1,905), Madrid (1,822), Castile-La Mancha (2,015), Andalusia (1,778) and Murcia (1,737), while the rest were below this figure. The autonomous cities of Ceuta and Melilla also fell within this range (2,177) because

of their high population density and intensive trade with Morocco. The lowest rates were registered by Asturias (1,474), Galicia (1,457) and Catalonia (1,591).

URBAN WASTE GENERATION PER HOUSEHOLD, 2007



According to the results of the *Survey on households and the environment, 2008* published by the INE in 2009, three out of every four Spanish households separate paper, glass and plastic and metal packaging and take them to separate collection points. This survey also includes figures for separate collection of domestic batteries (72.3% of households), medicines (69.5%), household appliances and computers (65.9%), clothing and footwear (56.0%), rubble and building debris (43.7%), mobile phones (35.6%), cooking oil (24%), chemicals (21.1%) and fluorescent tubes (19.9%).

NOTES

- Urban waste is defined as waste generated by private households, retail outlets, offices and service businesses, as well as all waste similar to that produced in the abovementioned places or activities and not classified as hazardous. The following are also considered urban waste: waste originating from the cleaning of public thoroughfares, green areas, recreational areas and beaches, and dead domestic animals, as well as abandoned furniture, household goods and vehicles and, finally, rubble and debris from small-scale building work and household repairs (Law 10/1/1998, on waste).
- According to the INE, in 2007 the amount of mixed urban waste collected per year per person stood at 493 kg. In 2007, the volume of separately collected urban waste comprised 25.3 kg/inhabitant of paper and cardboard (a 17.1% increase on the previous year) and 14 kg of glass/inhab (a rise of 13.3%).
- According to Eurostat, in the EU-27 the average amount of urban waste generated per year per person stood at 522 kg in 2007, a figure exceeded by 11 countries. Municipal waste volumes range from 801 kg in Denmark to 294 kg in the Czech Republic. The breakdown by treatment method shows controlled landfill accounted for 42%, incineration for 20%, recycling for 22% and composting for 16%. Germany recycled the highest proportion of municipal waste (46%), while Denmark incinerated the most (53%).

SOURCES

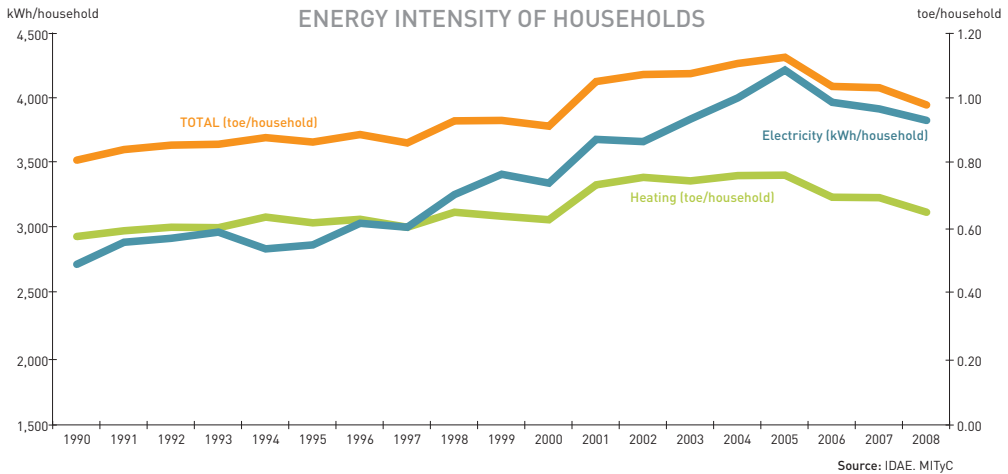
- Waste: INE. Survey on the collection and treatment of waste. Urban waste. 2007.
- Number of households (data to 2005): INE. Household Budget Continuous Survey. Various years. Base 1997.
- Number of households (data to 2007): INE. Household Budget Survey.
- INE: Survey on households and the environment, 2008. Press release of 22 April 2009.

FURTHER INFORMATION

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

Energy consumption per household

The amount of energy consumed per household decreased by 5% between 2007 and 2008



This indicator breaks down energy consumption per household into electrical usage (kW/household) and use for heating (toe/household). It is estimated that in 2008 each household consumed 3,835 kWh for electrical usage and used 0.652 toe for heating. The reduction in consumption was greater in use for heating (6.3%) than in electrical usage (2.3%). Total consumption stood at 0.982 toe/household compared with 1.047 toe/household in 2007, an overall decrease of 5.0%. The rise in the number of households, which climbed from 16.3 million in 2007 to 16.7 million in 2008, should also be taken into account.

Measures to reduce consumption include the Household Appliance Renewal Plan, which forms part of the Action Plan 2008–2012 and which aims to replace less efficient appliances with units with Class-A ratings or higher. Bearing in mind that 2.8 million household appliances are replaced every year in Spain, the impact on the sector's final energy consumption is likely to be significant. It is also worth noting replacement of conventional light bulbs with energy-saving units, an area that has been addressed by an extensive campaign by the Ministry of Industry, Tourism and Trade. According to the INE, by 2008, 85.5% of housing units in Spain were already using energy-saving bulbs. Of this proportion, 66.1% had at least one fluorescent tube and 67.1% had at least one energy-saving bulb (including halogen units).

According to the Secretary of State for Energy, in 2008 industry accounted for 34.5% of final energy consumption, transport for 37.9% and miscellaneous use (which includes households) for 27.6%, the latter being the sector in which consumption fell the most in comparison with the year before (4.7%). Up until the beginning of the 1990s, industry consumed the greatest proportion of final energy in Spain. However, application of energy-saving measures in the sector increased its energy efficiency and meant that transport is now the biggest consumer.

Notably, Spain still has one of Europe's lowest levels of electricity consumption in the residential sector, though the average annual rate of increase is high. In contrast, in other EU countries there is a clear trend towards consumption containment.

EUROPEAN UNION: HOUSEHOLD ELECTRICITY CONSUMPTION (Unit: ktoe)

EU and European countries	2000	2005	2006	2007	Variation 2007/2000 (%)	Variation 2007/2006 (%)
EU-27	61,161	68,361	69,349	68,850	12.6	-0.7
EU-25	59,622	66,790	67,689	67,150	12.6	-0.8
EU-15	54,574	61,120	61,823	61,827	13.3	0.0
Germany	11,084	12,193	12,167	12,046	8.7	-1.0
France	11,068	12,429	12,649	12,533	13.2	-0.9
Spain	3,751	5,488	6,082	6,156	64.1	1.2
Greece	1,222	1,451	1,520	1,544	26.4	1.6
Italy	5,255	5,758	5,816	5,780	10.0	-0.6
Portugal	865	1,139	1,153	1,192	37.8	3.4
United Kingdom	9,617	10,044	10,044	9,893	2.9	-1.5

Source: Eurostat 2009. Data for the European Union in 2005, 2006 and 2007 (provisional)

Note: The indicator shows household electricity consumption. Household consumption includes total electricity use for appliances, heating and hot water. The data for the EU and Spain are provisional.

NOTES

- From a methodological perspective, it should be noted that when compiling these energy statistics it is not easy to separate consumption attributable to families from that of small tertiary sector businesses that are often signed up to domestic gas and electricity tariffs on account of their size.
- The Action Plan for the Energy Saving and Efficiency Strategy 2008–2012 includes 31 measures arranged into 4 themes — cross-cutting activities, mobility, buildings and energy saving. The measures affecting buildings include a restriction on the temperature inside heated and air-conditioned buildings intended for non-residential use (excluding hospitals and other establishments that require special environmental conditions). Thus, the temperature within such buildings may not be reduced below 26 °C in summer and may not be raised higher than 21 °C in winter. Energy-saving measures include campaigns (2009 and 2010) to replace conventional light bulbs with energy-saving units (49 million free bulbs were distributed) that consume 80% less and last 6–8 times longer. There are also plans to amend the Royal Decree on Energy Efficiency in New Buildings to make it compulsory for new Government buildings to achieve high-energy-efficiency ratings, while the Tourist Infrastructure Renewal Plan will provide funding for investment that produces energy savings in these facilities.
- In terms of the energy sources consumed by households, almost 100% of Spanish households use electricity. In addition, 42.1% use liquefied petroleum gas (butane, propane, etc.), 40.5% use mains gas, and 12.5% use diesel. The least-used sources of energy are firewood (6.7%) and solar power (0.9%). Mains gas is used most in the autonomous communities of Madrid and Catalonia and is the principal source of energy in provincial capitals and towns and cities with over 100,000 inhabitants. Nevertheless, it is less widely used in the autonomous communities in southern Spain. The autonomous communities with the highest proportions of diesel use are Castile-La Mancha, Rioja, Castile-Leon and Aragon. Firewood is used by a significant percentage of households in Galicia (29.1%), while solar energy accounts for a notable proportion in Andalusia (3%) (INE: Survey on households and the environment, 2008).

SOURCES

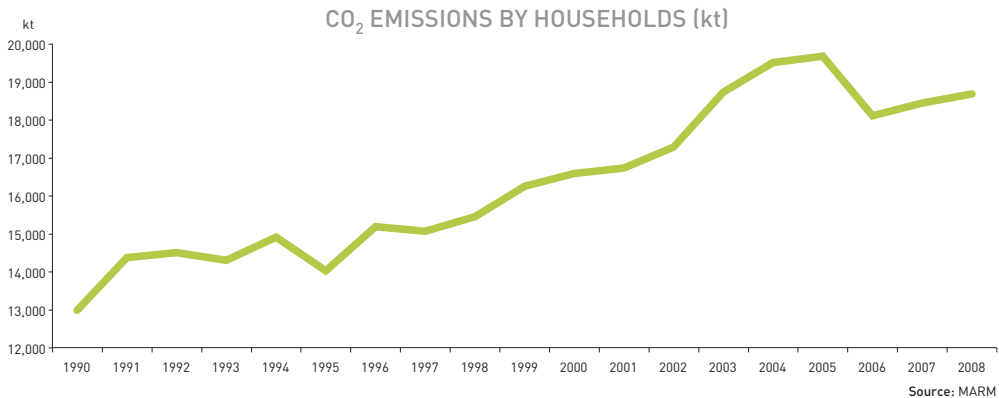
- IDAE. Data provided in this publication by the Department of Planning and Studies.
- MITyC, 2008: La Energía en España, 2008.

FURTHER INFORMATION

- <http://www.idae.es>
- <http://www.eea.eu.int>
- <http://www.mityc.es>
- <http://epp.eurostat.ec.europa.eu>

Emissions of CO₂ by households

In 2008, CO₂ emissions by households rose again (1.6%). Each household emitted an annual average of 1.1 t of CO₂



In 2008, CO₂ emissions by the residential sector as a whole rose once again and were 1.6% higher than in 2007. In absolute terms, household emissions in 2008 totalled 18,683 kilotonnes, which represented 5.5% of total emissions of this gas in Spain. Over 1990–2008, the sector's emissions increased by an average of 2.4% per year.

Each household produced 1,116 kg of CO₂ in 2008 compared with 1,133 kg the previous year, a decrease of 1.4%. This figure is still below the European average, since in a large number of European countries household heating requirements are much greater because of their much lower winter temperatures. The fact that emissions per household fell despite the rise in the sector's total emissions is due to the increase in the number of households (2.4%), which climbed from 16.3 million in 2007 to 16.7 million in 2008.

Most household energy consumption and CO₂ production is attributable to heating systems. According to the INE, 70.3% of Spanish households have some kind of heat-generating system. The main energy sources used for this purpose are gas (32.3%), primarily using individual boilers (23.4%); electricity (18.6%); and diesel (11.7%). The breakdown by autonomous community is closely related to local winter temperatures, with electricity being used most on the Mediterranean Arc and gas being used most in regions with colder and damper winter weather.

Meanwhile, air conditioning is available in 35.5% of Spanish households and is more prevalent in the autonomous communities in which summer temperatures are highest — Murcia (63.9%), Extremadura (58.0%), Andalusia (57.4%), Valencia (54.5%) and the Balearic Islands (46.1%). The Basque Country (1.7%), Galicia (1.0%), Cantabria (0.7%) and Asturias (0.4%) are at the other end of the scale.

The main forms of heat insulation adopted by Spanish households are blinds or window shutters (94.0% of households), double-glazed windows (39.3%), awnings (23.0%), thermal breaks (11.4%), and tinted glass and solar protection (4.1%).

Reducing the household sector's emissions is a matter of raising consumers' awareness of their responsibilities and of providing appropriate government encouragement. Other measures that should also contribute to this reduction include improving the efficiency of heating and lighting systems, abandoning fossil fuels and improving buildings' bioclimatic performance by implementing the provisions of the Spanish Building Code.

NOTES

- This indicator estimates CO₂ emissions from residential plants, sub-group 0202 of Group 2 (non-industrial combustion plants) in the Selected Nomenclature for Sources of Air Pollution (SNAP-97). It includes the emissions produced by boilers, gas turbines, stationary engines and other appliances, such as heaters, cookers, etc.
- The SNAP-97 for the CORINAIR project lists the emittent sources associated with a selection of pollutants in accordance with certain structural principles that allow for identification of emissions by sector, sub-sector and activity.

SOURCES

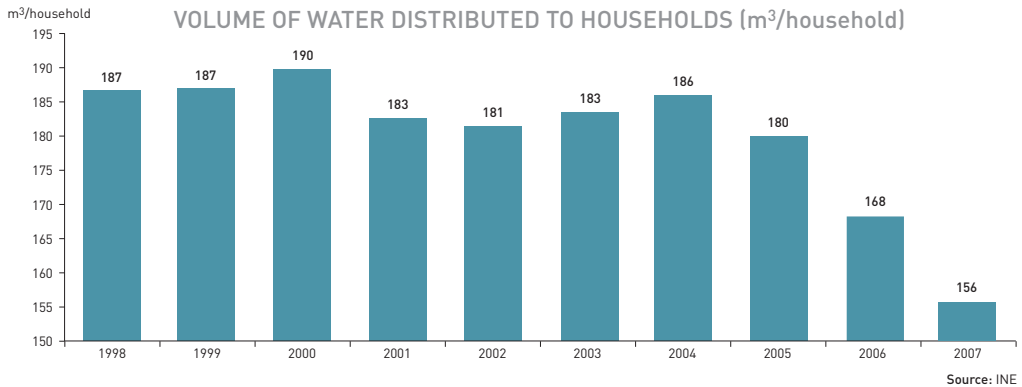
- Data on CO₂ emissions taken from the Spanish Greenhouse Gas Emissions Inventory, 2010 edition (series 1990–2008). Directorate-General for Environmental Quality and Assessment. MARM.
- INE. Household Budget Continuous Survey, 1998–2004, and Household Budget Survey. 2006 base. Series 2006–2008.
- INE: Survey on households and the environment, 2008. Press release of 22 April 2009.

FURTHER INFORMATION

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

Water consumption per household

In 2007, the overall volume of water distributed to households was 2.7% lower than the previous year, with each family receiving 156 m³ per year in comparison with 168 m³ in 2006



Water consumption by Spanish households stood at 2,544 hm³ in 2007, a decrease of 2.7% on the year before. This figure accounted for 51% of all water delivered to public urban supply networks, a percentage similar to that of 2000. Average consumption per household per year totalled 156.2 m³, a fall of 7% on the 168 m³ recorded 12 months previously. However, it must be borne in mind that this variable is influenced by the increase in the number of households, which was 2.8% higher in 2007 than in 2006.

Average consumption per inhabitant per day (157 litres) fell by 4.3% in 2007 in comparison with the year before. As can be seen in the table below, this figure increased over the period 1996–2007 by 11 litres per day.

AVERAGE WATER CONSUMPTION PER INHABITANT PER DAY (litres)

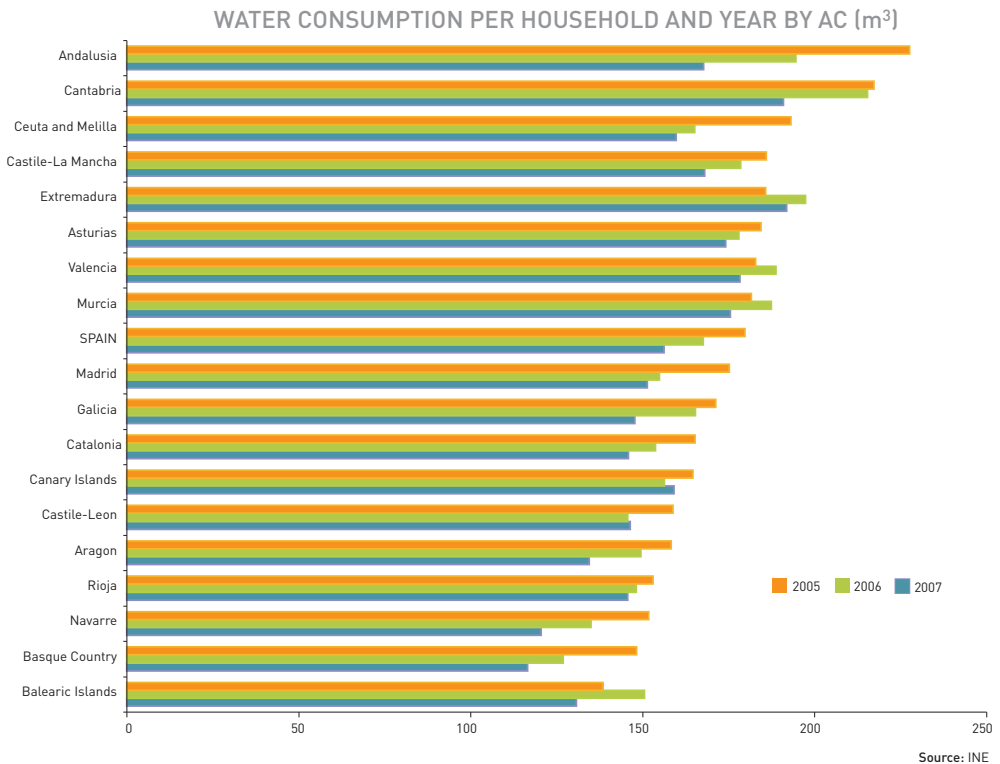
1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
146	153	159	165	168	165	164	167	171	166	160	157

Source: INE

As regards water consumption per household in Spain's various autonomous communities, in 2007 nine of them were above the national average — Extremadura, Cantabria, Valencia, Murcia, Asturias, Castile-La Mancha, Andalusia, Ceuta and Melilla, and the Canary Islands. Consumption in the rest of the country's autonomous communities was below the average, with the Basque Country, Navarre, the Balearic Islands and Aragon registering the lowest levels. The graph below shows the trend in water consumption over the period 2005–2007.

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According to the *Survey on households and the environment, 2008* carried out by the INE, almost every Spanish household has adopted at least one water-saving habit. The main means of reducing water consumption include fully loading washing machines and dishwashers (81.9%), not using the toilet as a waste bin (54.7%), filling the sink before washing crockery (38.8%), restricting tap flow (30.8%) and recycling water (22.9%). This latter practice is more common in the autonomous communities in which water is scarce (Andalusia, Canary Islands, Murcia and Catalonia) and is less so where water is abundant (Galicia, Asturias and Cantabria). The lower the number of inhabitants in a municipality, the fewer the water-saving habits or devices in operation. The survey also shows that households with more members make greater efforts to reduce water consumption.



NOTES

- The indicator is calculated using data taken from the Survey on Water Supply and Treatment carried out by the INE between 1996 and 2007. Distributed water comprises total water available in the distribution network plus network losses. It is the sum amount of water collected by the supply company plus the net balance of water purchases and sales from and to other companies and local authorities.

SOURCES

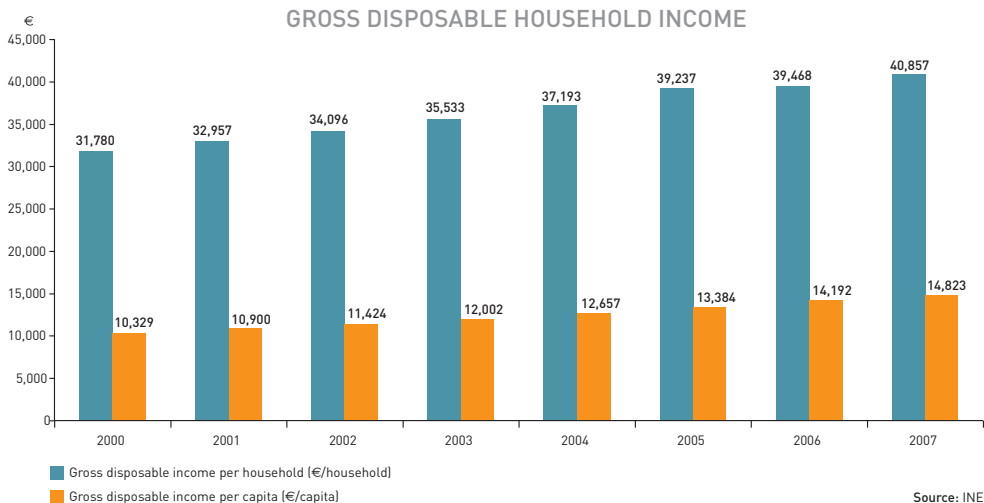
- INE. Survey on Water Supply and Treatment. Years 1996–2007.
- INE. Survey on Water Supply and Treatment. Press release of 17 July 2009.
- Eurostat: Use of water from public water supply by services and private households

FURTHER INFORMATION

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

Gross disposable household income

In 2007, average gross disposable income per household stood at €40,857, an increase of 3.52% on the year before



In 2007, average gross disposable income per household totalled €40,857, an increase of 3.52% on the previous year, while per capita income amounted to €14,823, up 4.45% on 2006. Taking 2000 as the base year, gross disposable income per household was up by 28.56% in 2007, while per capita income was 43.1% higher. This growth coincided with a period of strong economic expansion and a significant increase in population size.

Households in eight autonomous communities exceeded the national average, as did those in the autonomous cities of Ceuta and Melilla. The list was headed by the Basque Country with €52,523/household, followed by Madrid (€51,437/household) and Navarre (€50,715/household), Extremadura, Andalusia, Castile-La Mancha, Murcia and Valencia all came at the other end of the scale.

Analysis by gross disposable income per inhabitant reveals nine autonomous communities exceeded the national average, with the Basque Country recording the highest per capita income (31.37% above the national average), followed by Navarre, Catalonia and Aragon.

As regards household expenditure, the annual average stood at €32,000.75, up 4.70% on 2006. Housing (25.63%), transport (14.36%), food and non-alcoholic beverages (14.20%) and eating out (10.17%) were the areas that accounted for the highest proportions of household expenditure. Finally, average expenditure per person in 2007 stood at €11,673.44, up 9.79% on the previous year.

NOTES

- The Household Budget Survey, which was started in January 2006, replaces the Household Budget Continuous Survey (1997 base), which was carried out on a quarterly basis between 1997 and 2005. The new survey provides annual information about the nature of consumer expenditure and various characteristics related to living conditions in Spanish households. Tables have been established to link expenditure groups across the two surveys. In this indicator, the number of households is taken from the Household Budget Survey.

SOURCES

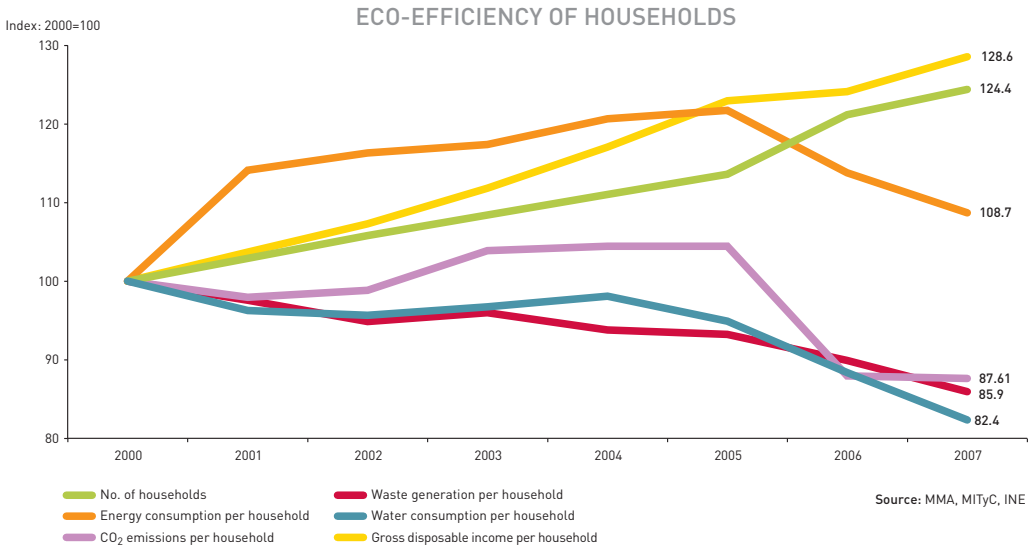
- INE: Spanish Regional Accounts. Base 2000. Gross disposable household income. Series 2000–2007.
- INE: Household Budget Survey. 2006 base. Series 2006–2008.

FURTHER INFORMATION

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

Eco-efficiency of households

In 2007, whilst the number of households and their gross income rose once more, energy and water consumption, waste generation, and CO₂ emissions all decreased



The graph shows the changes in the residential sector over 2000–2007 from the perspective of some of its key variables (data for 2008 have not been included, as figures for all of the series up to that date were not available). The first thing to note is that the sector has grown, rising from 13.0 million households to 16.3 million. In parallel with this increase in population, there was strong economic growth, which raised income per household from €31,780 per year in 2000 to €40,857 in 2007.

Between 2000 and 2007, Spanish households progressively consumed more energy, emitted more CO₂ into the atmosphere and produced more waste. Nevertheless, there have been some positive trends in recent years — the amount of mixed urban waste generated fell from 2000 onwards (and separate collection increased significantly) and, equally, water consumption per household decreased, particularly in 2006 and 2007.

In relation to energy consumption per household, in 2007 this fell by 0.5%, a significantly lower rate of decrease than the year before (-8.6%). Meanwhile, CO₂

emissions, which had remained stable between 2003 and 2005, also dropped significantly in 2006, although they then rose again slightly in 2007. Moreover, these figures should be viewed in the context of Spain's growing number of households.

Water consumption per household shows fluctuations that may be related to meteorological parameters. The notable decrease in consumption between 2006 and 2007 also reveals a degree of decoupling from gross disposable income per household and from the number of households, both of which rose over the period. This development may be related to the increase in the price of water in almost all of Spain's autonomous communities.

Waste generation per household also declined almost continuously from 2000 onwards, although the intensity of the decrease varied from year to year. One of the factors that favoured this trend, which was not principally due to a reduction in overall waste generation, was the increase in the number of households.

NOTES

- For the purpose of calculating the indicator, the annual variation rate of each of the component indicators was used. The indicator's values were then set at 100, and 2000 was established as the base year.

SOURCES

- Number of households: INE. Household Budget Continuous Survey, 1998–2004, and Household Budget Survey. 2006 base. Series 2006–2008.
- Waste: INE. Survey on the collection and treatment of waste. Urban waste. 2007.
- Energy: IDAE. Data provided for this publication by the Department of Planning and Studies. 2010
- MITyC. Secretariat-General for Energy: La Energía en España. Various years.
- Water consumption: INE. Survey on Water Supply and Treatment. Various years.

FURTHER INFORMATION

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