

# 2.14

# HOUSEHOLDS



The household sector consumes a large proportion of the goods and services produced by the economy (estimated at 60% of the EU-27's Gross Domestic Product). Although the environmental impact of each household is relatively small compared to that of manufacturing, overall the household sector exerts more pressure on the environment. The impacts generated by the residential sector provoke changes in living conditions, ecosystems and infrastructure, all of which were studied in a recent report by Eurostat.

This report covered a wide range of themes on the household sector in Europe — CO<sub>2</sub> emissions, water consumption, waste generation, housing unit building, transport use, energy consumption and, in general, consumption viewed from the life cycle perspective. It also analysed the influence of current practice in land-use planning, which encourages urban sprawl, on consumption patterns (Eurostat. 2010.

*Environmental statistics and accounts in Europe. Households).*

This situation has sparked responses from the international community. At the Rio 92 summit, consumption patterns were identified as one of the main causes of global damage to the environment. Ten years later, the Declaration on Sustainable Development



INDICATOR	GOAL	TREND
<b>Number of passenger cars per household</b>	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 2009 the number of passenger cars per household decreased slightly
<b>Urban waste production per household</b>	Minimise production of urban waste	The total amount of urban waste decreased by 6.8% in 2008 on 2007 and average annual waste generated per household fell to 1.5 tonnes, the lowest figure since 1998
<b>Energy consumption per household</b>	Increase efficiency in energy consumption	In 2009, energy consumption per household fell by 7.9%, with both heating/hot water and electrical usage decreasing
<b>Emissions of CO<sub>2</sub> by households</b>	Reduce CO <sub>2</sub> generation in the sector	In 2009, there was a strong decrease in CO <sub>2</sub> generation in the residential sector, estimated at 7.1%, similar to the figure recorded in 2006
<b>Water consumption per household</b>	Minimise water consumption per household	Average water consumption per household per year stood at 152 m <sup>3</sup> , compared with 156 m <sup>3</sup> the year before
<b>Gross disposable household income</b>	Make consumption more compatible with sustainable development	Over 2000–2008, gross disposable income per household increased, though significant differences still exist between autonomous communities
<b>Eco-efficiency of households</b>	Decouple household income from resource consumption and waste generation	The data available up to 2008 show a decoupling between the number of households and gross income (which have both continued to rise) and consumption per household (which is decreasing)

## 2.14 HOUSEHOLDS

(Johannesburg, 2002) showed the need to develop a specific set of programmes to speed up the shift to “sustainable consumption and production”. The new approach is evident in the Europe 2020 strategy, particularly in terms of reducing energy consumption and increasing efforts to achieve maximum efficiency in natural resource consumption.

SPAIN: POPULATION, HOUSEHOLDS AND HOUSING UNITS (2001–2009)

	2001	2004	2005	2006	2007	2008	2009	Variation 2009–2001
Population	41,116,842	43,197,684	44,108,530	44,708,964	45,200,737	46,157,822	47,021,031	14.36%
Households	13,468,068	14,528,259	14,865,707	15,855,594	16,280,438	16,741,379	17,068,196	26.73%
Housing units	21,033,759	22,623,443	23,210,317	23,859,014	24,495,844	25,129,207	25,557,237	21.51%

Source: Population: INE. Municipal register as at 1 January (2001–2009).  
Households: INE. Household Budget Continuous Survey 2000–2005 and Household Budget Survey 2006–2009.  
Housing units: Ministry of Housing. Estimate of housing stock 2001–2009.

While population increased by 3.3% in the EU-27 between 2001 and 2009, Spain’s population rose by 14.36%. This instigated a dramatic upsurge in the number of households and, therefore, in the pressure exerted on the environment. In the same period, 4.5 million housing units were built, resulting in enormous resource consumption and major environmental pressure, especially in coastal areas.

European households show a general downward trend in the number of members per household. This is also the case in Spain and is one of the reasons for the increase in the total number of households. In 2008, the number of people per household in Europe stood at 2.4. In Spain, this figure fell from 3 members per household in 2001, to 2.8 in 2008 and to 2.7 in 2009.

The table below shows a sharp rise in 2009 in one-person and two-person households in comparison with the base year. These two types of households, the increase in which could be attributable to the ageing population and the arrival of immigrants without family ties in Spain, account for 48.06% of the total. On the other hand, households comprising of five, six or more members are decreasing. The only household type that has remained reasonably stable is that of four persons, although in 2009 the number dropped slightly (0.8%) on the previous year.

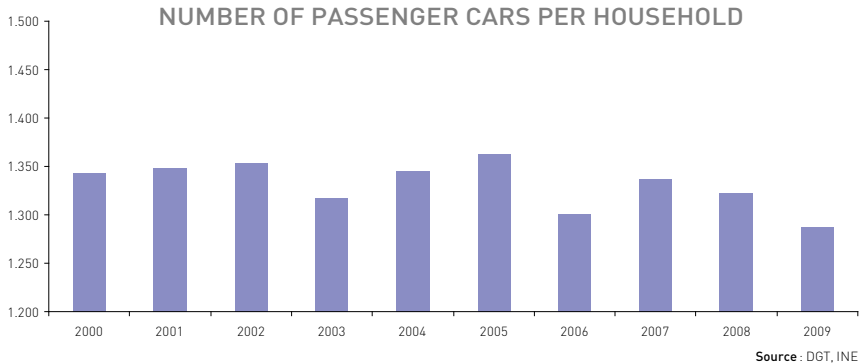
## HOUSEHOLDS BY NUMBER OF MEMBERS

No of members	2006	2007	2008	2009	Variation 2009-2006
1	2,704,547	2,857,737	3,009,767	3,172,572	17.31%
2	4,503,716	4,666,801	4,854,800	5,030,888	11.71%
3	4,171,250	4,249,126	4,425,534	4,508,098	8.08%
4	3,259,819	3,325,275	3,375,953	3,298,427	1.18%
5	898,208	863,717	789,925	771,312	-14.3%
6 or more	318,054	317,781	285,580	286,898	-9.80%
<b>TOTAL</b>	<b>15,855,594</b>	<b>16,280,438</b>	<b>16,741,379</b>	<b>17,068,196</b>	<b>7.65%</b>

Source: INE. Household Budget Survey. 2006-2009

## Number of passenger cars per household

In 2009, the number of passenger cars per household decreased again, partly due to a reduction in fleet size, but also partly due to an increase in the number of households



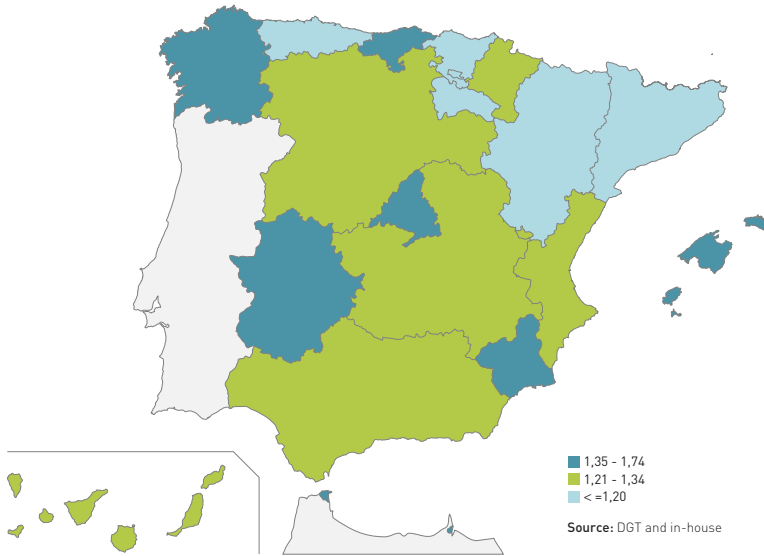
In 2009, Spain's passenger car fleet totalled 21.9 million units, a decrease of 0.7% on the previous year (161,879 passenger cars). Meanwhile, the number of households continued the rise of recent years to reach 17 million in 2009 (326,817 households more).

While the number of passenger cars dropped in 2009, the number of motorcycles increased by 4.2% on the previous year (105,755 units). This may indicate a shift in public preference from cars to this mode of transport, use of which has increased steadily since 2000 (an average 6.7% rise per year). This trend is particularly evident in urban areas.

Between 2000 and 2009, the number of passenger cars rose by 26%, while the number of households saw a bigger increase of 39.2%.

Households in nine autonomous communities exceeded the national average (1.3 passenger cars per household), as did those in the autonomous cities of Ceuta and Melilla, which were at the top of the table with 1.7 passenger cars per household. They were followed by the Balearic Islands (1.6); Madrid, Galicia, Murcia, Extremadura and Cantabria (all with 1.4 passenger cars per household); and the Canary Islands (1.3). The remaining autonomous communities matched the national average, as was the case in Andalusia, or were below this figure. Rioja, the Basque Country and Aragon were at the other end of the scale, with 1.1 passenger cars per household.

## NUMBER OF PASSENGER CARS PER HOUSEHOLD, 2008



## NOTES

- On 31/12/2009, Spain's national vehicle fleet totalled 30,855,969 units (lorries and vans, buses, passenger cars, motorcycles, industrial tractors and other vehicles). Of this number, passenger cars accounted for the majority (71.2%). The figure does not include mopeds, although registration 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 2,352,205 in 2009, despite a decrease for the second consecutive year (2.43% in 2009 on the previous year).
- From an environmental point of view, national vehicle fleet renewal is an important factor as new vehicles incorporate technology that reduces consumption and pollution. In 2009, 1,238,638 vehicles were withdrawn from circulation, of which almost a million (937,297) were passenger cars.
- There is a growing preference for diesel vehicles over petrol-powered ones. Thus, in 2000, 27% of passenger cars ran on diesel, while by 2009 that figure had risen to 50.4%. In 2009, only 3,796 passenger cars used fuels other than the two mentioned above. Diesel use is a cause of atmospheric pollution by particulate matter, adding to the pollution from tyre wear from road traffic.
- In 2009, over half of passenger cars (53.3%) had a cylinder capacity greater than 1,600 cm<sup>3</sup>. Nevertheless, the number of units decreased on the previous year (138,233 fewer passenger cars, of which 102,047 were in the 1,600–1,999 cm<sup>3</sup> band, and 36,186 had cylinder capacities of over 1,999 cm<sup>3</sup>).
- According to the INE [Survey on Households and the Environment, 2008], 42.2% of Spanish households had a single vehicle, while 7.4% possessed three or more (cars, vans and motorcycles). There is also a correlation between a higher number of household members and a greater number of private vehicles. Analysing vehicle ownership in relation to average monthly household income reveals a direct relationship between income and number of private vehicles.

## SOURCES

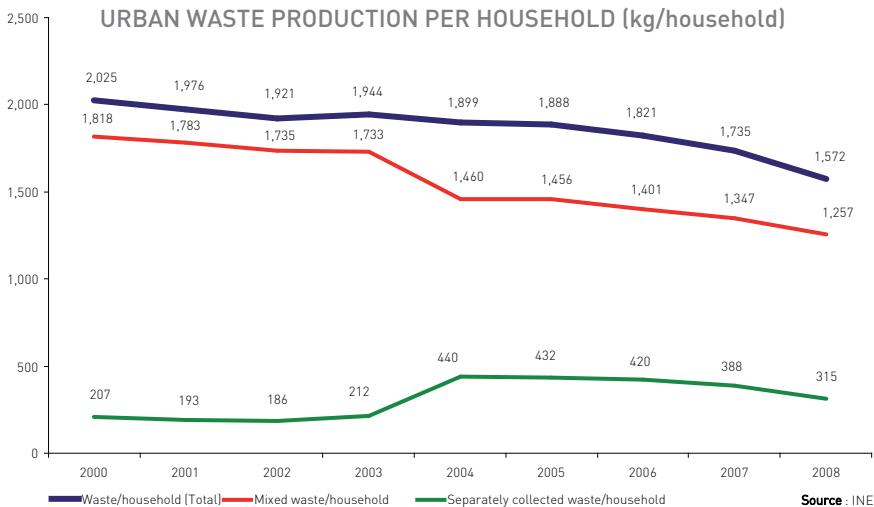
- Households: INE. Household Budget Continuous Survey. 1998–2004, and Household Budget Survey. 2006 base. 2006–2009 series.
- Passenger cars: DGT. *Anuario Estadístico General*. 2009
- INE. Survey on Households and the Environment, 2008. Press release of 22 April 2008.

## FURTHER INFORMATION

- <http://www.ine.es/inebase>.
- <http://www.dgt.es/estadisticas.htm>

## Urban waste production per household

The total amount of urban waste decreased by 6.8% in 2008 on 2007 and average annual waste generated per household stood at 1,572 kg



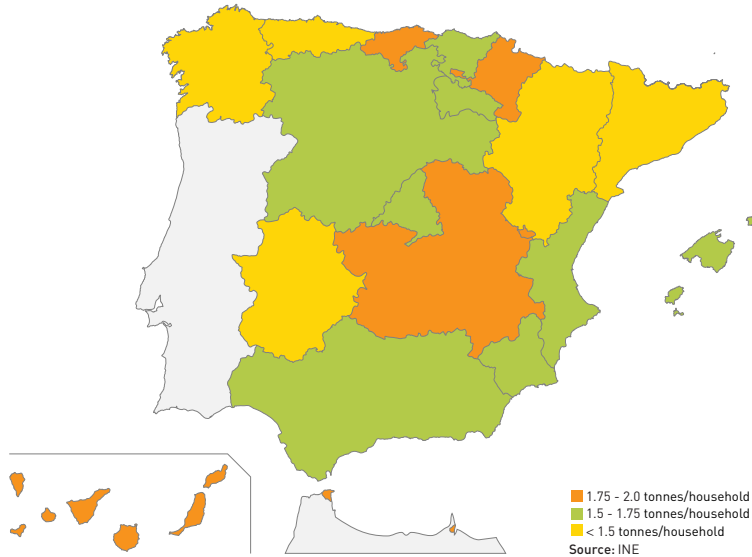
This indicator estimates the average annual amount of urban waste generated per household. In 2008, waste management companies collected a total of 26.3 million tonnes of waste from the residential sector, 6.8% less than in 2007. This averages out at 1,572 kg of urban waste per household, the lowest amount recorded in the period 2000–2008. However, when assessing this data it should be noted that the number of households rose from 16.3 million in 2007 to 16.7 million in 2008.

In 2008, 80% of urban waste was classified as mixed waste (household waste plus waste collected from points located on public thoroughfares), while the remainder was classified as separately collected urban waste. Continuing the trend from the previous year, in 2008 the amount of separately collected waste also decreased (16.4%), from 6.3 to 5.3 million tonnes. Nevertheless, it is worth noting that there was a strong increase in the volume of separately collected waste over the period, which by 2009 was double the amount collected in 2000.

Ten autonomous communities recorded volumes above the national average (1,572 kg per household) — Cantabria (1,844 kg/household), Navarre (1,793 kg), the Balearic Islands (1,757 kg), Castile-La Mancha (1,750 kg), the Canary Islands (1,720 kg), Madrid (1,634 kg), Andalusia (1,623 kg), Murcia (1,614 kg), the Basque Country

(1,598 kg) and Castile-Leon (1,598 kg). The autonomous cities of Ceuta and Melilla also fell within this range because of their intensive trade with Morocco. The autonomous communities that recorded volumes below the national average were Valencia, Rioja, Aragon, Catalonia, Asturias, Extremadura and Galicia, the latter generating just 1,319 kg per household.

#### URBAN WASTE PRODUCTION PER HOUSEHOLD, 2008



#### NOTES

- In 2008, 465 kg of mixed urban waste were collected per person per year (28 kg less than the previous year). In the same year, the volume of separately collected urban waste comprised 2 kg/inhabitant of paper and cardboard (a 3.7% decrease on 2007) and 14.9 kg/inhabitant of glass (a rise of 8.3%). INE.
- Households in the EU-27 are estimated to generate 2.7 million tonnes of hazardous waste (paints, solvents, pesticides, medicines, cosmetics, automobile products, batteries containing heavy metals, etc.), accounting for 1.2% of the total. The majority of hazardous waste is incinerated and only a small quantity of this waste is recycled. From an environmental perspective, it is important to collect hazardous waste separately so that it does not end up in landfill (OECD, 2006 data).

#### SOURCES

- Waste: INE. Survey on the Collection and Treatment of Waste. Urban Waste. 2008.
- Number of households (data to 2005): INE. Household Budget Continuous Survey. Various years. 1997 base.
- Number of households (data to 2008): INE. Household Budget Survey.
- INE. Survey on Households and the Environment, 2008. Press release of 22 April 2009.
- OECD. Economic Policy Reforms, 2011. *Going to Growth (Housing and Economy: Policies for Renovation p31-70)*

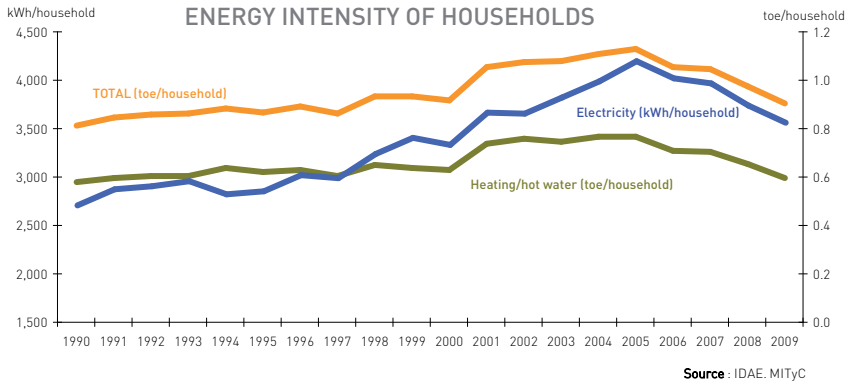
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- <http://www.ine.es/inebase>
- <http://www.eea.europa.eu>
- <http://www.epp.eurostat.ec.europa.eu>



## Energy consumption per household

In 2009, energy consumption per household decreased by 7.9% on the previous year



This indicator measures energy consumption per household broken down into electrical usage (kWh/household) and heating/hot water (toe/household). It is estimated that in 2009, each household consumed 3,580 kWh for electrical usage and used 0.597 toe for heating. While consumption for electrical usage decreased by 5% on the previous year, that for heating/hot water fell by 9.3%. Total consumption stood at 0.905 toe/household compared with 0.976 toe/household in 2008, an overall decrease of 7.9%. However, when assessing these figures it should be noted that the number of households rose from 16.7 million in 2008 to 17 million in 2009.

Energy consumption decreased for the fourth consecutive year, with the largest drops occurring in 2008 (7.2%) and 2009 (7.9%). However, over the period 2000–2009, consumption in the sector rose by 22.4%, representing an average annual increase of 2.5%. In the same period, the number of households rose from 13.1 million to 17 million, which is an increase of 23.3% and represents average annual growth of 2.6%. These figures show a close correlation between the size of the sector and electricity consumption, although the housing stock did increase a little more than consumption in the period studied.

According to data provided by Eurostat, in the EU-27 electricity consumption in the household sector (considered along with services) developed between 2004 and 2008 as shown in the table. The high levels of consumption in the EU-15 countries, which accounted for around 88% of the EU total over these four years, stand out particularly.

In absolute figures, electricity consumption in the EU-27 in 2008 stood at 1,639,020 GWh, 27.7% more than in 2004. In Spain, electricity consumption in households and services rose from 98,656 GWh in 2004 to 131,823 GWh in 2008. This represents a greater percentage (28.5%) rise than that of the EU-27. Despite the economic crisis, in 2008 consumption increased by 1.1% in the EU-27 on the previous year, and rose by 0.6% in the EU-15.

#### ELECTRICITY CONSUMPTION IN THE HOUSEHOLD/SERVICE SECTOR (%)

	2004	2005	2006	2007	2008 (p)
EU-27	100	100	100	100	100
EU-15	88.8	88.7	88.5	88.3	87.9
Germany	17.2	17.2	17.3	16.6	16.3
Spain	8.5	8.5	9.6	11.0	9.7
France	17.4	17.4	17.3	17.3	17.0
Italy	9.4	9.4	9.3	9.4	9.6
Portugal	1.8	1.8	1.8	1.9	1.8
United Kingdom	14.0	14.0	13.5	13.3	13.4
Other EU-27 countries	31.7	31.7	31.2	30.5	32.2

Source: Eurostat, 2011. Consumption of electricity by industry, transport activities and households/services (%: compiled in-house)

#### NOTES

- According to the IDAE, the domestic sector (households) is responsible for approximately 16.7% of total primary energy use in Spain, behind transport and industry (with 40.2% and 30.4%, respectively) and well above the service sector (9.3% of the total). Of the primary energy consumed in the domestic sector (households), 67% was used for heating and hot water (46% and 21%, respectively). From this data it may be concluded that household heating accounts for 11.2% of Spain's total primary energy consumption.
- To promote efficiency in domestic consumption, the IDAE has signed a collaboration agreement with the General Council of the Spanish College of Estate Managers, under which the latter undertakes to inform stakeholders about funding available to encourage thermal renewable energy use in buildings (i.e. programmes to promote biomass, thermal solar and geothermal energy). These funds are available to energy service companies (ES-COs), which are also responsible for designing, executing and maintaining the client's facilities (both in public and private buildings). In return, they must guarantee a cost saving of at least 10% on expenditure on energy derived from fossil fuels.
- According to several estimates, 13 million housing units built in Spain before 1975 (of which 10 million are main residences) consume over twice the maximum energy permitted under the legislation currently applicable to new-build homes. This is due to the lack of regulations governing heat insulation during this era. The Spanish Building Code of 2007 stipulates that energy consumption should not exceed 70 kWh per m<sup>2</sup> per year. It is estimated that housing units built before 1979 consume an average of 180 kWh/m<sup>2</sup> per year. Moreover, a further 7 million housing units built between 1979 and 2007 consume between 120 and 130 kWh/m<sup>2</sup> per year. Upgrading of housing units (along with development of renewable energy and ecosystem services) provides one of the main sources of green jobs in the present and near future.

#### SOURCES

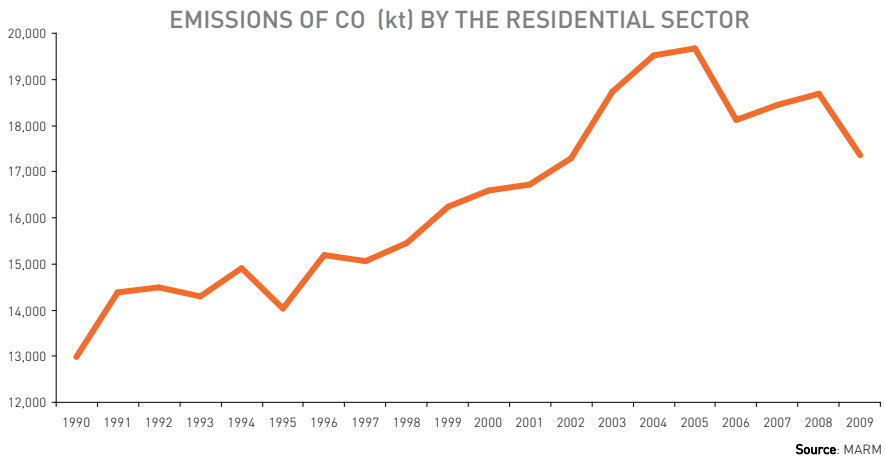
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- MITyC, 2010. *La Energía en España, 2009*.

#### FURTHER INFORMATION

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

## Emissions of CO<sub>2</sub> by households

In 2009, the residential sector produced 7.1% less CO<sub>2</sub>, while each household emitted an annual average of one tonne of CO<sub>2</sub>



In 2009, there was a strong decrease in CO<sub>2</sub> generation in the residential sector, estimated at 7.1%, which is similar to that of 2006. In absolute terms, household emissions in 2009 totalled 17,363 kilotonnes, which represented 5.85% of total emissions of this gas in Spain. Over 1990–2009, the sector's emissions increased by an average of 1.9% per year.

The increase in the number of households in 2009, along with the drop in emissions from the sector, meant that average emissions per household stood at just over one tonne of CO<sub>2</sub> (1,017 kg). 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 majority of energy consumption (and therefore of CO<sub>2</sub> production) in Spanish households is attributable to heating systems, which are found in 70.3% of the country's households, and to air-conditioning systems, which are now present in 35.5% of households. Small and large household appliances, use of which is increasingly widespread, also account for a significant proportion of energy consumption. According to the INE Living Conditions Survey, in 2009, 99.1% of households had a washing machine, 99.6% had a colour TV and 64.2% had a personal computer.

There are great differences between European countries in terms of greenhouse gas emissions by households. This is because CO<sub>2</sub> emissions not only depend on the quantity of energy consumed, but also on the energy source, as energy can be generated from renewable sources, nuclear plants or petroleum products. Thus, in Norway 98% of electricity is produced from hydroelectric power, while in the Netherlands 90% is produced from fossil fuels.

#### NOTES

- This indicator estimates CO<sub>2</sub> emissions from residential plants, a sub-activity of group 2 (non-industrial combustion plants) in the Selected Nomenclature for Sources of Air Pollution (SNAP-97). It includes 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.
- The table below shows the results from the INE Household Budget Survey, which estimates household consumption (main residence) over 2006–2009. Consumption from second homes or facilities (garages, store rooms, etc.) included in the survey is not shown here.

ENERGY: AVERAGE CONSUMPTION PER HOUSEHOLD (MAIN RESIDENCE)				
	2006	2007	2008	2009
Electricity (kWh)	3,163.9	3,155.7	3,249	3,464.4
City and natural gas (m <sup>3</sup> )	223.7	200.3	205	215.7
Liquefied gas (k)	65.7	65.5	71.8	64
Liquid fuels (l)	147.1	150.3	133.1	145.5
Solid fuels (k)	4.9	5.1	6.2	8.4

Source: INE. Household Budget Survey. 2010

#### SOURCES

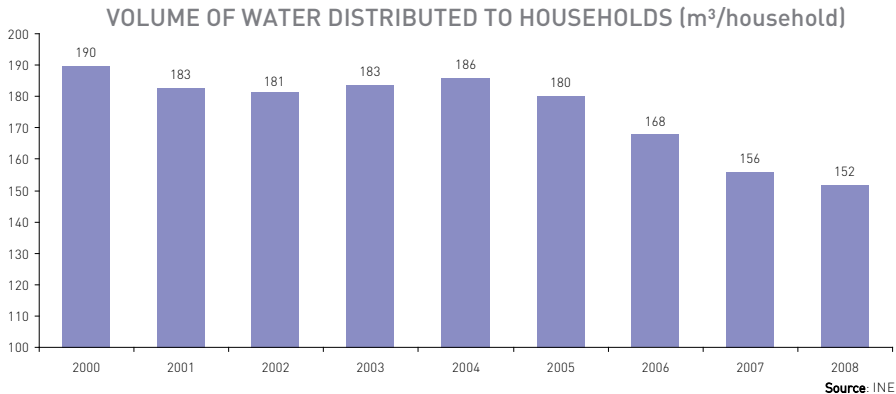
- Data on CO<sub>2</sub> emissions taken from the Spanish Greenhouse Gas Emissions Inventory, 2011 edition (1990–2009 series). Directorate-General for Environmental Quality and Assessment. MARM.
- INE. Household Budget Continuous Survey. 1998–2004, and Household Budget Survey. 2006 base. 2006–2008 series.
- INE. Living Conditions Survey. 2004–2010 series. Capital goods survey (2009). Definitive results.

#### FURTHER INFORMATION

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

## Water consumption per household

In 2008, the volume of water distributed to households was 0.2% lower than in 2007, with each family receiving 152 m<sup>3</sup>



In 2008, water consumption by the residential sector (households) stood at 2,540 hm<sup>3</sup>. This was a decrease of 0.2% compared with the previous year, in which 2,544 hm<sup>3</sup> were consumed. This figure accounted for 51.4% of all water delivered to public urban supply networks, a percentage similar to that of 2000 (51.9%).

Average water consumption per household per year stood at 152 m<sup>3</sup>, compared with 156 m<sup>3</sup> the year before. It is worth noting that despite the 27.9% increase in the number of households since the start of the 21<sup>st</sup> century, household consumption only rose by 2.8% in the same period, indicating better resource use efficiency.

Nevertheless, losses in the distribution network are still significant, rising from 1,000 hm<sup>3</sup> in 2000 to 1,210 hm<sup>3</sup> in 2008, though this figure does include what the INE defines as “other consumption”.

Households in seven autonomous communities (as well as those in Spain’s two autonomous cities) exceeded the national average in 2008: Cantabria, Valencia, Murcia, Asturias, Andalusia, Extremadura and the Canary Islands. Consumption in the rest of the country’s autonomous communities was below the average, with Navarre, the Basque Country and the Balearic Islands registering the lowest levels.

Average consumption per inhabitant per day (154 litres) fell by 1.9% in 2008 in comparison with the year before. As can be seen in the table below, this figure increased over the period 1996–2008 by 8 litres per day.

## AVERAGE WATER CONSUMPTION PER INHABITANT PER DAY (LITRES)

1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
146	153	159	165	168	165	164	167	171	166	160	157	154

Source: INE

According to recent estimates by Eurostat, average daily consumption in European households stands at 200 litres per inhabitant per day. Spain is in 16<sup>th</sup> place (out of the 26 countries that provided data) in the European ranking by percentage of water distributed to households (including the service sector and some industries) as a proportion of total water collected. To make this figure comparable to the one shown here, it would be necessary to add the 833 hm<sup>3</sup> attributed by the INE to various other sectors (including industry, services and livestock farming) to the 2,540 hm<sup>3</sup> distributed to households.

## NOTES

- The indicator is calculated using data taken from the Survey on Water Supply and Sewerage carried out by the INE between 1996 and 2008. Distributed water includes total water available in the distribution network plus any 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 or local authorities. In the series of data provided by the INE's Water Indicators (1996–2008 Series), the indicators used are water supply and treatment, losses during distribution, volume of water available and volume of water supplied (litres/inhabitant/day).
- In terms of managing water demand, the price of the service is an important factor. According to the INE, the unit cost of water rose in 2008, reaching an average of €1.31/m<sup>3</sup> in Spain compared with €1.26 the previous year. The highest water prices were found in the Balearic Islands (€1.85), Murcia (€1.87), the Canary Islands (€1.70), Catalonia (€1.59), Madrid (€1.57), Valencia (€1.52), and Ceuta and Melilla (€1.38), all of which were above the national average. The rest of the autonomous communities had water prices below the national average (the unit cost of water is calculated as the ratio between a) the tax on water supply plus the taxes or charges for wastewater treatment, and b) the volume of water distributed for consumption).
- 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.

## SOURCES

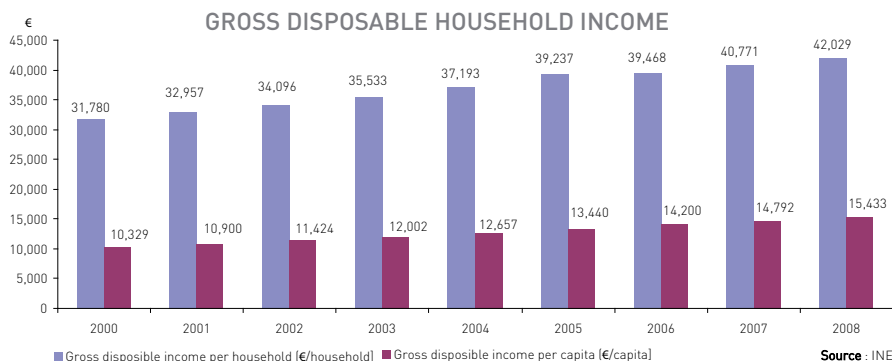
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## FURTHER INFORMATION

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

## Gross disposable household income

In 2008, average gross disposable income per household continued the rising trend begun in 2000 and climbed to €42,029, an increase of 3.09% on the year before



According to the INE (Spanish Regional Accounts, 2000–2008 series), the upward trend begun in 2000 continues apace. In 2008, average gross disposable income per household totalled €42,029, an increase of 3.09% on the previous year, while per capita income amounted to €15,433, up 4.33% on 2007. Taking 2000 as the base year (index=100), gross disposable income per household was up by 32.3% in 2008, while per capita income was 49.9% 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. At the top of the list was Navarre with €53,407/household, followed by the Basque Country (€52,695) and Madrid (€50,449). The remaining autonomous communities were below the national average, with Extremadura recording the lowest figure (€34,598). In terms of gross disposable income per inhabitant, 10 autonomous communities and the two autonomous cities exceeded the national average, with the Basque Country recording the highest per capita income (€20,760), followed by Navarre, Madrid and Catalonia.

On the other hand, in 2008, according to the INE's Household Budget Survey, average annual expenditure per household nationally stood at €31,953, which is lower than the 2007 figure (€32,000). Households spent 27.3% of their budget (€8,707) on housing (rent, services, repairs). In the case of owned or assigned housing units, the 'imputed rent' is considered (i.e., the rental value that would be paid in the market for a dwelling).

Of each household budget, 14.5% was spent on food and non-alcoholic beverages (€4,647), 13.7% on transport (€4,363) and 6.9% on recreation and culture. Very little was spent on education and health per household (0.9% and 3.2%, respectively) compared to other expenses, as these two services are widely covered by the State.

EXPENDITURE	VARIATION 2008/2007
Total expenditure	2.7%
Average expenditure per household	-0.1%
Average expenditure per person	1.1%

Source: INE. Household Budget Survey, 2008.

#### NOTES

- Gross disposable income is the sum of disposable income available to institutional sources for final consumption and savings. It is calculated by adding together GDP, income (the balance of which can be positive or negative) from work and property, and current account transfers from and to the rest of the world.
- Gross disposable household income, as well as that of non-profit organisations serving households, is the income remaining to households and the aforementioned organisations after payment of direct taxes and obligatory Social Security charges, and after current account transfers and payment in kind from the State have been accounted for.
- The Household Budget Survey, 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.
- The Living Conditions Survey 2004–2009 (INE) provides information on average net annual income per household and per person (see table below).

	2003	2004	2005	2006	2007	2008	2009
Net annual income per household (€)	21,626	22,471	23,539	24,606	26,101	26,500	25,732
Net annual income per person (€)	7,618	7,943	8,437	8,945	9,594	9,865	9,627

Source: INE. Living Conditions Survey, 2009. Provisional data.

#### SOURCES

- Spanish Regional Accounts. 2000 base. Gross disposable household income. 2000–2008 series.

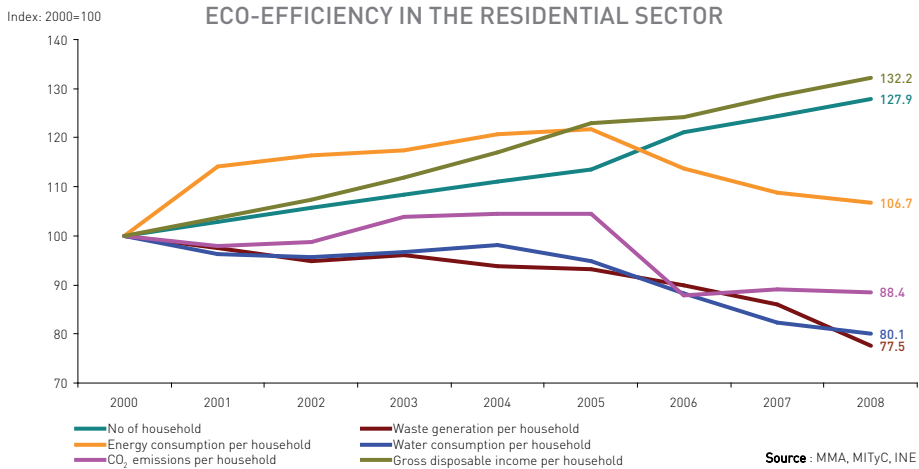
#### FURTHER INFORMATION

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



## Eco-efficiency in households

In 2008, whilst the number of households and their gross income rose once more, energy and water consumption, waste generation and CO<sub>2</sub> emissions all dropped



The pressures exerted by the residential sector can be seen in the graph below, which shows the main variables. Over 2000–2008, the first thing to note is that the sector grew from 13.0 million households in 2000 to 16.7 million in 2008. In parallel with this demographic increase, strong economic growth continued, which raised gross disposable income per household from €31,780 per year in 2000 to €42,029 in 2008.

Between 2000 and 2008, Spanish households as a whole progressively consumed more energy, emitted more CO<sub>2</sub> into the atmosphere and produced more waste (except in 2008, when there was a significant reduction).

However, these constants change for the same period when the figures per household are analysed, as the increase in the number of households resulted in a decrease in the rates per consumption unit. In this regard, there have been some positive trends in recent years — the volume of urban waste generated per household decreased (in parallel with a sharp rise in separate collection), and, in addition, water consumption per household fell gradually.

In 2008, there was also a significant 5.3% decrease in energy consumption per household. Meanwhile, CO<sub>2</sub> emissions per household stood at 1.12 tonnes, the lowest

figure since 2000, when 1.27 tonnes per household were recorded. In recent years, the volume of water supplied for public services has remained fairly stable at around 2.5 million hm<sup>3</sup>. Annual water consumption per household has slowly decreased from 190 m<sup>3</sup> in 2000 to 152 m<sup>3</sup> in 2008. As noted in all of the indicators in this chapter, these figures should be viewed in the context of Spain's growing 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. The most recent data on waste is from 2008, which is why the indicator only considers the variables up to this year.
- European households account for nearly 27% of energy consumption, mainly using it for heating/hot water and air conditioning. In Spain, this figure is lower, probably due to the country's milder climate, which does not require so much heating in winter. Domestic energy consumption, excluding transport, is generally increasing due to the growth in the number of households and expenditure by the same. Household appliances' greater energy efficiency is being counteracted by the increasing number in use in households.
- Practically all Spanish households have access to water, although its cost and the rationing imposed in times of drought prevent unlimited consumption. 17% of the water consumed in Spain is used for urban supply, as opposed to the rest of the European Union, where the level does not exceed 10%.

#### SOURCES

- Number of households: INE. *Household Budget Continuous Survey*. 1998–2004, and *Household Budget Survey*. 2006 base. 2006–2009 series.
- Waste: INE. *Survey on Urban Waste Collection and Treatment*. 2008
- Energy: IDAE. Data provided for this publication by the Department of Planning and Studies. 2010
- MITyC, 2010. *La Energía en España 2009*.
- Water consumption: INE. *Survey on Water Supply and Treatment*. Various years.

#### FURTHER INFORMATION

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