

**Survey on Water Supply and Sewerage**  
Year 2011

**Average household water consumption decreased 1.4%, as compared with 2010, standing at 142 litres per inhabitant per day**

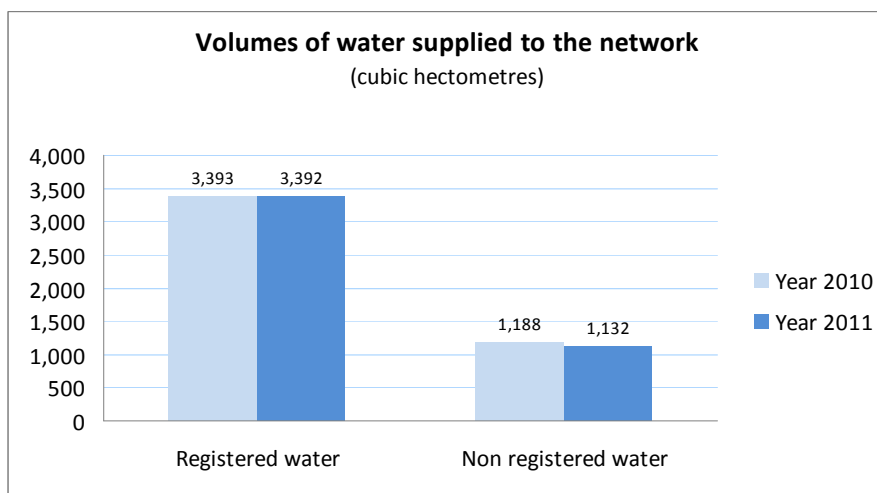
**The unit value of water increases 2.0%, standing at 1.54 euros per cubic metre**

4,514 cubic hectometres (Hm<sup>3</sup>) of water were supplied to public urban supply networks during the year 2011 in Spain. Three quarters of this amount (3,381 Hm<sup>3</sup>) was registered as water distributed for household consumption. The remainder (1,133Hm<sup>3</sup>) were unregistered volumes of water (rather than being measured, these were estimated using capacities) for the different sectors of the economy (industry, services and livestock), as well as for municipal consumption, with a decrease of 3.1% as compared with the year 2009

**Volumes of water supplied to the network**

**Unit: cubic hectometres**

	Year 2010	Year 2011	% annual variation
Registered water	3,393	3,392	0
Non registered water	1,188	1,132	-0.05
<b>TOTAL</b>	<b>4,581</b>	<b>4,524</b>	<b>-0.01</b>



(1) The survey excludes the use of water in irrigation agriculture, which according to the 2011 Survey on the Use of Water in the Agrarian Sector, reached 16.344 Hm<sup>3</sup>.

The volume of water registered and supplied for household consumption was 2,384 Hm<sup>3</sup>, which represented 70.5% of the total. The sectors of the economy (Industry, Services and Livestock) used 693 Hm<sup>3</sup> (20.5%), whereas municipal consumption (garden irrigation, street cleaning and other uses) reached 304 Hm<sup>3</sup> (9.0%).

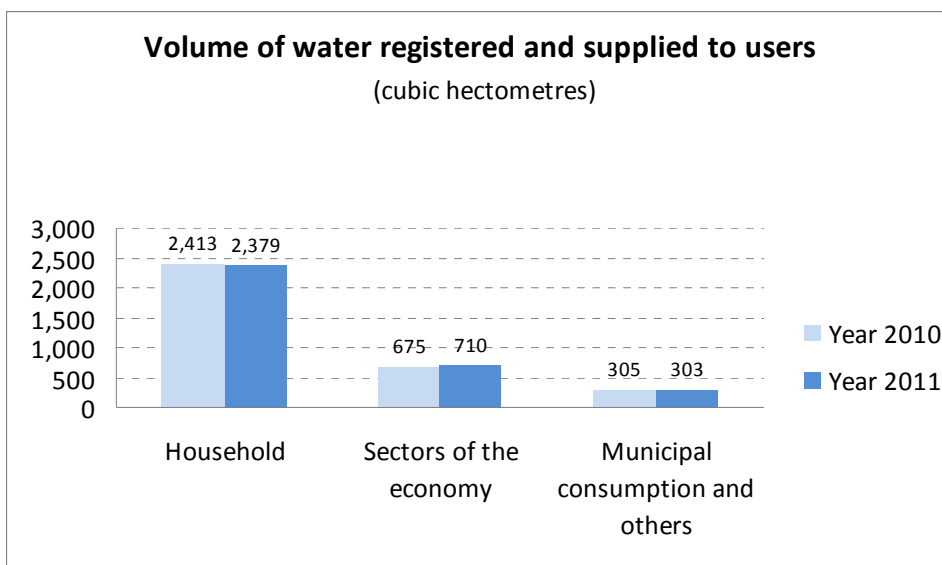
As compared with the previous year, household water consumption decreased 1.2% and that of municipal consumption did so by 0.3%. In contrast, the sectors of the economy increased the use of water by 2.7%.

Non registered water was divided into actual and apparent losses. Actual losses (leaks, breaks and breakdowns in the supply networks) were estimated at 776 Hm<sup>3</sup>, which represented 17.1% of the total water supply in those networks. In turn, apparent losses (estimated consumption, measurement errors, fraud or other causes) were estimated at 357 Hm<sup>3</sup>.

### Volumes of water registered and supplied to users

Unit: thousands of m<sup>3</sup>

	Year 2011	% of the total	% annual variation
Household	2,378,943	70.1	-1.4
Sectors of the economy	709,854	20.9	5.09
Municipal consumption and others	303,512	9	-0.52
<b>TOTAL</b>	<b>3,392,309</b>	<b>100</b>	<b>-0.03</b>



### Results by Autonomous Community

The greatest volume of water was supplied by the Autonomous Communities of Andalucía (17.2% of the total), Cataluña (15.1%) and Comunidad de Madrid (13.2%). In turn, La Rioja (0.8%), Cantabria (1.5%), Extremadura and Illes Balears (both with 2.2%) registered the lowest volume.

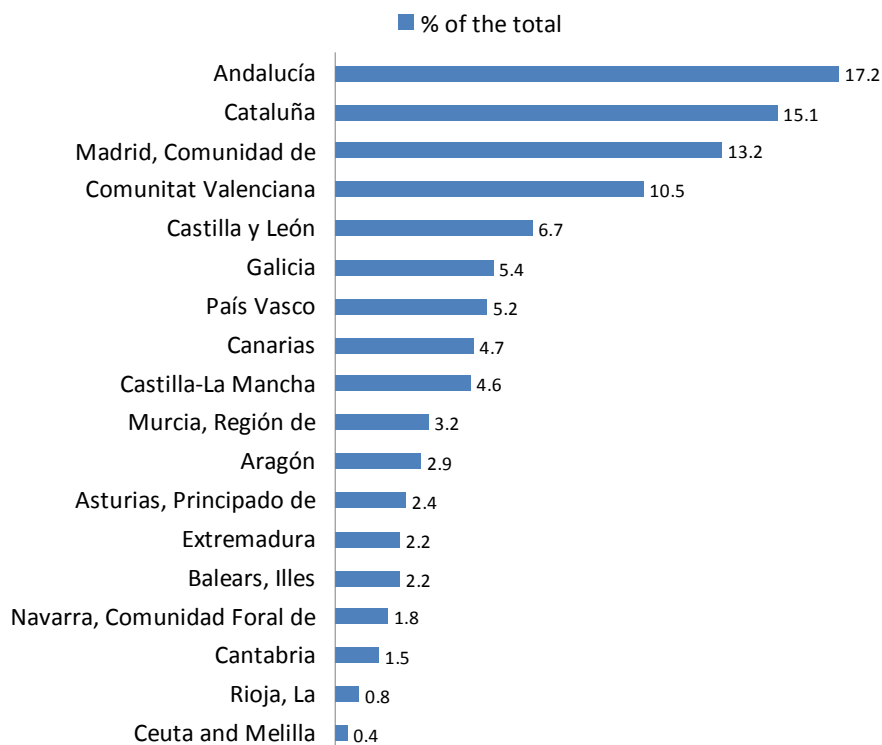
The Autonomous Communities that registered the greatest increase in the volume of registered and supplied water in 2011 were Castilla-La Mancha (9.5%), Comunidad Foral de Navarra (8.1%) and Canarias (3.4%). In turn, the greatest decreases were registered in Aragón (-6.5%), Extremadura (-5.4%) and Principado de Asturias (-4.7%).

**Volume of water supplied to users by Autonomous Community**

Unit: thousand of m3

	Year 2011	% of the total	% annual variation
Andalucía	577,958	17	-1.4
Aragón	97,449	2.9	-7
Asturias, Principado de	82,647	2.4	-4.9
Balears, Illes	74,509	2.2	0.8
Canarias	159,714	4.7	3.3
Cantabria	50,029	1.5	-2.3
Castilla y León	238,822	7	7.2
Castilla-La Mancha	156,224	4.6	8.6
Cataluña	509,837	15	-1
Comunitat Valenciana	356,403	10.5	-2.1
Extremadura	74,042	2.2	-5.7
Galicia	182,743	5.4	-3.4
Madrid, Comunidad de	446,421	13.2	1.4
Murcia, Región de	107,581	3.2	0.7
Navarra, Comunidad Foral de	60,083	1.8	7.5
País Vasco	176,180	5.2	-4.1
Rioja, La	28,550	0.8	2
Ceuta and Melilla	13,117	0.4	6.3
<b>Total national</b>	<b>3,392,309</b>	<b>100</b>	<b>0</b>

**Percentage structure of the volumes of water registered and supplied to users by Autonomous Community**



The Autonomous Communities with the greatest consumption of water registered and supplied to the economic sectors in 2011 were Cataluña (18.1%), Andalucía (13.7%) and Comunidad de Madrid (12.8%).

Regarding household water consumption, the Autonomous Communities with the greatest volume were Andalucía (17.8%), Cataluña (14.6%) and Comunidad de Madrid (13.8%).

In turn, the Autonomous Communities with the greatest volumes of water supplied for municipal consumption were Andalucía (19.6%), Cataluña (12.2%) and País Vasco (9.9%).

### Volume of water registered and supplied by type of user and Autonomous Community

Unit: thousand of m<sup>3</sup>

	Total	Hogares	Sectores económicos	Consumos municipales
Andalucía	577,958	423,304	95,269	59,385
Aragón	97,449	63,386	28,601	5,462
Asturias, Principado de	82,647	58,760	18,415	5,472
Balears, Illes	74,509	49,458	21,351	3,700
Canarias	159,714	115,258	31,465	12,991
Cantabria	50,029	34,045	12,028	3,956
Castilla y León	227,831	154,606	48,845	24,380
Castilla-La Mancha	156,224	116,529	26,344	13,351
Cataluña	509,837	347,007	125,823	37,007
Comunitat Valenciana	356,403	277,013	54,961	24,429
Extremadura	74,042	56,978	7,540	9,524
Galicia	182,743	133,212	32,572	16,959
Madrid, Comunidad de	446,421	327,883	88,826	29,712
Murcia, Región de	107,581	81,208	18,851	7,522
Navarra, Comunidad Foral de	60,083	30,672	16,825	12,586
País Vasco	176,180	91,753	54,501	29,926
Rioja, La	28,550	14,016	8,774	5,760
Ceuta and Melilla	13,117	9,298	2,429	1,390
<b>National total</b>	<b>3,381,318</b>	<b>2,384,386</b>	<b>693,420</b>	<b>303,512</b>

### Origin of water collected

Considering the origin of the water collected by the supply companies themselves, 65% was from surface water, 30% from groundwater and 5% from other types of water (desalinated sea or brackish water).

### **Average household water consumption**

Average household water consumption is calculated using the quotient between the total volume of water registered and distributed to households, and the estimated de jure population.

Average household water consumption stood at 142 litres per inhabitant per day for the year 2011. This figure was 3.3% lower than the 149 litres registered the previous year.

### **Results by Autonomous Community**

The highest average consumption was registered in Castilla y León (170 litres per inhabitant per day), Castilla-La Mancha (156) and Principado de Asturias (153).

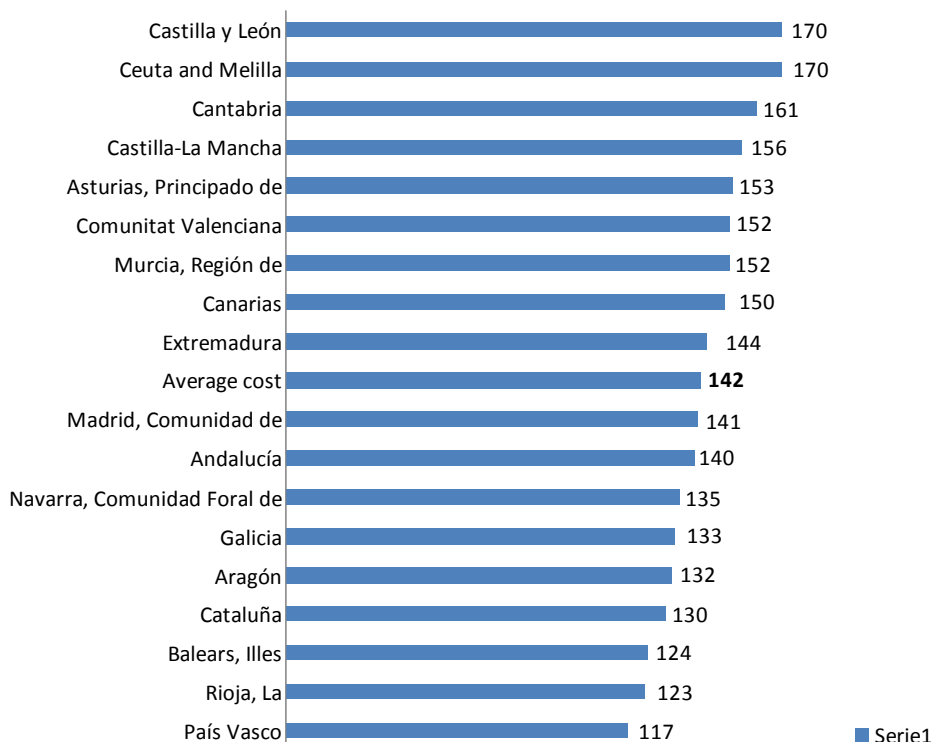
In contrast, the lowest average consumption was registered in País Vasco (117 litres per inhabitant per day), La Rioja (123) and Illes Balears (124).

### **Average household water consumption by Autonomous Community**

**Unit: litre/inhabitant/day**

	<b>Year 2011</b>	<b>% annual variation</b>
Andalucía	140	-2.1
Aragón	132	-8.3
Asturias, Principado de	153	-3.8
Balears, Illes	124	2.5
Canarias	150	0.7
Cantabria	161	-6.9
Castilla y León	170	1.8
Castilla-La Mancha	156	2.6
Cataluña	130	-2.3
Comunitat Valenciana	152	-3.2
Extremadura	144	-10.0
Galicia	133	0.8
Madrid, Comunidad de	141	0.7
Murcia, Región de	152	-3.8
Navarra, Comunidad Foral de	135	5.5
País Vasco	117	-4.1
Rioja, La	123	0.8
Ceuta and Melilla	170	4.3
<b>National total</b>	<b>141</b>	<b>-2.1</b>

**Water household consumption supply by Autonomous Community**



**Unit cost of water**

The unit cost of water is the quotient between the amounts paid for the water supply, plus that of quotas for sewerage and waste water filtering, as well as for the sanitation or dumping tax, and the volume of water registered and distributed to users.

In 2011, the unit cost of water stood at 1.54 euros per cubic metre(m<sup>3</sup>), with an increase of 2.0% as compared with the previous year (1.54).

The unit cost of the water supply reached 0.95 euros/m<sup>3</sup>, 3.3% more than that of 2010, while that of sanitation (sewage, waste water treatment and tax) was 0.59 euros/m<sup>3</sup>, with an increase of 1.0%.

**Unit cost of water**

**Unit: euros / m<sup>3</sup>**

	Year 2011	% annual variation
Supply	0,95	3.3
Sewerage	0,59	1.0
<b>Unit cost</b>	<b>1,54</b>	<b>2.0</b>

**Results by Autonomous Community**

By Autonomous Community, the highest values of unit cost corresponded to Región de Murcia (2.29 euros/ m<sup>3</sup>), Illes Balears (2.19) and Canarias (2.02).

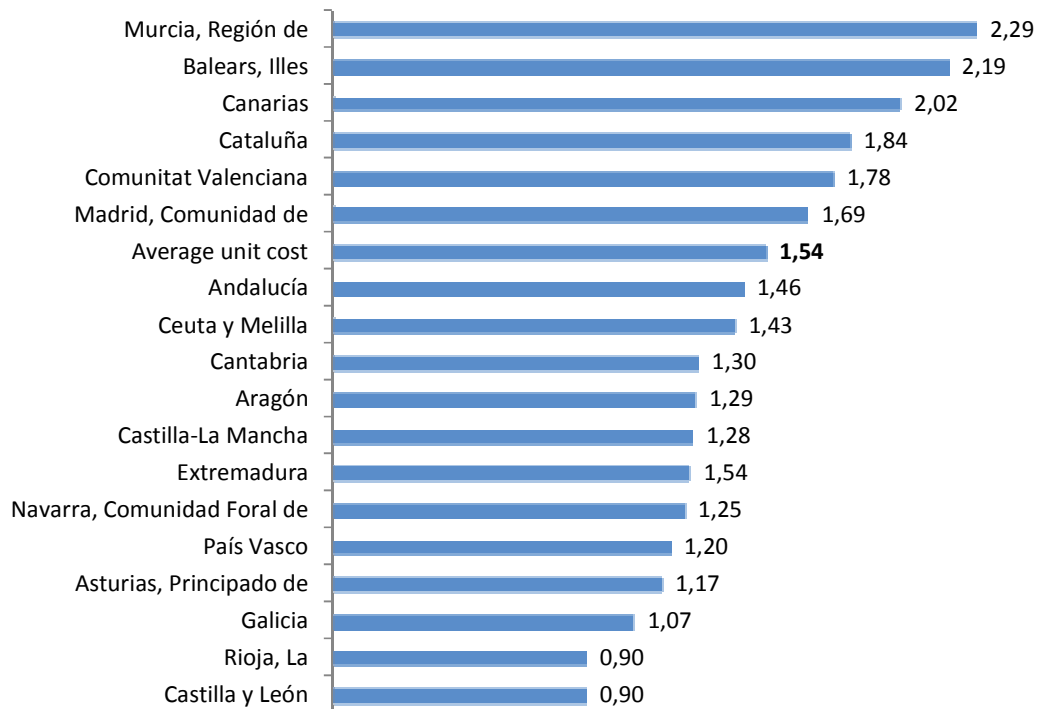
In contrast, Castilla y León (0.90 euros per m<sup>3</sup>), La Rioja (0.90) and Galicia (1.07) recorded the lowest unit values of water.

**Unit cost of water by Autonomous Community. Year 2011**

**Unit: euros / m<sup>3</sup>**

	<b>Total</b>	<b>Supply</b>	<b>Sewerage</b>
Andalucía	1.46	0.89	0.57
Aragón	1.29	0.59	0.70
Asturias, Principado de	1.17	0.62	0.55
Balears, Illes	2.19	1.27	0.92
Canarias	2.02	1.61	0.41
Cantabria	1.30	0.73	0.57
Castilla y León	0.90	0.49	0.41
Castilla-La Mancha	1.28	0.78	0.50
Cataluña	1.84	1.12	0.72
Comunitat Valenciana	1.78	1.11	0.67
Extremadura	1.27	0.85	0.42
Galicia	1.07	0.64	0.43
Madrid, Comunidad de	1.69	1.06	0.63
Murcia, Región de	2.29	1.61	0.68
Navarra, Comunidad Foral de	1.25	0.63	0.62
País Vasco	1.20	0.62	0.58
Rioja, La	0.90	0.52	0.38
Ceuta and Melilla	1.43	1.23	0.20
<b>National total</b>	<b>1.54</b>	<b>0.95</b>	<b>0.59</b>

**Unit cost of water by Autonomous Community**



## Methodological note

The INE conducts the *Survey on Water Supply and Sewerage* for the purpose of quantifying, in physical units, the activities related to the collection of water from the environment, and to water purification, supply and sanitation (sewage and waste water treatment). Likewise, information is collected on the unit costs of the water supply and sanitation services. The survey excludes the use of water in irrigation agriculture, which is studied in the *Survey on the Use of Water in the Agrarian Sector*.

The total number of water management entities or companies researched was 450 for reference year 2011. The frame of reference for the survey was constituted from the Central Companies Directory (CCD) compiled by the INE, and from the Directory of Local Entities compiled by the General Directorate for Financial Coordination with Local Tax Offices belonging to the Ministry of the Treasury. Said framework is extended with those municipal councils that carry out the direct management of water-related services.

The theoretical sample of units is obtained by selecting a quota within the strata formed in each Autonomous Community, according to the size of the population serviced. Once the water management unit is selected, in order to avoid duplication, all of the municipalities serviced by the said unit are related. This includes, with a comprehensive criterion, those management units that service municipalities larger than 15.000 inhabitants, as well as a representation of the remaining municipality sizes. This yields coverage effectiveness indices of nearly 90% of the resident population.

For the variables related to the water supply in those municipalities serviced by management units that are not a part of the comprehensive stratum, the sampling data is corrected with a ratio estimator, using the resident population as an auxiliary variable.

As of and including 2007 inclusively, the survey questionnaire explicitly requests the value of the sewage/sanitation tax, which by delegation is billed by the municipal councils and water cycle management bodies. This leads to a better estimate of the income from waste water purification, which must be taken into account when comparing water unit cost indicators with previous years.

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