Public water supply and sanitation services in France

Economic, social and environmental data

Fifth edition
March 2012

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BIPE

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Introduction

The publication of the fifth edition of the FP2E/BIPE report into public water supply and sanitation services in France coincides with a major international convention: the 6th World Water Forum, to be held in Marseilles from 12 to 17 March 2012.

This year several thousand participants from all backgrounds will again convene to discuss the crucial issues of access to water and sanitation across the globe: state representatives, ministries, local authorities, professionals, NGOs and charities... Among them, water companies will provide valuable input concerning solutions they are developing throughout the world in conjunction with organising public authorities, industrial players and local populations. Their contribution to key global challenges is essential and was acknowledged by the United Nations General Assembly in September 2010, at the time when the UN voted to recognize legally access to water and sanitation as a new human right.

From among the key factors for success of the policies undertaken on this issue (of concern to all of us), some may not be immediately obvious as a priority: openness and education. Of course, technology, research & development, governance, funding methods and workforce expertise are also essential to the success of large-scale water access and public health worksites. However, a lack of access to information leads to a similar lack of knowledge, discussion of ideas and performance improvement. This is why, for several years, French water companies have worked to make their daily activities more open and transparent (sometimes even anticipating changes in legislation in this regard).

This is also the reasoning behind the collaboration between experts from the consultancy firms BIPE and FP2E, who, for the last six years, have co-produced information gathered about public water and sanitation services in France.

This in-depth activity combines data aggregation and objective analysis to provide the majority of information necessary to understand how the French model functions: the state of water resources, international organisation and governance, quantified economic information, key players from the water sector, social data and service performance measurements.

We hope you enjoy reading this report.

Olivier Brousse,
Chairman of the FP2E

Pascal Le Merrer,
Chairman of the BIPE

Contents

Water resources and their use

The water cycle

Water resources vary widely from one European country to the next

All countries are not equal in terms of the availability of water resources. Some countries face multiple problems, covered by the terms 'water stress', 'water scarcity' and/or 'droughts'[1].

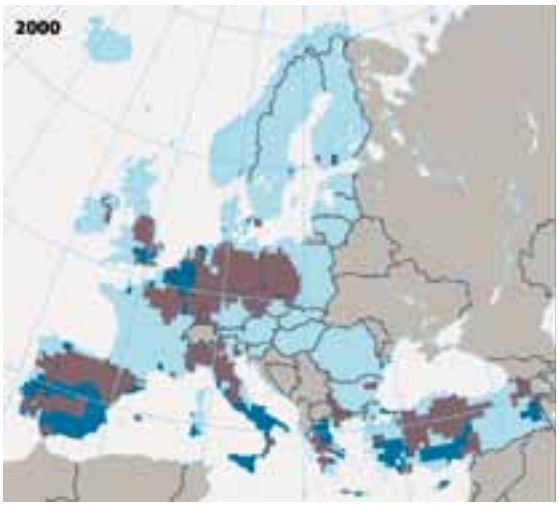
According to the European Commission, over the last thirty years there has been an ever-increasing number of droughts, with increasing intensity, in the European Union (EU). Between 1976 and 2006, the number of regions and populations affected by droughts has increased by roughly 20%. One of the worst droughts occurred in 2003 and affected more than 100 million people across one third of EU territory.

The term 'water stress' is applied when annual water resources are below 1,700 m^3 per capita; the term 'water shortage' applies when the annual water resources drop below 1,000 m^3 per capita.

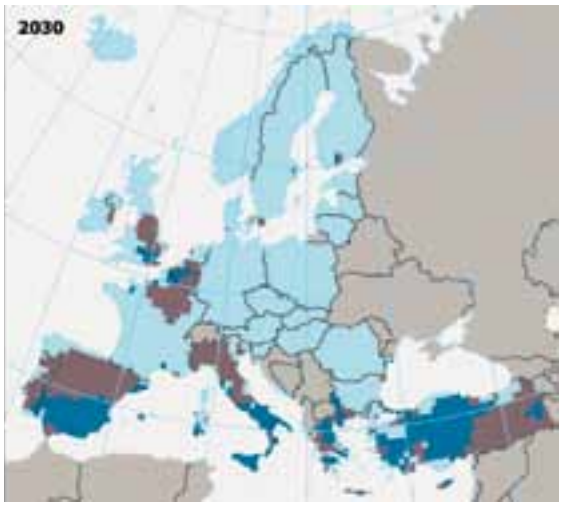
To date, at least 11% of the European population and 17% of EU territory have experienced water scarcity-related problems.

MAP OF WATER STRESS SITUATIONS IN EUROPE

Source: European Environment Agency, 2007



Water stress in Europe
(river basins) in 2000



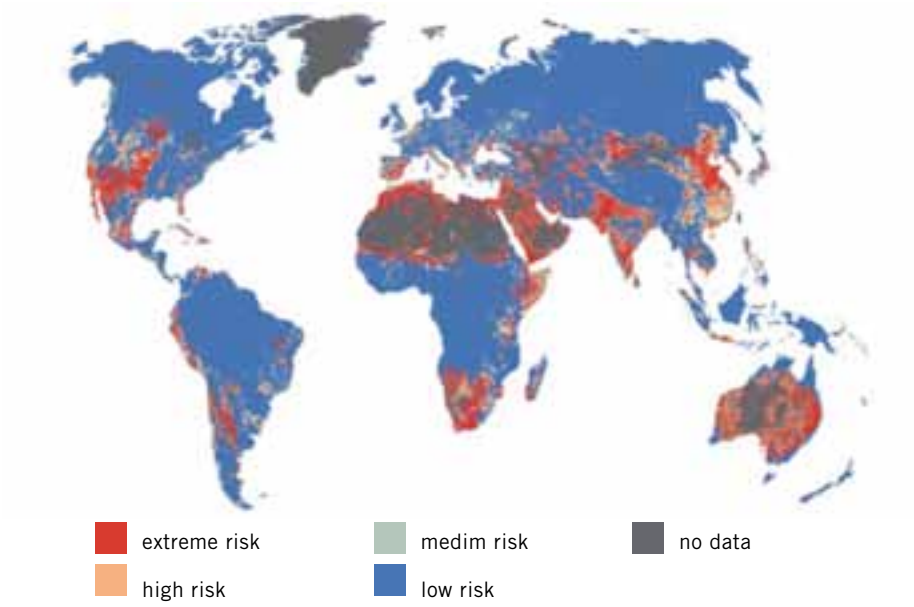
Water stress in Europe (river basins) LREM-E forecast – scenario in 2030

- 0% to 20% low water stress
- > 40% high water stress
- 20% to 40% average water stress
- Not included in study

1- While «drought» means a temporary decrease in water availability due, for instance, to rainfall deficiency, «water scarcity» means that water demand exceeds the water resources exploitable under sustainable conditions - Source European Commission.

WORLD MAP OF THE WATER STRESS INDEX PRODUCED BY MAPLECROFT IN 2011

Source: Maplecroft, 2011



At a global level, water stress affects a significant proportion of the population. As illustrated on the map opposite, no continent is spared from the problem. The most highly populated areas affected are: Asia - India and China; Africa - North and South Africa and the Arabian Peninsula; the Americas - the United States and Mexico.

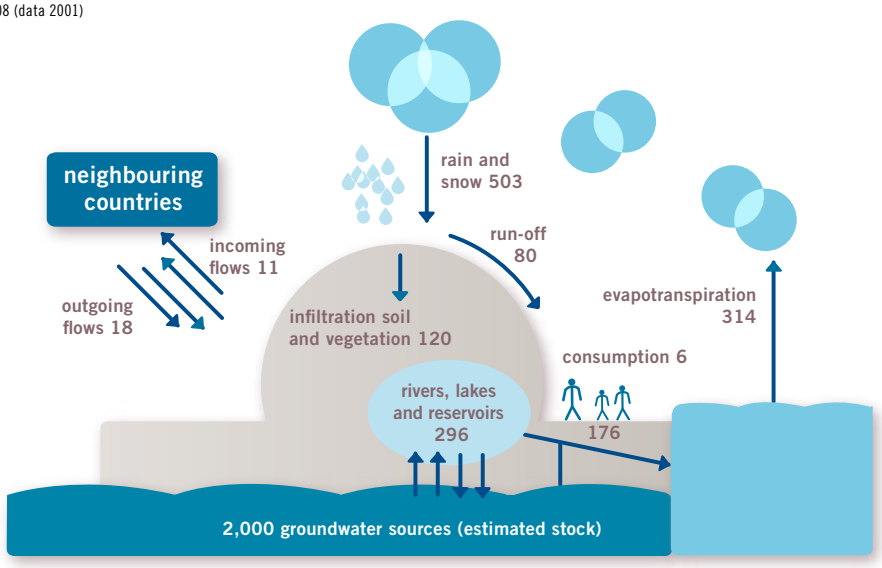
Note : the water stress index used here corresponds to ratio of domestic, industrial and agricultural water consumption, against renewable supplies of water from precipitation, rivers and groundwater. The index is calculated for areas of 10 km². The term 'water stress' is applied when annual water resources are below 1,700 m3 per capita; the term 'water shortage' when the annual water resources drop below 1,000 m³ per capita.

A reserve of 2,000 billion m³ of water in France

At a national level, water resources are boosted by a reserve estimated at 2,000 billion m³ of water and annual rainfall of 503 billion m³. However this data should be placed in context, relative to geographic disparities and annual rainfall variations.

AVERAGE WATER CYCLE (in billion of m³/year)

Source: BIPE, based on the Council of State's Annual Report 2010 «The hydrosystem and its rights» and the Bureau of Geological and Mining Research (BRGM), 2008 (data 2001)

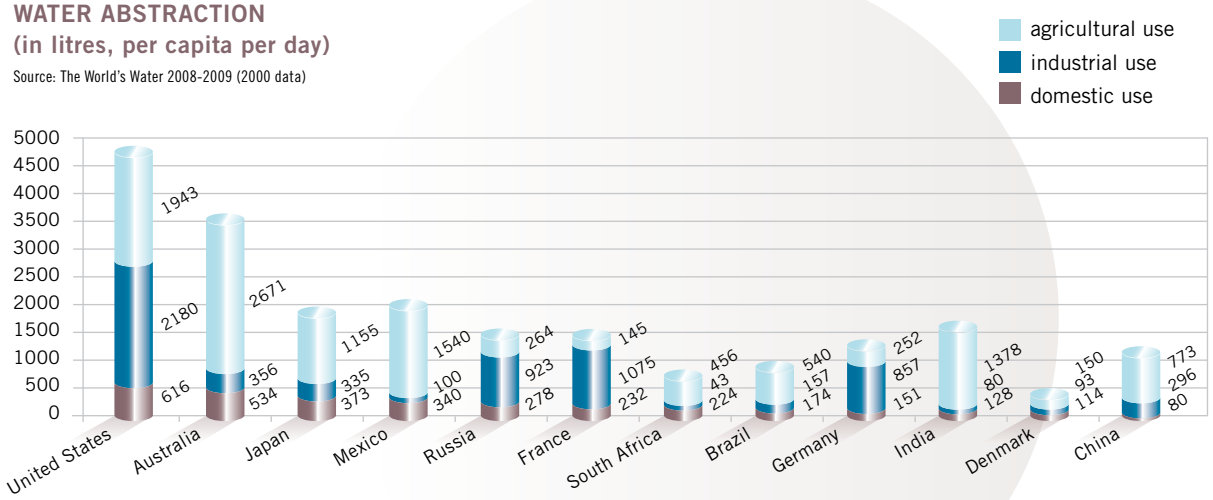


Water abstraction and use of water resources in France and across the globe

In France, according to the Observation and Statistics Service (SOeS), 33.5 billion m³ of water are abstracted each year (27.5 billion from surface water and six billion from ground water), i.e. 520 m³ per capita. Although this figure is well below the average of the most developed countries (OECD: 920 m³), it is in line with the European average (550 m³). In Europe, annual abstraction levels vary from between 130 m³ per capita in Denmark to more than 1,000 m³ in Portugal. For comparisons at a global level, Turkmenistan is the country with the highest water abstraction levels (5,100 m³/year/per capita), whereas the Democratic Republic of Congo uses water the most sparingly (6 m³/year/per capita)[2].

WATER ABSTRACTION
(in litres, per capita per day)

Source: The World's Water 2008-2009 (2000 data)



N.B.: energy applications (cooling) are included in the industrial uses.

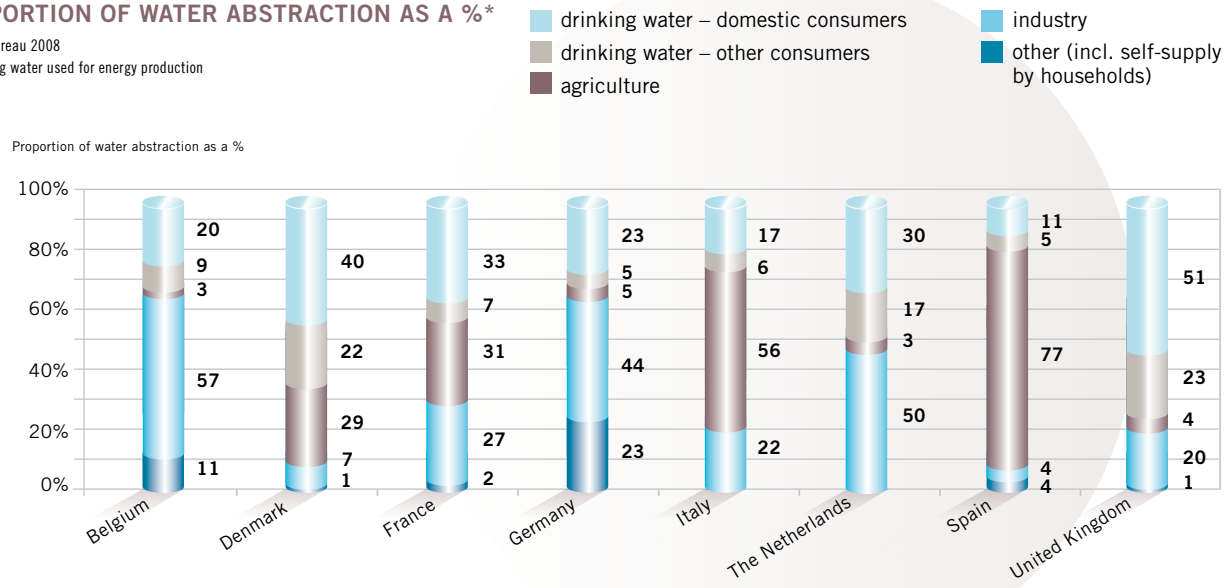
2- this data is taken from the report entitled "The World's Water 2008-2009".

Water use varies with the economic structure of the country. For example, in Italy and Spain water is predominantly used in agriculture, whereas in Belgium and the Netherlands at least half water resources are used by industry.

In France, out of the water abstraction total (excluding energy), 33% is for domestic consumption, 31% for agriculture and 27% for industry.

PROPORTION OF WATER ABSTRACTION AS A %*

Source: Eureau 2008
* excluding water used for energy production



Quantitative management of water resources: a major challenge

Each territory is characterised by a quantity of available water and the different uses thereof. If the balance between the available volumes and the volumes used is precarious, there may be a potential water shortage. One of the objectives of the Environment Round Table focuses on reducing the number of geographic sectors with chronic shortages.

Each year for the last 12 years, water-use restriction orders have been imposed in five French *départements* (Charente, Charente-Maritime, Deux-Sèvres, Tarn-et-Garonne and Vienne).

According to data issued to the European Commission in 2010 (2009 data) concerning water basins, 48 of the 574 groundwater bodies, i.e. nearly 10%, were considered to have a 'poor' quantitative status[3].

3- The body of groundwater is poor when the annual capture rates exceed the available resource.

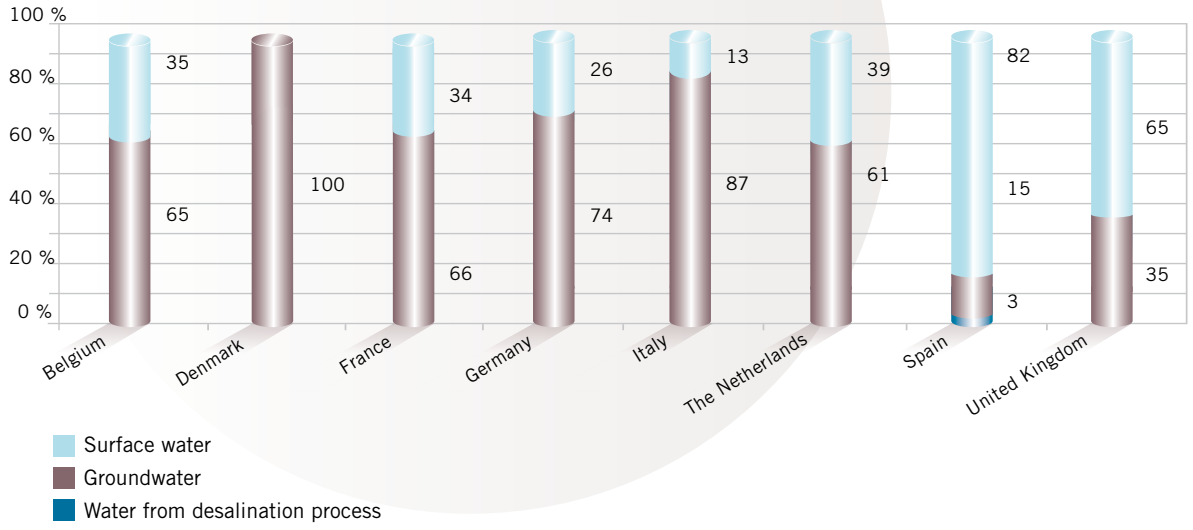
Groundwater essentially used for drinking water

The geographical position and the quality of surface waters influence the use of surface/groundwater resources. Groundwater is mainly used for drinking water, whenever it is available. From time to time, if there is a groundwater shortage, sea water is used for the drinking water supply, using a desalination process. For example, there is a production unit of this kind installed in Belle-Ile-en-Mer. These processes are more frequently used in countries afflicted with water stress: Spain, Israel, Gulf countries, Australia.

It is also possible to reuse treated wastewater. This process is widely developed in several countries (Japan, United States – California, Australia, Spain, and Italy) but is less developed in France. On some islands, there are cases of water table replenishment through infiltration and irrigation. Some industries also recycle water used in their various processes.

ORIGIN OF WATER ABSTRACTION IN EUROPE FOR DRINKING WATER SERVICES

Source: Eureau, 2008



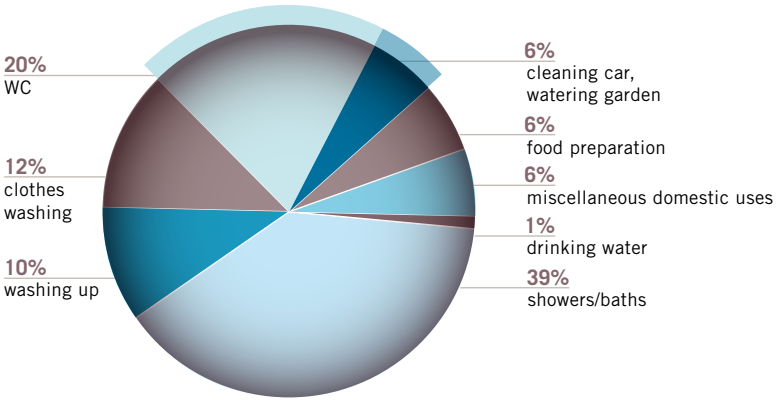
In France, one fifth of total water abstraction is used for the drinking water supply

Six billion m^3, i.e. approximately 40% of water abstraction - excluding water used for energy production (and 20% of all water abstraction) - is dedicated to the supply of drinking water[4]. For around twelve years, there has been a downward trend in water abstraction levels for the public network: this is a result of an increasingly green, water-saving consumer mindset, technological progress with household appliances and the optimization of industrial processes.

The six billion m^3 of water is abstracted, treated and then distributed. Covering domestic requirements is not the only objective of water supply: it is also intended for collective uses (schools, hospitals, businesses, etc.), as well as supplying industrial customers. According to the latest data from a survey performed on member operators of FP2E, the volume of tap water invoiced by the water companies represented an average of 16 litres per day per capita in 2010[5]. This consumption level varies in accordance with family behaviour and structure.

DISTRIBUTION OF DAILY WATER CONSUMPTION IN ACCORDANCE WITH ITS DIFFERENT DOMESTIC USES

Sources : C.I. Eau - données 2010.



Only one quarter of use does not require drinking water

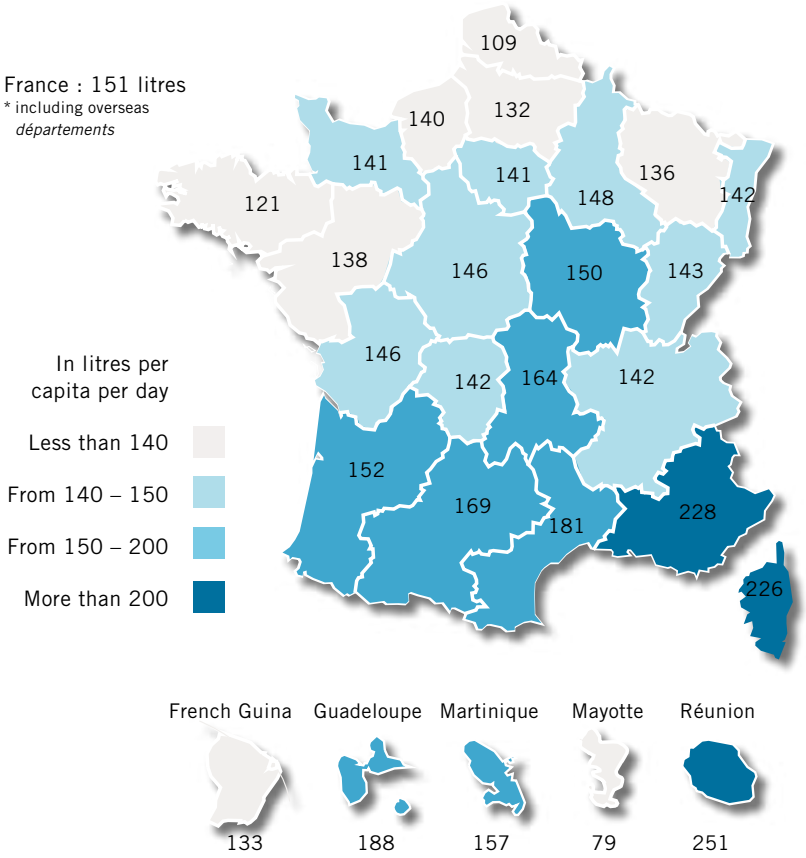
At a national level, water consumption is declining by roughly 10% compared with 2006, i.e. a reduction of 2.4% per year. Generally speaking, the reduction in tap water consumption is related to reduced household consumption, but can sometimes also be attributed to reduced industrial consumption (related to deindustrialisation in some areas).

4- MEEDDTL data, 2004

5- This figure covers domestic and industrial consumption.

REGIONAL DOMESTIC WATER CONSUMPTION COMPARED WITH POPULATION DENSITY (litres per capita per day)

Source: SOeS – SPP-Agreste, Water survey 2008 – Insee, Population census

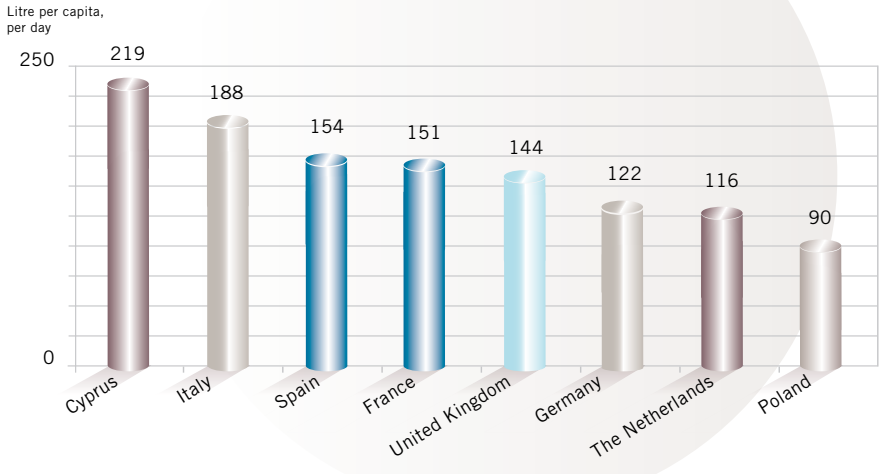


A drop in consumption levels is observed throughout all regions across France, but consumption remains variable from one region to another (due to factors such as climate, the prevalence of individual housing and the existence of swimming pools and gardens or tourism). Southern regions consume more, on average, than regions in the north of France.

At a community level, there is a range of consumption levels similar to those observed between the north and south of France.

DOMESTIC CONSUMPTION OF TAP WATER COMPARED WITH POPULATION DENSITY IN 2008 (litres per capita per day)

Sources: BIPE according to Eurosatat, Istat, INE, SoeS, Ofwat, DeStatis, Vewin, GUS, 2008

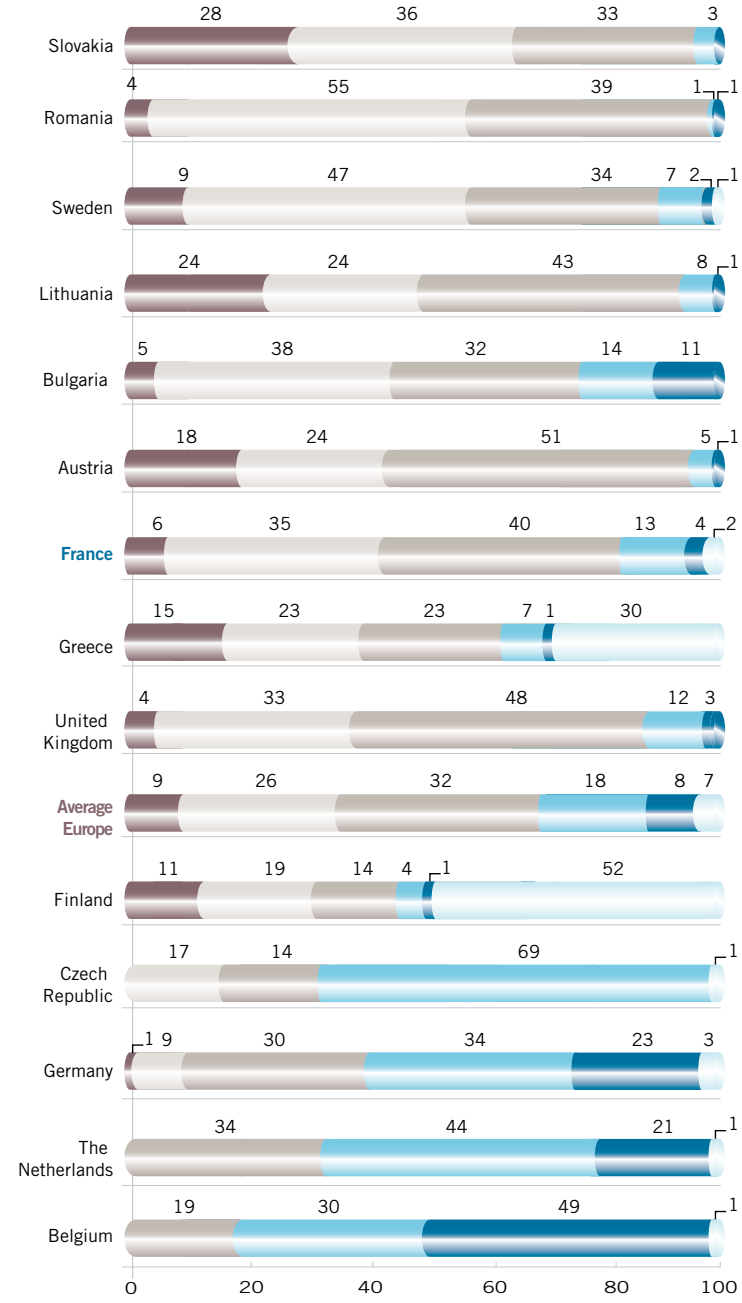


The status of water resources

Objective: achieve 'good ecological status' of European water bodies by 2015

EUROPEAN SURFACE WATERS: PERCENTAGES OF WATER BODIES ACCORDING TO THEIR ECOLOGICAL STATUS

Source: SDAGE, DCE report 2010



The Water Framework Directive of 2000 binds countries from the European Union in a single policy to reach a shared objective of 'good ecological status of groundwater and surface water' by 2015.

With specific regards to surface water, the 'good status' depends directly on the ecological and chemical statuses. The ecological status is assessed according to the structure and functioning of aquatic ecosystems associated with surface water. It is based on biological (fauna and flora), hydromorphological and physical-chemical criteria.

In 2009, 10,400 surface water bodies and 500 groundwater bodies[5] were assessed in France. The results showed that:

- 41% of surface water bodies have good ecological status and 43% have good chemical status;
- 88% of groundwater bodies have good quantitative status and 59% have good chemical status.

As demonstrated below, France is above average among countries that provided the Commission with their water body statuses in 2009, both in terms of the ecological status of surface waters and the quantitative status of groundwater. However, with regards to chemical status, France is below average, both in terms of surface water and groundwater.

6- Volume of water with homogeneous physical characteristics, upon which pressure from urban areas, agriculture and industry are identical.

In France, the objective set for 2015 concerns 2/3 of all water bodies

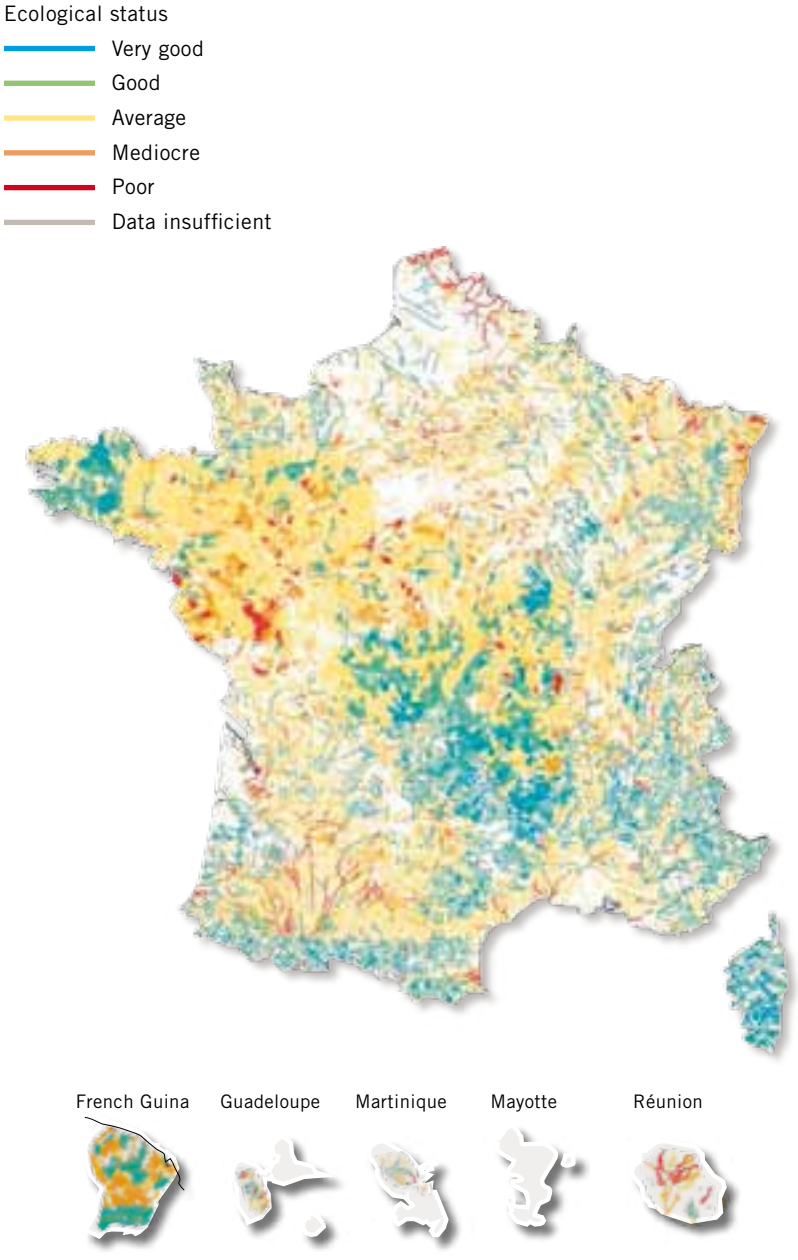
In France, the Environment Round Table set the objectives of attaining a good ecological status for two thirds of water bodies by 2015 and for at least 90% of water bodies by 2021.

Progress made varies from country to country: the objective set for Austria is to attain a good ecological status for 36% of its water bodies by 2015 and for 100% by 2027. In the United Kingdom, objectives set for the Thames basin is to attain good status for 29% of surface water by 2015 (93% by 2027) and for 22% of ground water by 2015 (100% in 2027). In Spain, in the Ebre river basin, home to 900 of the country's 5,300 water bodies, an objective of attaining a 71% good status has been set for 2015.

By considering the global ecological and chemical statuses for surface waters and quantitative and chemical statuses for groundwater, the following observations can be made: a) 25% of surface water bodies in France have 'good' or 'very good' status; with an objective of increasing this figure to 38% by 2015 and b) the percentage of groundwater bodies with a 'good' overall status in 2009 stood at 55%, with an objective of increasing this figure to 62% by 2015. These figures are somewhat lower than the European average for groundwater and somewhat above the European average for surface waters.

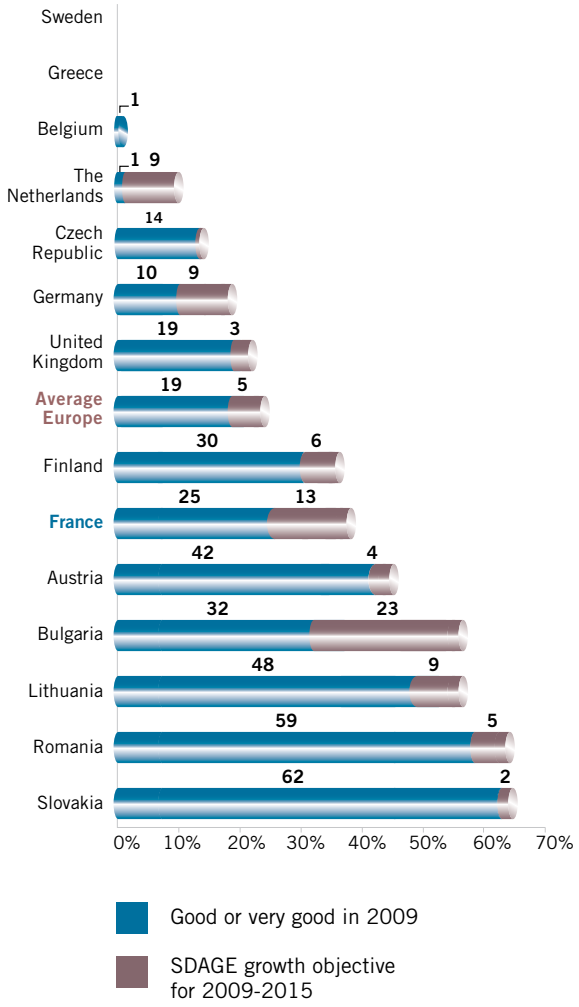
MAP OF ECOLOGICAL STATUS OF FRANCE

Source: water agencies – river basin authority delegates (data issued to the European Commission on 15 October 2010 in application of the water framework agreement; taken from monitoring data obtained between 2006-2007)
Mapping resources: ONEMA
Production: A.Claverolas (OIEau) © ONEMA, 2010



EUROPEAN SURFACE WATERS: PERCENTAGES OF WATER BODIES ACCORDING TO THEIR OVERALL STATUS

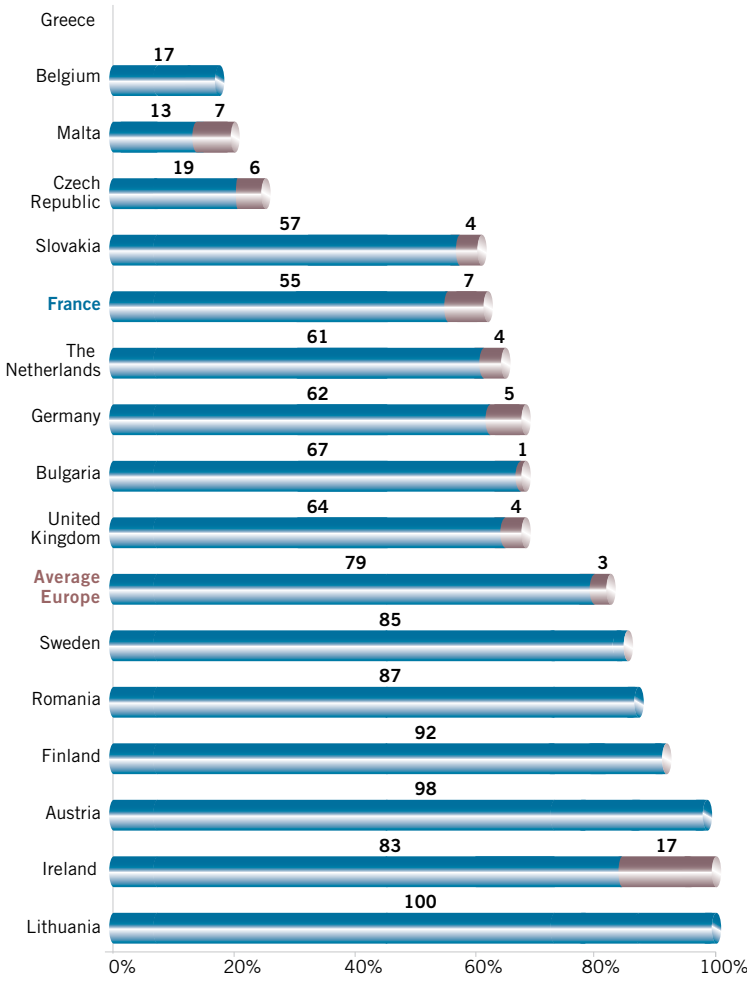
Source: SDAGE, DCE report 2010



N.B.: The overall status of a surface water body is 'good' or 'very good' when both its chemical and ecological statuses are 'good' or 'very good'.

EUROPEAN GROUNDWATER: PERCENTAGES OF WATER BODIES ACCORDING TO THEIR OVERALL STATUS

Source: SDAGE, DCE report 2010



N.B.: The overall status of a groundwater body is 'good' or 'very good' when both its chemical and quantitative statuses are 'good' or 'very good'.

The Water Development and Management Master Plans: management tools to achieve 'good' water status

Scheduling of the Water Framework Agreement

The scheduling imposed by the Water Framework Agreement is not on the same time frame as the Agencies' multiannual action plans. Each river basin authority adopted its Water Development and Management Master Plans (WDMMP) at the end of 2009. These programmes are scheduled over five years (2010-2015) and aim to obtain 'good' status for their water bodies by the end of this period.

The 2010-2015 WDMMP are organised into three areas:

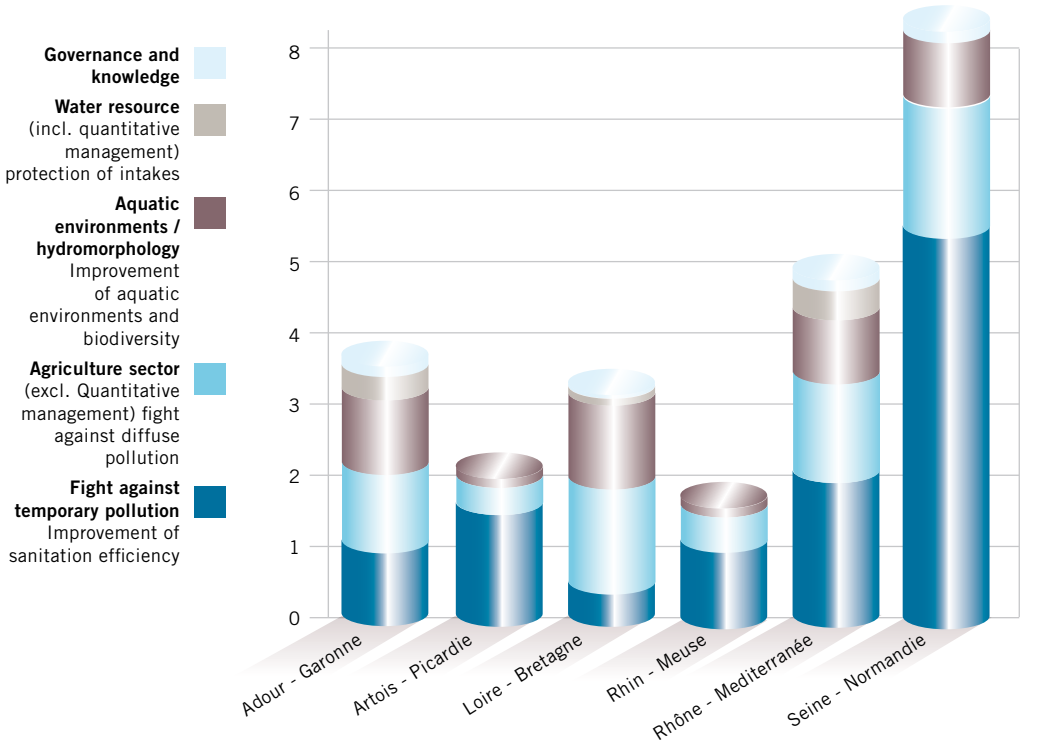
- define guidelines used to meet the key principles for a balanced and sustainable management of water resources;
- fix objectives in terms of quality and quantity, to be met for each water body in the basin: streams, water planes, water table, estuaries and coastal waters;
- determine the developments and provisions required to prevent status deterioration and to ensure status protection and improvement for the water bodies and the aquatic environments, as well as to conserve biodiversity (thus achieving the objectives).

The 2010-2015 WDMMPs are supplemented by a measurement programme (also known as action plans), which identify the main actions to be performed before 2015 to reach the objectives set out in the scheduling document. The Water Development and Management Plans (WDMP) are designed to transfer and implement the measures decided upon in the WDMMPs at a local level.

Most of the expenditure in these measurement programmes will be concentrated in three key areas: improving sanitation effectiveness (51% of the total amount of measurement programmes), the fight against diffuse pollution related to agriculture (25%) and the improvement of aquatic environments and biodiversity (17%).

€24.4 billion will be invested in WDMMP programmes between 2010 and 2015

Sources: MEDDTL – Water Agencies – Water Boards



The water agencies' budget

Since their creation in 1964, the water agencies have set up multiannual action programmes, which implement the guidelines of the national water policy. There are six different programmes adapted to the challenges faced by each basin, but from the perspective of a single water management policy directly influenced by EU requirements. Since January 2007 (until January 2013), the water agencies have implemented the 9th action programme.

Confirmed by the water law, the «water pays for water" principle is the basis for water agency funding. The multiannual action programmes are therefore entirely funded by the charges paid to the agencies by water consumers in accordance with the quantities of water they abstract and consume and the amount of pollution they release.

In total, the budget of the six water agencies amounts to 11.6 billion Euros over a six year period (2007-2012). This budget is broken down as follows:

- €1.4 billion for the Adour-Garonne Water Agency;
- €947 million for the Artois-Picardie Water Agency;
- €1.2 billion for the Rhin-Meuse Water Agency;
- €2 billion for the Loire-Bretagne Water Agency;
- €3 billion for the Rhône-Méditerranée et Corse Water agency,
- €5.2 billion for the Seine-Normandie Water Agency.

Protecting drinking water intakes

Two main approaches to protection

In France, there are nearly 34,000 water intake facilities:

- 96% are groundwater intakes that supply two thirds of the volume of water used to produce drinking water;
- the remaining 4% are surface water intakes that supply one third of the national drinking water production;
- five facilities abstract sea water to produce drinking water (capacity of more than 25,000 m3/day).

Source: Ministry of Health

There are **two separate but possibly complementary approaches**, which are used to protect these intakes from temporary or diffuse pollution. The first is compulsory and corresponds to the **intake protection perimeter** that is defined for all intakes; the second is additional and corresponds to the **protection zone for the intake supply area,** which is not systematically defined for all intakes.

1. Intake protection perimeters

There is a regulatory system that is chiefly concerned with protecting intakes from temporary and accidental pollution: it defines the intake protection perimeters (Article L. 1321-2 and R.1321-13 from the public health code) as per the prefectoral order (Declaration of Public Interest). This system aims to secure the safety of water and, in the event of accidental pollution, to ensure there is enough time available to prevent the population from being exposed to various pollutants.

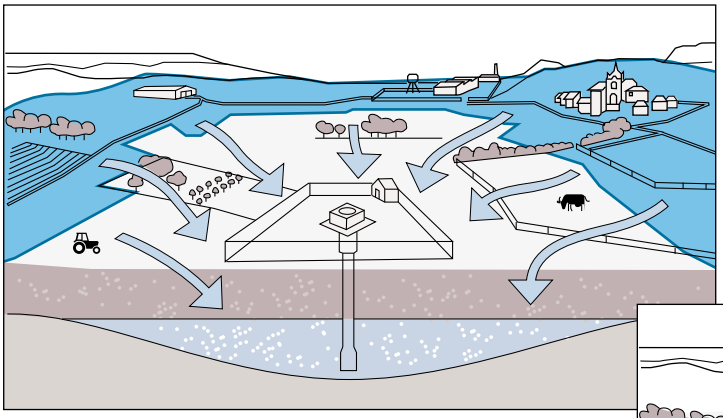
Protection of an intake is composed of three main perimeters, determined in accordance with the pollution risks and vulnerability of the intake. Prohibitions, requirements and recommendations are proposed accordingly:

- **an immediate protection perimeter** surrounding the intake locations: the area and fencing is to be secured by the owner in which no activities are permitted;
- **a perimeter of closer protection,** inside which all activities or installations that may or may not affect the water quality may be prohibited or regulated;
- if required by a specific situation, **a remote protection perimeter,** inside which activities and installations may be regulated.

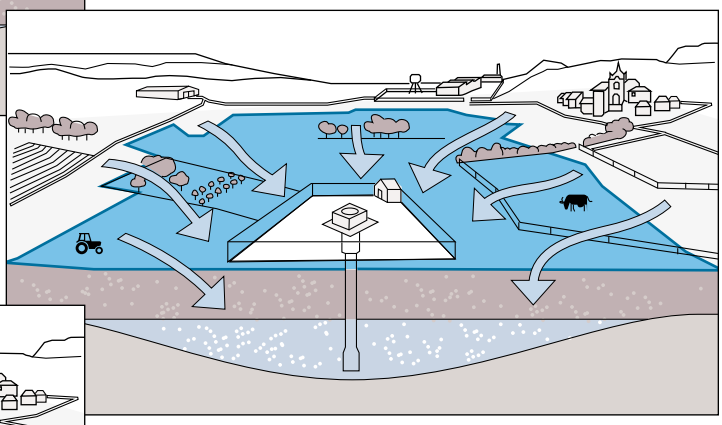
According to the Health Ministry, 62.9% of intake facilities have regulatory protection as of October 2011, i.e. 73.2% of the volume of water abstracted in France. 12,435 intakes still require protection.

PROTECTING INTAKES FROM TEMPORARY AND ACCIDENTAL POLLUTION

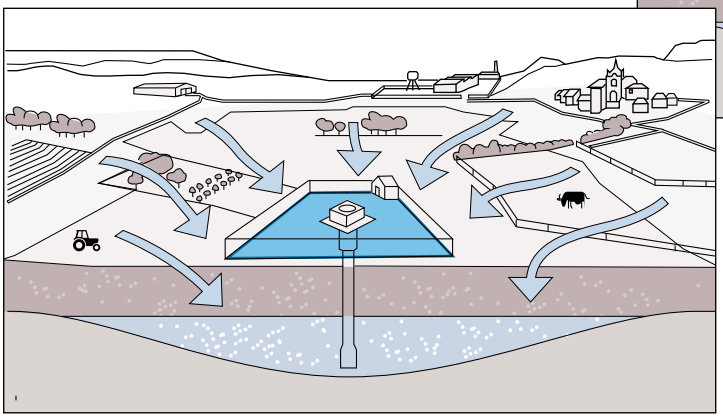
Source: Ministry of Health



Remote protection perimeter
Intake supply area



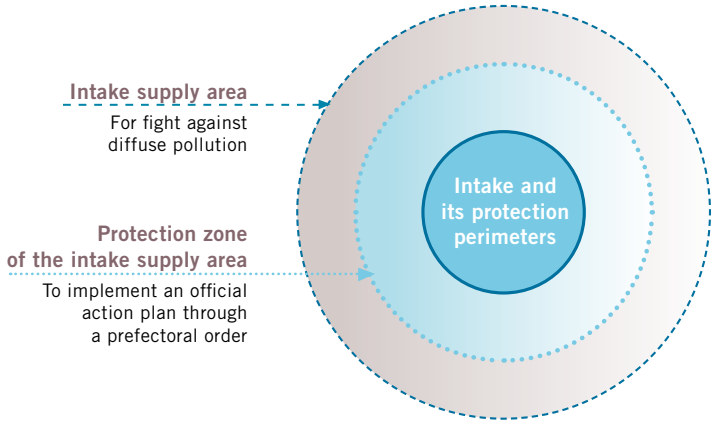
Perimeter of closer protection
Intake support area
A few hectares



Immediate protection perimeter
Secured and fenced-off surface (a few hectares)

PROTECTION OF INTAKES FROM DIFFUSE POLLUTION

Source BIPE according to data from: The French Ministry of the Environment



2. Intake catchments areas

To protect the intakes from **diffuse pollution,** a system, defined by the Law on Water and Aquatic environments dated 30 December 2006, consists of limiting the impact of pollution on surfaces that often have a greater extent: **the intake catchment area.** The following devices are implemented for a set of these areas: **the intake catchment area protection zone** and action programmes formalized by a prefectoral order.

532 'priority' drinking water intakes, in terms of protection actions

As part of the Environment Round Table, 507 intakes were initially identified as being the most at risk from diffuse pollutions. This figure was increased from 532 in 2011. All of these intakes were selected according to three criteria:

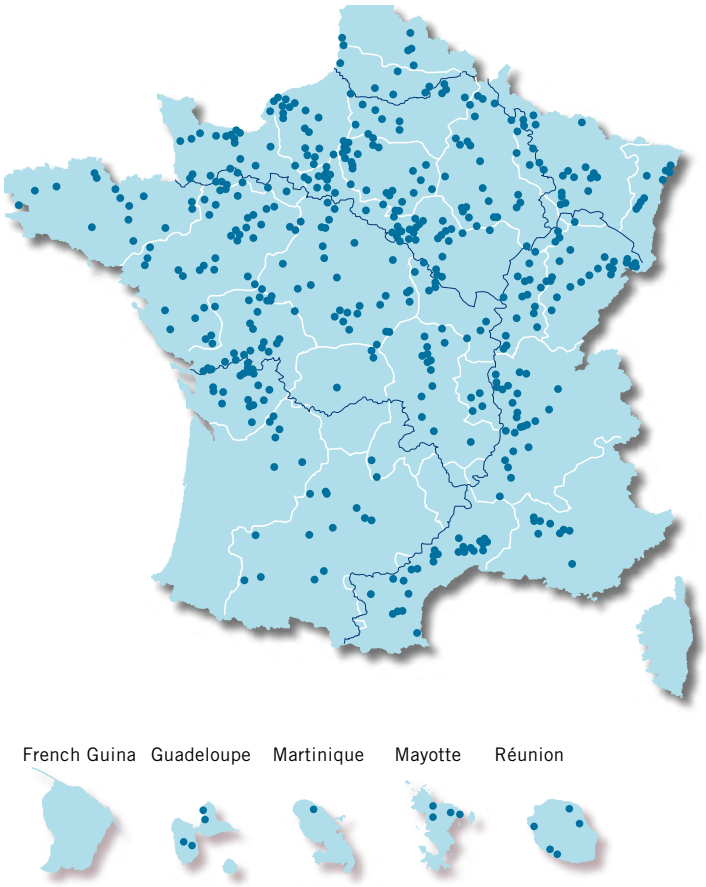
- the quality of raw water (nitrates and phytosanitary levels);
- the strategic character of the resource;
- the drive to recover abandoned resources.

85% of them are groundwater intakes, one quarter of this figure is only affected by a nitrate-related issue, a further quarter is only affected by a pesticide-related problem and the remaining percentage is affected by both.

For the so-called "Environmental" intakes, the objective is to ensure the action plans are implemented before 2012 as part of the approach for the Intake Catchment Areas (ICA). The Environmental Round Table priority focussed on biological agriculture practices or those that used low levels of input products in these areas.

MAP OF THE 532 DRINKING WATER INTAKES COVERED BY THE PRIORITY ACTION PROGRAMME

Source: BIPE according to MEDDTL and the Ministry of Health (2011)



FP2E undertakes a partnership-based approach with the agricultural profession

Alongside the French permanent assembly of chambers of agriculture (APCA), the FP2E is committed to the protection of catchment areas from diffuse pollution; as such, in 2010, it produced a good practice guide for local players involved in the preservation of water resources. These recommendations tackle social, technical, legal and economic issues. The main objective of the guide is to take a first step towards correctly understanding partnership leverage.

The quality of water supplied

Surface waters require a more complex purification treatment than groundwater

Right from the outset, drinking water has been among the leading motives for intercommunity cooperation. Sanitation became a preoccupation slightly later. Today, 2,000 intercommunity organisations bring together around 23,000 French communes for consultation on the issue of water supply. Conversely, more than 13,000 communes organise the water services within the boundaries of their own commune. In total, the total number of water supply services is estimated to stand at approximately 15,500 in France. Most communes are thus grouped together in unions of varying sizes, even if many of them (mainly rural) still have a small network they manage alone. However, this number is decreasing because of the proactive intercommunality policy that was again reinforced in 2011. Some communes have been deprived of a public water supply network, but they have a very low population and, today, 99% of the French population is connected to a drinking water network.

Water companies manage almost 6,000 drinking water production sites. The water treatment is shaped by the quality of the water resource. Since groundwater resources are often of a better quality, they generally require less intensive treatment.

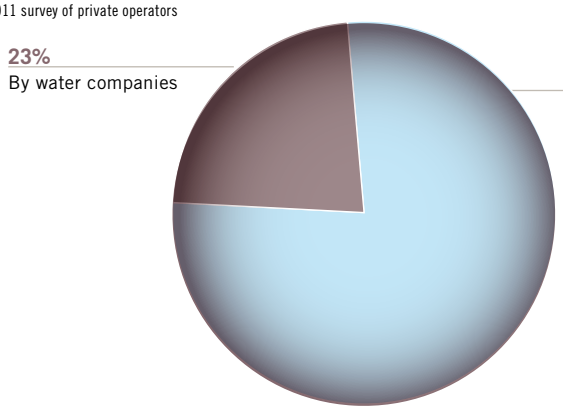
6.6 million analyses per year in the contracted services

Water supplied through public networks is one of the most stringently controlled products for consumption. The French Regional Health Agencies (ARS) performed more than 11 million analyses in 2010 on all public water and sanitation services (delegated management and governance).

In addition to these inspections, the operators themselves monitor the quality of water throughout the production and supply process. In 2010 there was a total of 6.6 million analyses performed on the services operated by the water companies.

QUALITY CONTROLS PERFORMED IN 2010 ON SERVICES WITH CONTRACTED MANAGEMENT

Source: 2011 survey of private operators



Total parameters analysed from intake to point of distribution: **6,6 million**

Sustained, high-performance levels

PERFORMANCE INDICATORS FOR WATER COMPANIES

Source: BIPE according to 2011 operator survey

	2006	2008	2010
Compliance rate with bacteriological analyses	99.7%	99.6%	99.7%
Compliance rate with physical-chemical analysess	98.6%	98.7%	98.6%

SANITATION INSPECTION DATA PRODUCED BY THE ARS
(previously DDASS - department health and social affairs directorate – until April 2010)

Source: SISE-Waters, ARS, French Ministry of Health 2011.

	2006	2008	2010
Proportion of the population supplied with water that consistently complied with the microbiological parameters	95.6%	96.2%	96.8%

Consumers largely satisfied with tap water quality

Previous consumer studies have shown that the water supply and sanitation services are among the most popular public services. In the delegated management services, the written complaint rate[7] is less than five for every thousand customers.

The advisory committee for local public services (CCSPL) provides a platform for discussions between consumers, the local authorities (owners) and the operators. In 2010, there was an average of 85 CCSPL for every one hundred services with delegated management. This figure is on the increase, since in 2008 it was at just 76%.

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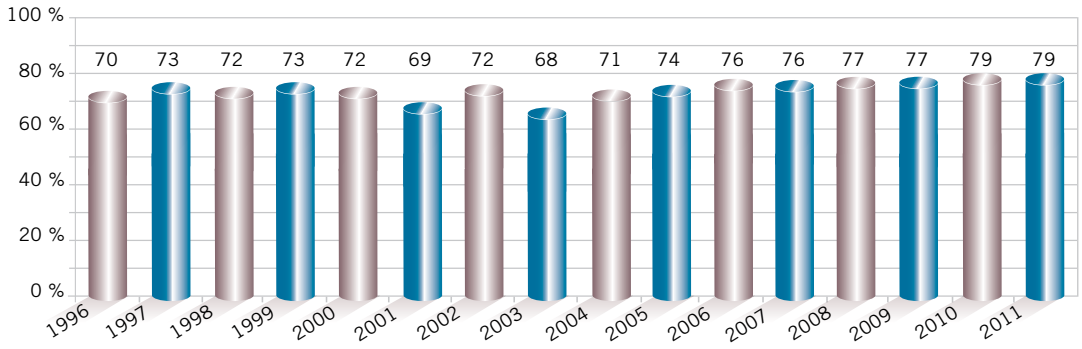
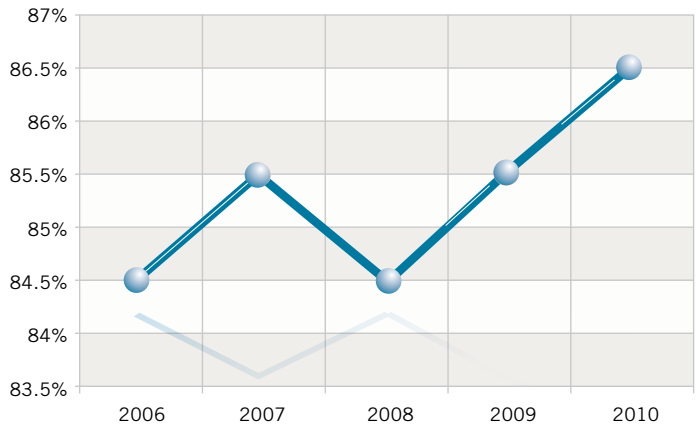
WATER QUALITY SATISFACTION LEVELS IN 2011

Source: C.I.Eau/TNS Sofres barometer 2011



CHANGES IN SATISFACTION LEVELS CONCERNING THE QUALITY OF TAP WATER

Source: C.I.Eau/TNS Sofres barometer 2011



For the second year running, the C.I.EAU/ TNS/SOFRES 2011 barometer confirms satisfaction levels of almost 80% of the population questioned regarding tap water.

This satisfaction equates to public confidence in the safety of tap water, as well as its cost, is likely to be the main factor behind the predominant consumption of tap water rather than bottled water. Indeed, since 2001, there has been ever-increasing confidence in tap water. In 2010, it reached a record level of 86%, and contrary to popular belief, three out of four French people consider their tap water to be “good”.

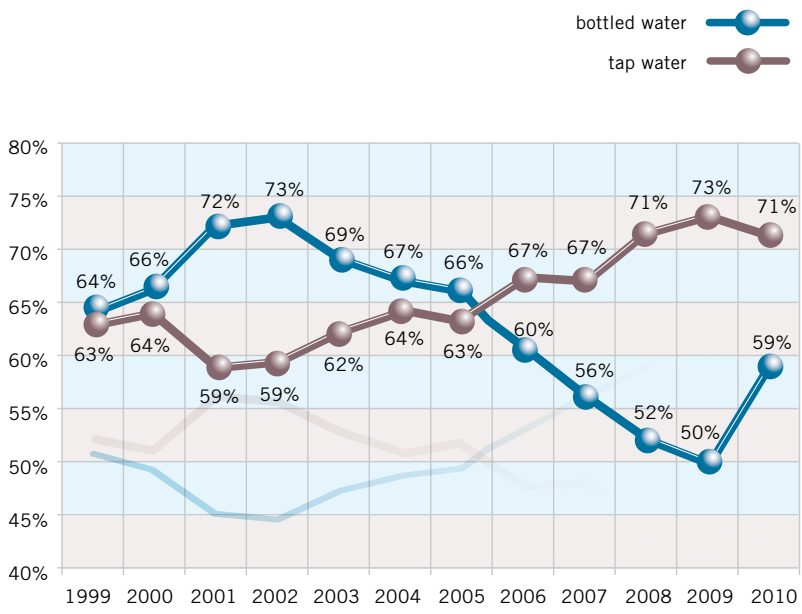
7- Definition: (number of complaints received in writing (letter, fax, email)/number of customers).

Almost two out of three French people (65%) drink tap water every day.

- 78% of those surveyed said they drank tap water (65% daily and 13% occasionally) and 71% on a weekly basis;
- 77% said they drank bottled water (47% daily and 30% occasionally) and 59% on a weekly basis. The last statistic has increased by nine points compared with 2009. This variation seems to reflect an increase in fears concerning food safety, particularly at a time of financial crisis.

DECLARATION OF WATER CONSUMPTION AT LEAST ONCE A WEEK

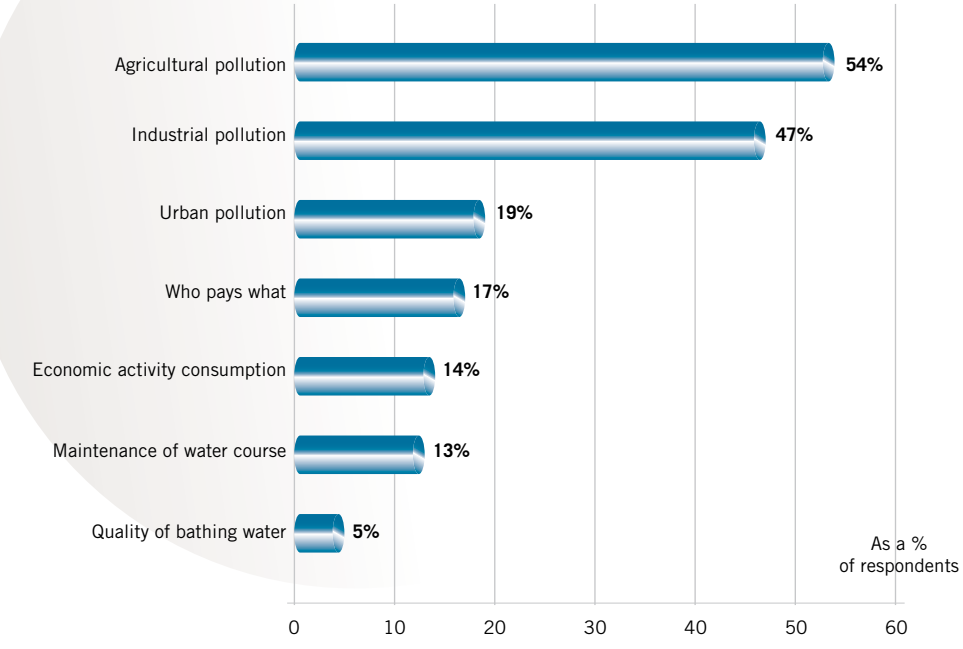
Source: C.I.Eau/TNS Sofres barometer 2011



As part of the national water survey in 2008 conducted by the Water Agencies, the French population was quizzed on their concerns in the water sector. The results show their primary concern lies with agricultural and industrial pollution.

"IN ADDITION TO THE QUALITY OF DRINKING WATER, WHICH INTERESTS MOST FRENCH PEOPLE, WHAT ARE YOUR TWO MAIN CONCERNS IN THE WATER SECTOR?"

Source: Rhin-Meuse Water Agency – National Water Survey 2008: National summary of summaries per basin – March 2009

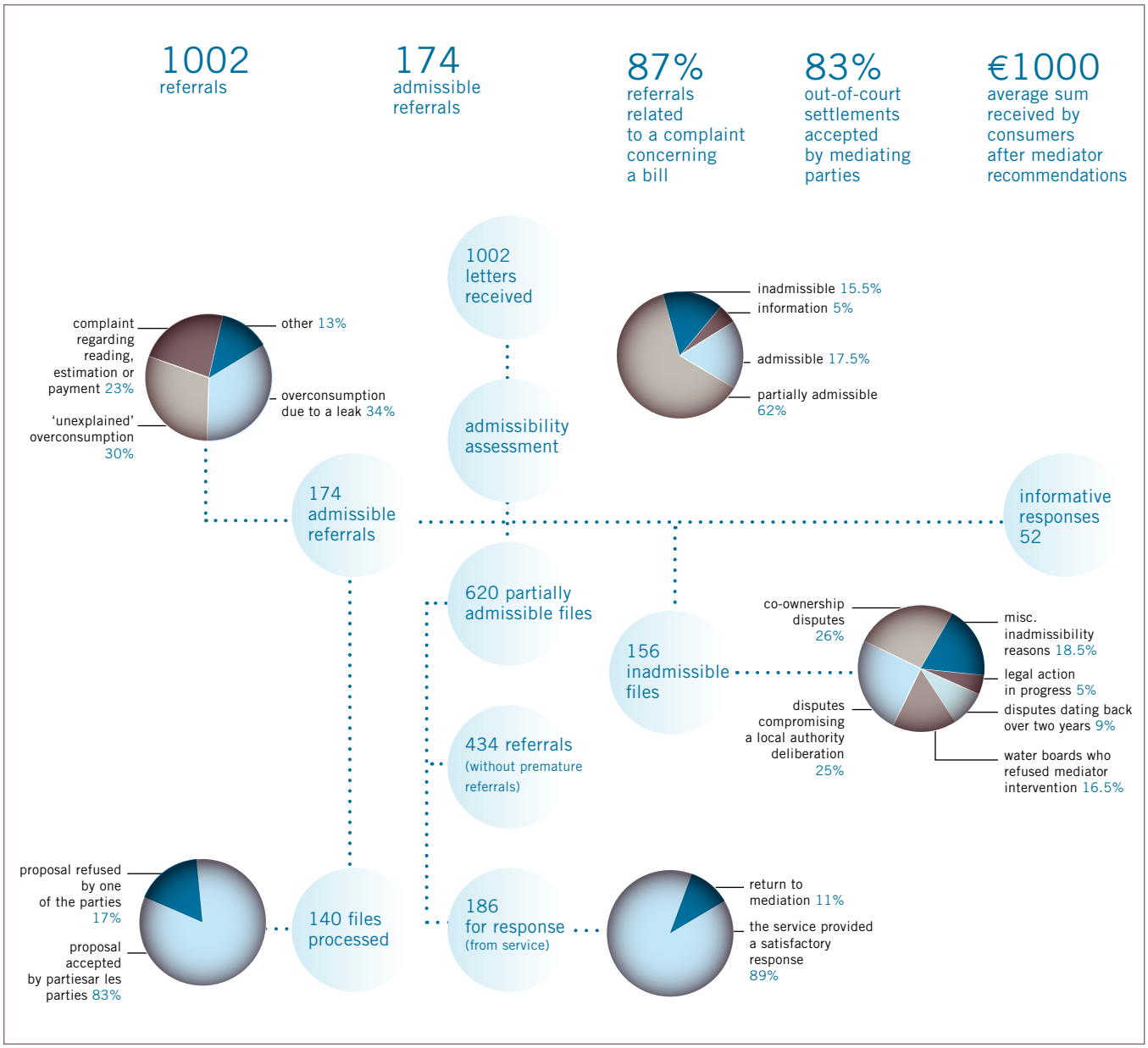


The implementation of a water mediator, to be increasingly receptive to consumer concerns

All the figures point to overall consumer satisfaction, however, as in all public services, there are some disputes. The Association of French Mayors, the Assembly of Communities in France and the water companies joined forces to set up a water mediator in October 2009. It constitutes a free and flexible alternative to legal proceedings in court. Its other objective over the long-term is to improve the service offered to consumers.

KEY FIGURE CONCERNING THE WATER MEDIATOR IN 2011

Source: Water Mediator (-2011)



Thus, the year 2010 saw the water Mediator "establish its place" in the water sector. It received a little more than 1,000 referrals. Approximately 15% of them were inadmissible, since they did not fall within its field of competence, 60% were 'partially admissible', i.e. they were covered by the scope of competence of the Mediator, but did not fulfil all the eligibility conditions. 18% were elected by the water Mediator for full assessment and 5% of the referrals were provided with a response.

The vast majority (87%) of the admissible referrals were related to a dispute concerning an invoice. Out-of-court settlements were accepted in almost 9 out of 10 cases by the mediating parties, and an average of €1,000 was reimbursed to the consumers after the Mediator's ruling.

Network maintenance and resource conservation

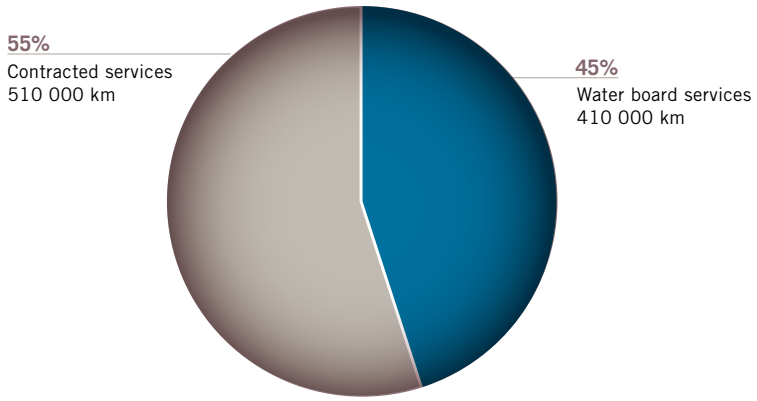
Maintenance of water supply networks is a key factor in water resource conservation. Each local authority must strive to strike a balance between ecology and economy in terms of the management of its network.

In 2010, estimates suggest[8] that the length of the drinking water supply network, from water treatment facilities to user meters, is some 920,000 km. In 2010, the water companies managed almost 510,000 kilometres, i.e. 55% of this network.

Half the piping network was installed before 1972[9]. 20% of the pipes predate 1960 and are made from cast iron or steel. Since these materials are brittle, they are responsible for the majority of leaks. Replacing damaged lines reduces the leaks and ensures water resource abstraction is controlled upstream. The annual replacement rate declared for the 2006-2008 period, the same as that forecast for 2009-2011, stands at roughly 0.6% per year at a national level (water board or public service contractors). However, the service life and the performance of a network varies massively in accordance with the materials used, as well as the installation conditions and land use.

The Environment Round Table mandated the creation of a detailed description of the water supply and sanitation network before the end of 2013. A draft decree also sets out the objectives to be respected in terms of water loss in the supply networks, in accordance with the water resource and services.

MANAGEMENT OF DRINKING WATER SUPPLY NETWORK IN 2010



8- Based on a constant growth rate calculated using data provided by CGDD at MEDDTL: 877,000 km in 2004 and 906,000 km in 2008

9- Cador inquiry: Drinking water supply pipeline assets - 2002

Failure to meet these objectives shall entail the services implementing action plans to reduce water losses in the supply network, and if no action plans are defined or produced, the water agency, or in French overseas territories, the water board, shall apply an increased charge for abstraction of the water resource.

'Net water use efficiency' takes account of both changes in consumption and the quantities of water lost through leakage. To sustain or improve supply network efficiency, it is necessary to further reduce the leak rate when consumption declines. In 2010, the average efficiency (weighted by the volumes supplied) of drinking water supply networks managed by services in the water companies stood at 81%. At a national level, taking account of all operators, the average water loss rate stood at 22% in 2008, i.e. average efficiency rate of 78%[10].

Another indicator of whether a water supply network is managed correctly is service continuity. This is measured by the number of unscheduled interruptions to service, in relation to the number of customers.

To conclude, increasing attention is being paid to water stewardship management in terms of the supply networks and is illustrative of how the organising authorities are increasingly aware of the need for water resource conservation.

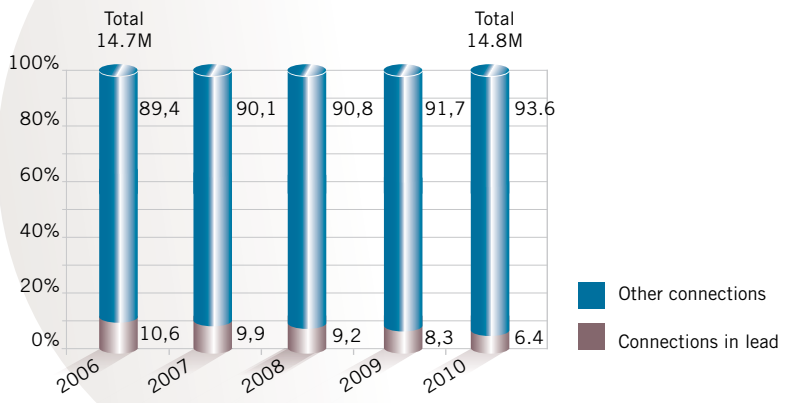
In addition, with regard to the local characteristic of services and the amount of available resources, steps should be taken on a case-by-case basis to define an optimum performance level, integrating the costs related to the implementation of this new policy.

Rate of unscheduled interruptions to service in 2010: 2.8 for every thousand customers

An increased effort within the services managed by the water companies to replace lead connections

CHANGES IN PROPORTION OF LEAD CONNECTIONS USED BY SERVICES MANAGED BY THE WATER COMPANIES

Source: BIPE according to operator surveys in 2007. 2009 and 2011



Implementation of the European directive related to the quality of water for human consumption generally imposes removing all lead piping used for tap water by the end of 2013[11]. With regard to the public section of the water network, the local authorities have made huge efforts to comply with regulations. These efforts mean the services managed by water companies are replacing lead piping at an increased rhythm to meet the objectives. Some local authorities have already completed the replacement of all lead piping connections.

In 2010, only 6% of the connections used by services managed by the water companies were still in lead.

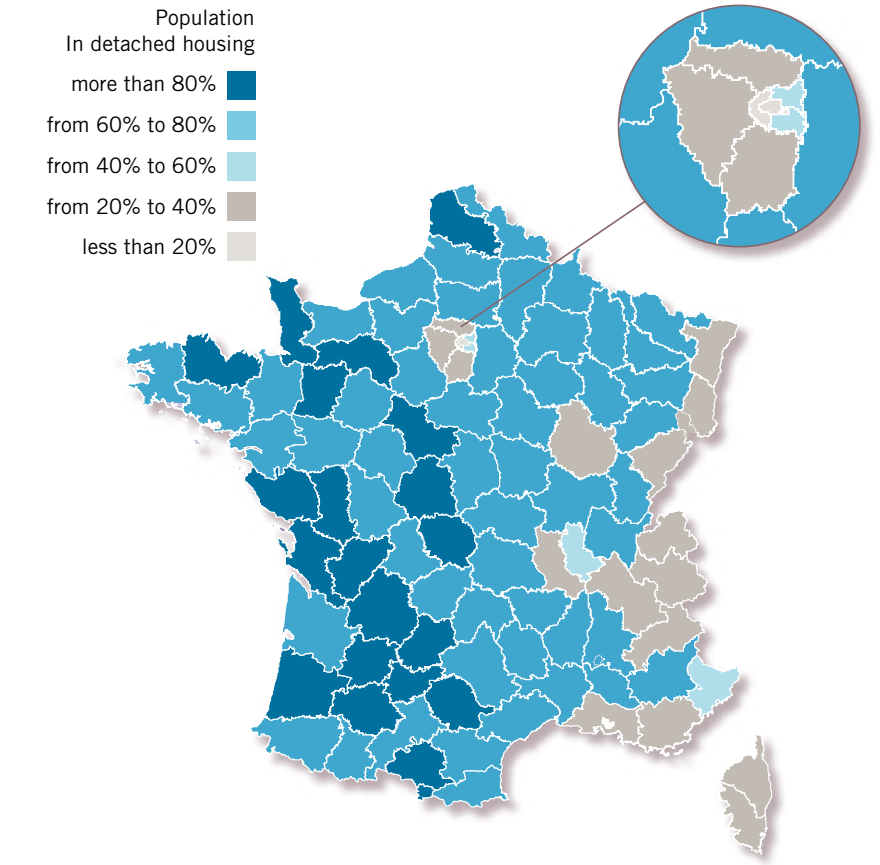
10- Spotlight on the water and sanitation services. CGDD at MEDDTL. December 2010.

11- Legislation imposes a threshold value of 10 µg/L for lead content in drinking water from 2013 onwards.

Sanitation of waste water

POPULATION DISTRIBUTION ACCORDING TO THE TYPE OF HOUSING OCCUPIED

Source: BIPE according to INSEE census in 2007



There are two organisation modes for waste water services: collective sanitation and independent sanitation. Decisions regarding distribution between these two modes are taken by the Mayors and the Chairpersons of public institutions for intercommunity cooperation (EPCI); such decisions are particularly influenced by the urban density in question.

Wastewater sanitation is largely performed collectively. If it is not possible to connect residences to the collective sanitation network, they must be equipped with independent sanitation facilities. Most residences that are not connected to the sanitation networks are detached houses, mostly in rural areas. The map opposite shows the distribution of the French population living in detached housing per *département*.

In terms of both the number of houses and population levels, it is clear that the majority of detached housing is located in western and central France, whereas the population in the Ile-de-France, in *départements* located on borders and in the south-east mostly live in collective housing.

5 million residences and a population of 12 million in areas with independent sanitation

In contrast to the 82% share of French residences connected to a wastewater collection and treatment network that continued to increase in 2008, the number of residences equipped with an independent sanitation system remained stable (i.e. 5 million residences)[12]. From among these 5 million residences, half are located in communes with a population of less than a thousand. They represent a total population of around 12 million.

Pursuant to the 1992 water law, communities or communes that do not have access to collective sanitation should have implemented an Independent Sanitation Public Service (SPANC) before 1 January 2006.

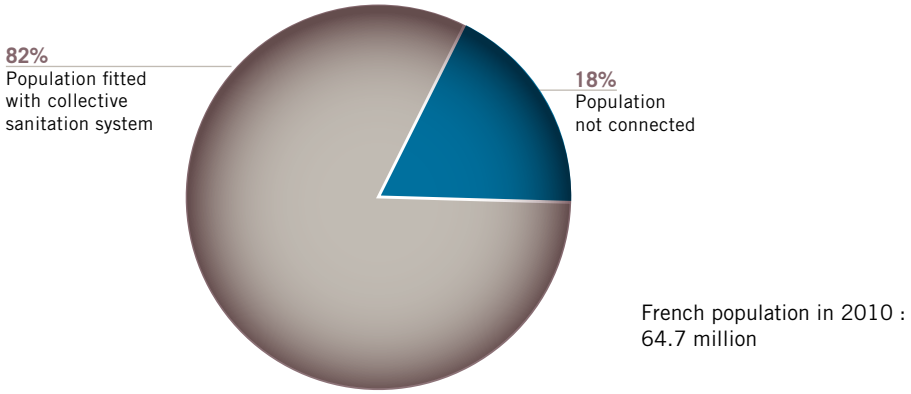
12- According to MEDDTL services, there were 5,379,000 'non-connected' residences in 2004 and 5,330,000 in 2008, i.e. 16.8% of all residences.

In 2004, only 10,500 communes, representing 39% of the residences not connected to a collective sanitation services had created a SPANC. By the end of 2008 this figure had increased to 27,700, i.e. 85% of non-connected residences. Four times out of five, they have intercommunal organisation and are managed by the water board.

The law pertaining to water and aquatic environments dictates that communes must inspect all independent sanitation facilities in their area before 31 December 2012. In 2008, 1,153,000 installations with a service life in excess of eight years (20% of fleet) were inspected. 48% were compliant, 51% noncompliant and 1% undetermined.

PROPORTION OF FRENCH POPULATION LOCATED IN AREAS WITH COLLECTIVE SANITATION SYSTEMS

Source: MEDDTL, 2010



Maintenance of sanitation networks

In 2008, 20,580 communes had access to a separate sewer system in part of their commune. The separate sewer system is 297,000 km long, with one third reserved for rainwater collection only, and the rest for wastewater. The combined sewer system had 97,000 km of pipes, i.e. 25% of the total. The average length of piping in all networks is 14.7 meters per connected residence.

In 2010, the water companies were in charge of more than 175,000 kilometres of network as part of the public sanitation services they operate, i.e. an increase of almost 7% compared to 2008. Network maintenance is a fundamental part of sanitation services, to prevent any release outside the wastewater treatment plant (WWTP) that could pollute the natural environment.

Most major WWTPs are managed by the water companies

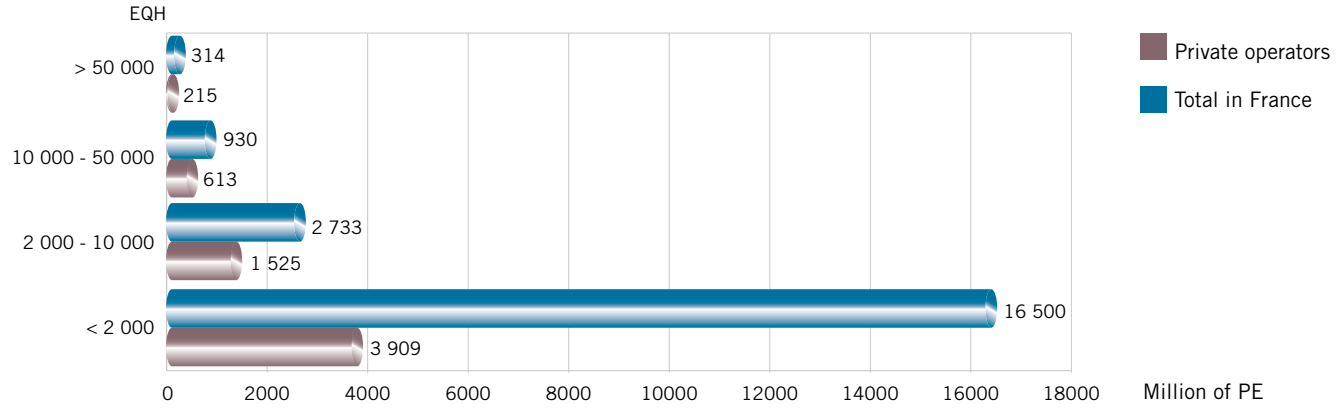
Three quarters of the WWTPs are composed of small-sized plants with a PE of less than 2,000. The water companies operate approximately 6,200 WWTPs, i.e. almost a third of French plants.

They manage two thirds of plants with a PE of more than 10,000 and almost 60% of all the WWTPs in place[13] in France.

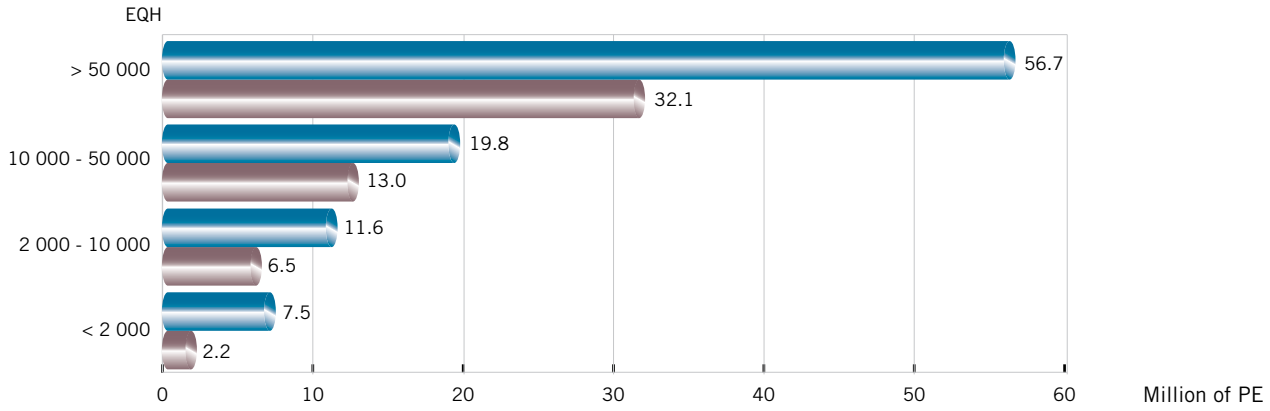
THE WWTP FLEET

Number of plants in accordance with their nominal size in population equivalent[14]

Sources: BIPE according to a 2011 operator survey -number of plants (2009) – nominal capacities (2010) - MEDDTL: BDERU 2009



Sum of WWTP nominal capacity in accordance with their size classification.



13- Sum of nominal capacities of purification plants in France.

14- PE: Population-equivalent
Population equivalent is a measurement unit based on the pollution produced per capita per day. It expresses the pollution load contained in 180 litres of wastewater, i.e. the production per capita over a 24 hour period. The PE determines the size of WWTPs in accordance with the pollution load.

Regulatory compliance of WWTPs, a major challenge for the conservation of the natural environment

Controlling release after wastewater decontamination contributes to conservation of the natural environment, and, therefore, the quality of natural resources. The obsolescence of some WWTPs, the rate of infiltration water collected in the water networks and the degree of saturation of the plants are additional factors that impact the reduction in the compliance rate[15]. The reduction in volume is also a pollution concentration factor: for example, if a household makes an effort to change its behaviour and consume less water for the washing up, this does not mean it will dirty less plates, so the same amounts of grease are evacuated, with less water.

PERFORMANCE INDICATOR MAYOR'S REPORT – DECREE AND ORDER OF 2 MAY 2007

Performance compliance of wastewater treatment equipment as per specifications in the individual act pursuant to the water policy in 2010[16] : **86.1%**

Wastewater treated by water companies in 2010: almost 2.2 billion m^3 (2% increase compared with 2008).

Treatment capacity in 2010: more than 54 million population equivalent (sum of nominal capacities of WWTPs).

The overall treatment efficiency is a summary indicator that takes account of the WWTP performance in terms of different pollution types: Biological oxygen demand (BOD[17]), Chemical oxygen demand (COD[18]) and suspended matter (SM) for all WWTPs, as well as nitrogen and phosphorus for WWTPs with a PE of more than 50,000.

15- In accordance with the European directive concerning urban wastewater and the transposing decree.

16- Corresponds to percentage of 24 hour assessments performed as part of the self-monitoring performed in accordance with the regulation

17- The BOD is the quantity of oxygen required to oxidize organic matter (biodegradable) biologically (oxidization of biodegradable organic matter by bacteria).

18- The COD is the oxygen consumed by powerful chemical oxidants to oxidize organic and mineral substances in the water.

Additional factors that add to the complexity of operations at WWTPs are: the size of the wastewater volumes collected, the multiplicity of the treatment operations, the complexity of the operation procedures for the treatment of water and sludge, the most stringent release standards, particularly in sensitive areas where the nitrogen and phosphorus rates are to be reduced from the release into natural environments.

Bringing WWTPs into compliance with regulations remains one of the priorities listed in the Environment Round Table action plan (article 24 of the Environmental Round Table implementation schedule). The compliance rate to be attained was 98% in 2010 and 100% by the end of 2011.

From among the 146 WWTPs identified as noncompliant at the beginning of 2007, which were subject to specific monitoring activities, the MEDDTL *(Ministère de l'Ecologie, du Développement Durable, des Transports et du Logement, the French Ministry for Ecology, Sustainable Development, Transport and Housing)* summary in 2011 is as follows:

- in 2006, the non-compliances represented a PE of almost 19 million, this figure has dropped to a PE of 250,000 (i.e. 0.4% of the total load) at the end of 2001;
- since the launch of the ¨urban wastewater¨ plan, 141 WWTPs have been modernized over the 2007-2011 period;
- work at the five remaining noncompliant WWTPs will be completed before the end of 2013.

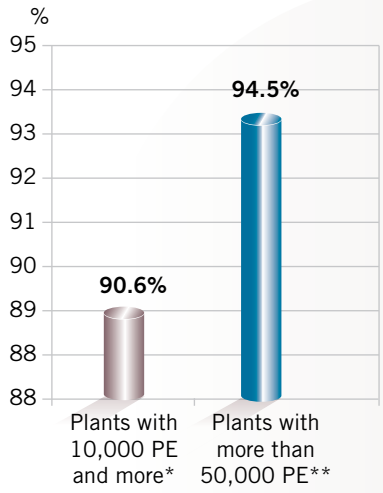
4.5 billion Euros per year have been invested to complete this project, and, since 2007, the symbolic ROI has been the return of salmon in the Seine river.

Given the objective of 'good' ecological status in water bodies, the French Minister for the Environment announced a new framework for action in the sanitation policy between now and 2018, with two objectives:

- reconstruct or modernize 74 medium size WWTPs before 2013;
- ensure the long-term performance of all other WWTPs and their collection networks on behalf of the local authorities.

OVERALL TREATMENT EFFICIENCY OF WWTPS OPERATED BY THE WATER COMPANIES IN 2010

Sources: BIPE according to 2011 operator survey



* For 3 parameters BOD+COD+SM
** For 5 parameters BOD+COD+SM+N+P

70% of wastewater sludge is recycled in agriculture

Sludge from WWTPs represents a major environmental challenge for French sanitation services. In 2009, more than a million tonnes of dry sludge matter[19] was produced by all the sanitation services combined in France. Although the landspreading sewage sludge sector is highly regulated and controlled: it remains the largest in comparison to other sludge treatment sectors.

Downstream from the wastewater treatment sector, recycling of WWTP sludge represents a sector-specific challenge. The water companies managed 56% of the sludge produced in France in 2009.

95% of this total are recycled by the "permanent" sector[20]. The agricultural recycling or incineration rate of sludge managed by the water companies is more or less equivalent to the national average.

In environmental terms, the percentage of sludge discharged has continued to fall between 2008 and 2010 (from 18% to 15%). This reduction has boosted agricultural recycling, which increased from 70% to more than 75% during the same period, and is illustrative how operators are favouring solutions with less impact on the environment.

A methanation process for WWTP sludge is being developed. This process not only makes it possible to reduce and stabilize waste; it also reduces GHG emissions, while providing a renewable energy source. It was used in 88 WWTPs in France in 2010. The process treated 370,000 tonnes of sludge matter from WWTPs by producing the equivalent of almost 1,000 GWh of power.

SEWAGE SLUDGE DESTINATIONS

Sources: BIPE according to operator surveys in 2009 and 2011- MEDDTL: BDERU 2008 and 2009

19- Residual volume of sludge after drying

20- The following sectors are considered as «permanent":
– landspreading: landspreading plan + transport declaration ;
– discharge: dryness (% of dry matter) greater than 30% + transport declaration;
– incineration: plant operator authorization + transport declaration;
– date stamping: operating declaration or authorisation if production greater than 10,000 t/year.

Institutional organisation

Public water and sanitation services in France

The water and sanitation services are still considered as 'public services of an industrial or commercial nature', placed under the responsibility of communes or groups of communes (regardless of the management mode freely selected by the elected representatives).

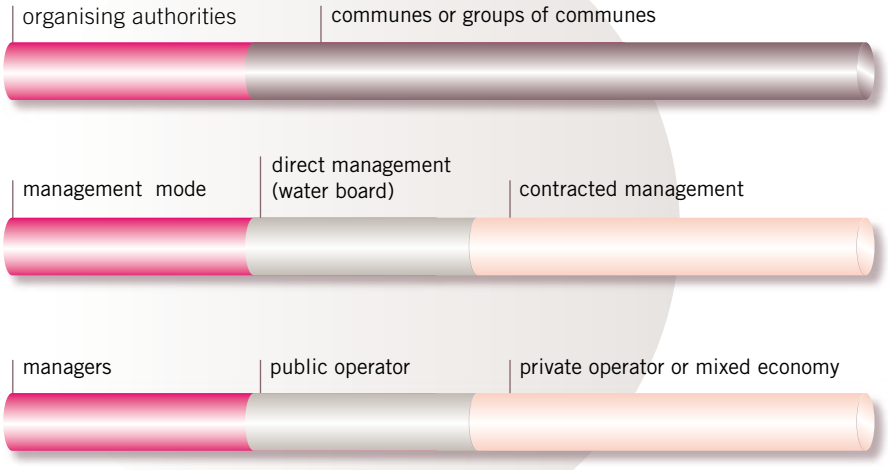
They cover:

- for the drinking water supply service: water intake, treatment and supply, as well as customer management;
- for the wastewater sanitation service (collective or otherwise): wastewater collection, decontamination and release, as well as management of customers and connections.

In the majority of cases, the water supply and wastewater sanitation public services adhere to the following organisation:

- an organising local authority (responsibility of communes and their associations) is responsible for their coordination;
- an operator who manages these services.

This operator can be public or private in accordance (generally-speaking) with the diagram below.



Beyond this organisation, indications suggest that the water companies are taking on an increasingly multifaceted presence, both as a global operator within often extended perimeters (upstream monitoring of resources, quality of bathing water, etc.) and as an operator contracted by the water boards or, in some rare cases, for mixed economy companies or local public companies.

A local service involving multiple players

In addition to the organising authority and the operator, a number of public players also have a role to play:

- the EU that fixes, among other elements, the framework directives applicable to member states;
- the French government who defines the political guidelines in the water sector, both at a national (ministries and central administration services) and local (prefects and decentralized administration services) level;
- ONEMA *(Office national de l'eau et des milieux aquatiques the french national agency for water and aquatic environments),* a benchmark technical organisation in terms of knowledge and monitoring of water statuses, the ecological functioning of aquatic environments and observing public water and sanitation services;
- water agencies who, on the scale of the six main drainage basins, are involved in funding services and providing support for investments in the communes;
- *départements* and regions, also involved at their level with investment support and social policy.

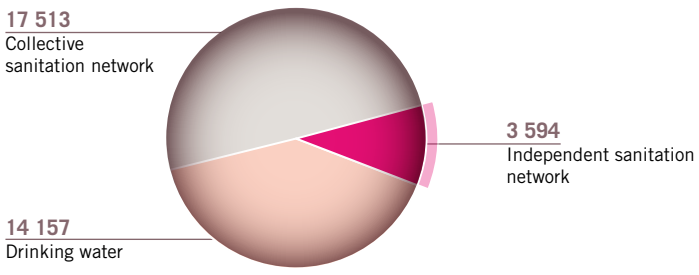
In parallel, representatives from consumer associations and environment protection groups are consulted as part of basin committees or the advisory committee for local public services (CCSPL).

Thirty-five thousand local public services

Water supply and wastewater sanitation services are numerous because of their local character. ONEMA (French national agency for water and aquatic environments) counted more than 32,000 drinking water and collective sanitation services, in addition to a little under 3,600 sanitation services.

MORE THAN 35,000 PUBLIC WATER SUPPLY AND SANITATION SERVICES IN 2010

Sources: ONEMA (French national agency for water and aquatic environments) – 2010 data

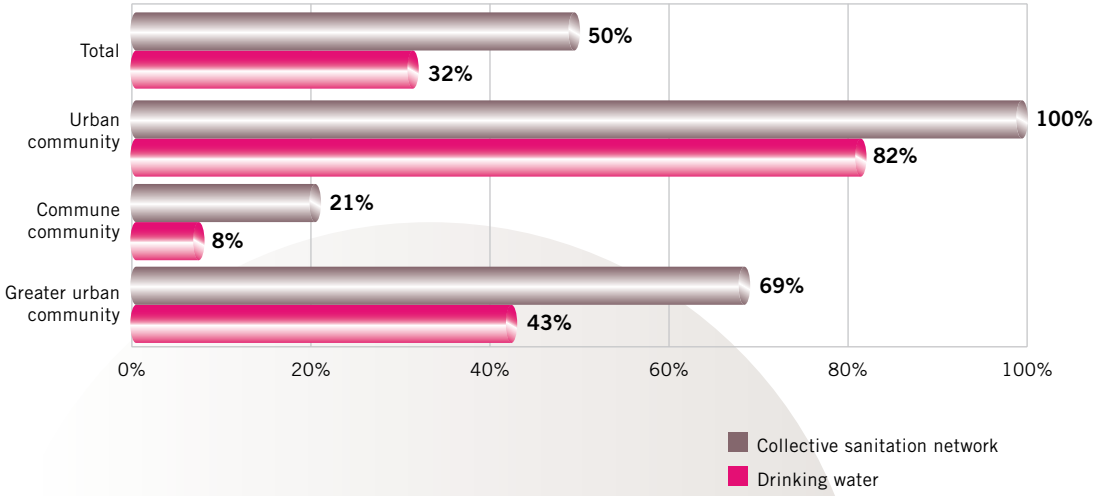


Institutional organisation

The remit for water and sanitation is developed within commune associations. The drinking water remit covers 50% of the intercommunal population, whereas the sanitation remit covers 32% of the intercommunal population (greater urban communities, commune communities, urban communities). These remits are less developed in commune communities, which represent 47% of the intercommunality population.

WATER AND SANITATION REMIT UNDERTAKEN IN ACCORDANCE WITH THREE INTERCOMMUNALITY TYPES
(as a % of the intercommunality population)

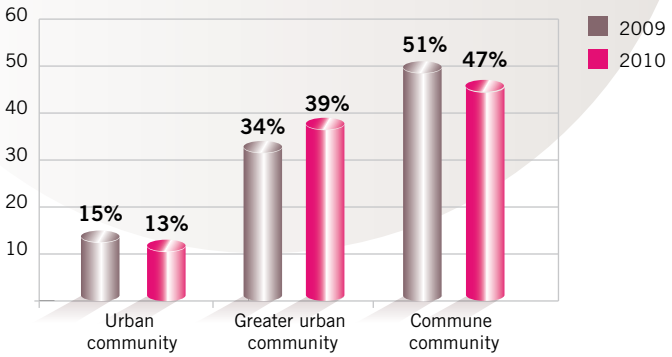
Source: DGCL - data 2010



Total population of intercommunalities in the database used: 24,2 million people.

DISTRIBUTION OF THE POPULATION WITHIN INTERCOMMUNAL STRUCTURES
(according to type)

Source: DGCL - data 2009 & 2010



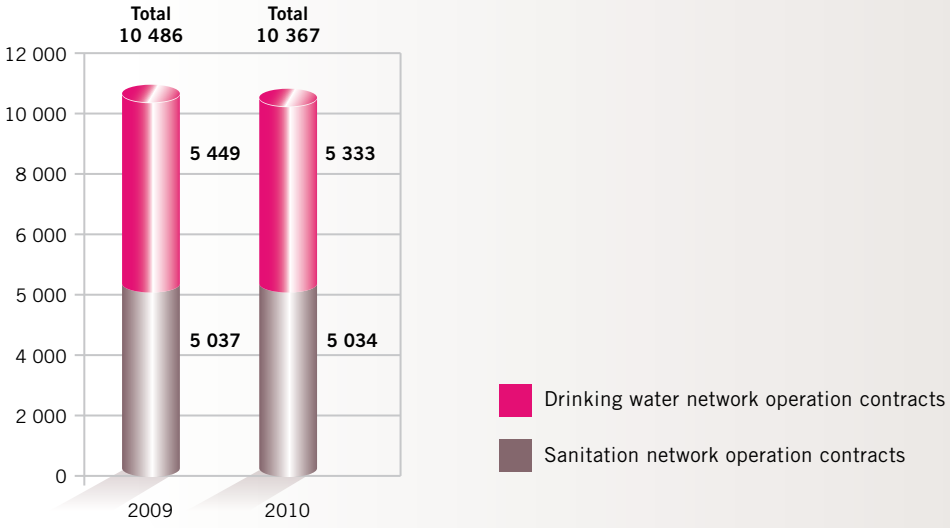
The local authorities are free to chose between managing the services themselves or contracting a private operator. There are many different formats of operator contracting: service contracting contracts (delegated services, service concession, third party management) or service provision contracts.

In 2010, the number of public service contracting contracts (DSP) stood at more than 4,700 for drinking water and 4,200 for wastewater sanitation, i.e. a total of more than 8,900 DSP contracts. Other forms of contracts, comparable to DSPs must not be overlooked. In total, the water companies manage more than 10,400 operating contracts for drinking water and sanitation public services.

In recent years, the number of contracts has decreased; this trend can be explained by the development of 'intercommunality', which results in many pre-existing contracts being grouped together within the intercommunal entity.

CONTRACTING CONTRACTS FOR PUBLIC WATER SUPPLY AND SANITATION SERVICES IN 2010 (throughout France)

Source: BIPE according to operator surveys in 2009 and 2011



Numerous funding and inspection bodies

The administrative framework that controls activities within the water supply and sanitation services is large, both at a local level (through funding and inspection bodies) and at a national and European level (in terms of regulations, expert assessment and overall management).

At a local level, the Water Agency is the main financial player. It mainly helps the local authorities to fund actions to protect resources and fight water pollution. With regard to inspections of the water supply and sanitation services, they are performed:

- on an administrative level, inspections into the legality of the acts and contracts are performed by the prefecture;
- on the financial accounts of the local authority and the operator by the regional chamber of accounts;
- and, on a more technical level, with health inspections of drinking water by the ARS and the functions related to the water policy, particularly the fight against pollution, centralized through an interservice task force.

MEDDTL
Ministère de l'Écologie, du Développement Durable, du Transport et du Logement (French Ministry of Ecology, Energy, Sustainable Development and Territorial Development)

ONEMA:
Office national de l'eau et des milieux aquatiques (French national agency for water and aquatic environments)

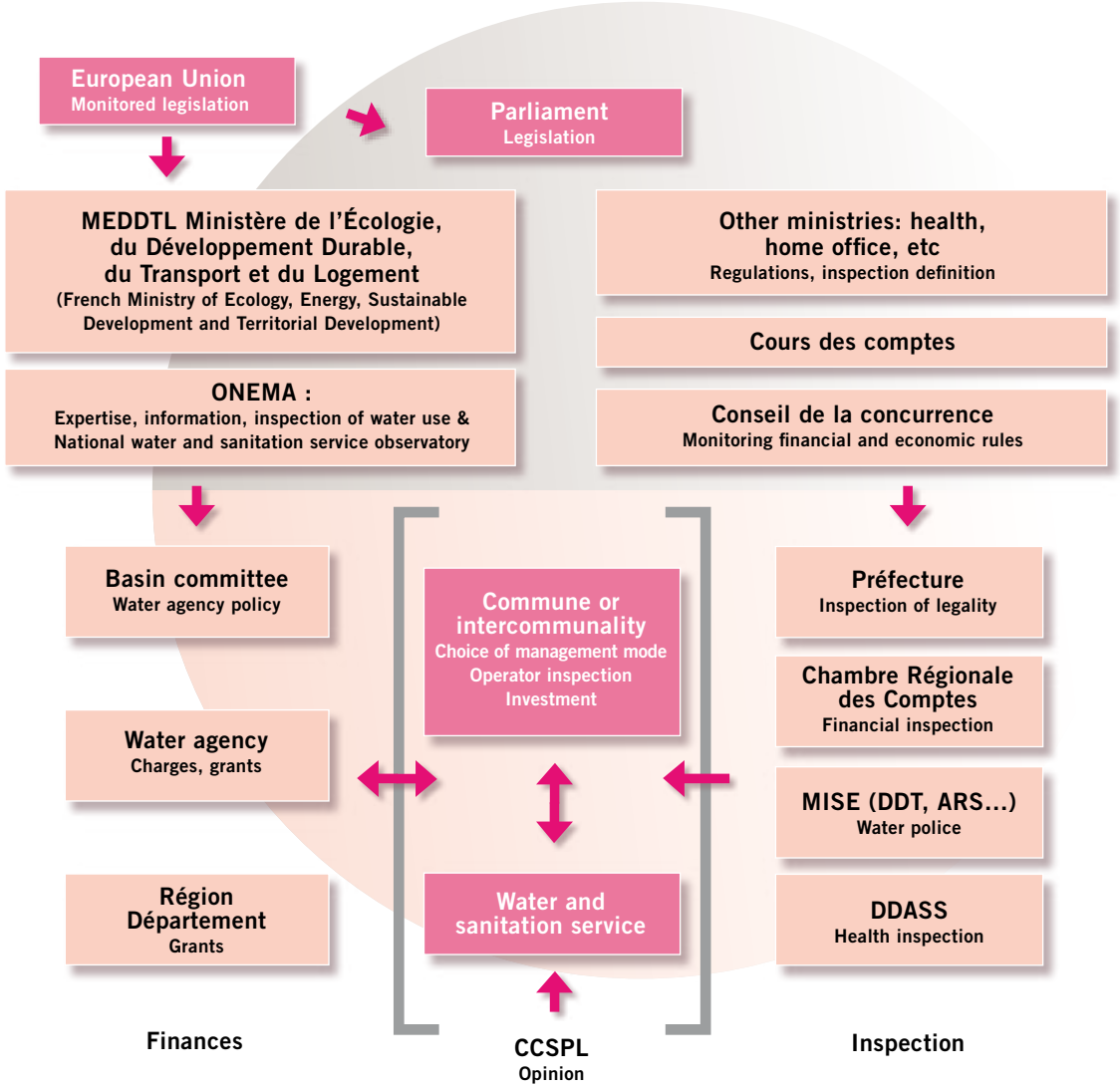
MISE:
Mission interservices des eaux (Interservice water task force)

DDT:
Direction départementale des Territoires (Departmental direction of the territories)

ARS:
Agence Régionale de la Santé (Regional health authority)

CCSPL:
Commission consultative des services publics locaux (advisory commission on local public services).

MAIN PLAYERS IN TERMS OF FINANCE AND INSPECTIONS



The water sector economy

The volume

3.8 billion m³ of water supplied per year

3.8 billion m³ of drinking water were supplied in 2010, 70% by the water companies (this percentage remains stable).

With regard to sanitation, 2.8 billion m³ of wastewater was collected in 2010; more than two thirds of this figure were recovered by the water companies as part of their sanitation service operating activities.

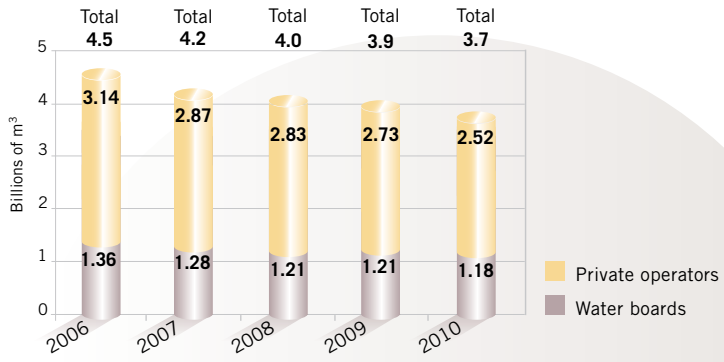
Generally speaking, the difference in volume between the water supplied and wastewater is explained by:

- residences not connected to the wastewater collection network to which they depend;
- residences located in independent sanitation areas;
- industries connected to the drinking water network with their own sanitation system.

It should be noted that in France over the last few years, trends have seen a drop in volumes supplied, reflecting an increasingly green, water-saving consumer mindset. The annual increase in the population of 0.4% does not compensate the decline in water consumption.

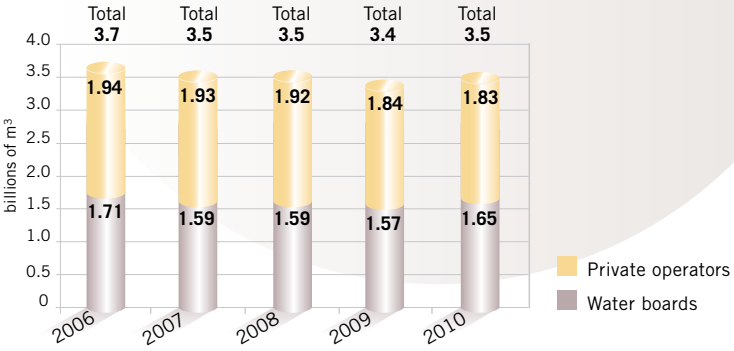
DRINKING WATER: DISTRIBUTION OF VOLUMES BILLED BY THE OPERATOR

Sources: BIPE according to operator surveys in 2009 and 2011



SANITATION: DISTRIBUTION OF VOLUMES BILLED BY THE OPERATOR

Sources: BIPE according to operator surveys in 2009 and 2011



The cost of the service

In France, the cost of the services covers the entire water cycle, from its intake for drinking water production, until its return to the natural environment, after purification In contrast to other European countries, this price covers the investment and operating costs.

The water bill received by consumers is structured according to regulatory requirements in three parts:

- drinking water;
- wastewater;
- taxes and charges levied on behalf of the government and the water agencies.

In each part, a line is devoted to each of the recipients of the bill (intercommunal share, communal share, operator share, water agency, Voies navigables de France, government, etc.).

Local prices for local services

The water supply and sanitation services are local public services. The owner local authority sets the tariff through a vote in its deliberative assembly. Taxes and charges are added to the water bill that are not within its remit (controlled by the water agencies and the government).

In France, the price of the water service is on average just above €1 per day per family, for 330 litres of water supplied then purified daily.

Beyond this generalized average view of the cost of the water service, local prices may vary. As such, there may be as many prices as there are water and sanitation services. Indeed, the organising authorities may monitor the various policies in terms of asset and performance management and quality of services, which could lead to discrepancies in the economics of the service.

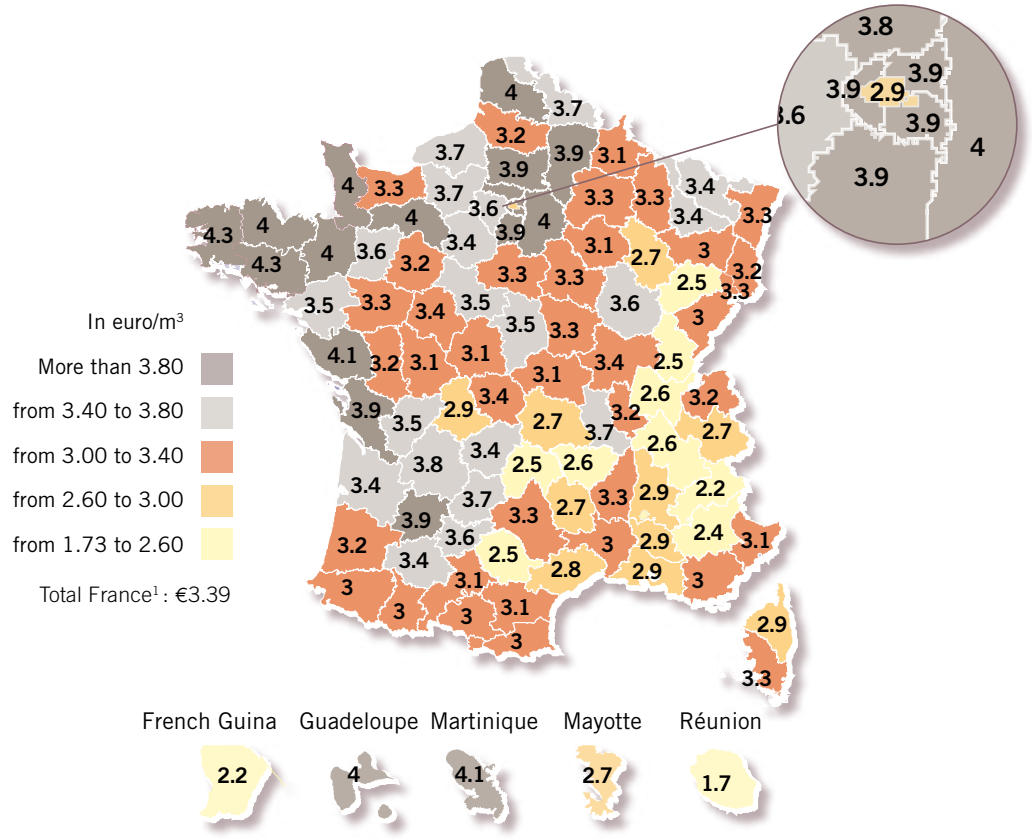
Many factors may cause differences from one service to another:

- geographical factors: type of resource, location topography, population density, etc.;
- technical factors: quality of the resource, quality and sensitivity of the environment receiving the treated wastewater, state and performance of networks, connection ratio with sanitation network, resource safety level, etc.;
- sociological factors: average customer consumption, population seasonality;
- governance factors: property and asset policy set out by the local authority, investment scheduling mode, compliance levels of the facilities;
- service quality level: welcome/information services, provision of telephone assistance for customers, billing methods (issuing/payment), continuity of service, etc.

The quality of the water resource is one of the factors with the greatest influence on the price of water, since the treatment techniques to be implemented to produce drinking water are almost twice as expensive for degraded water as they are for quality raw water.

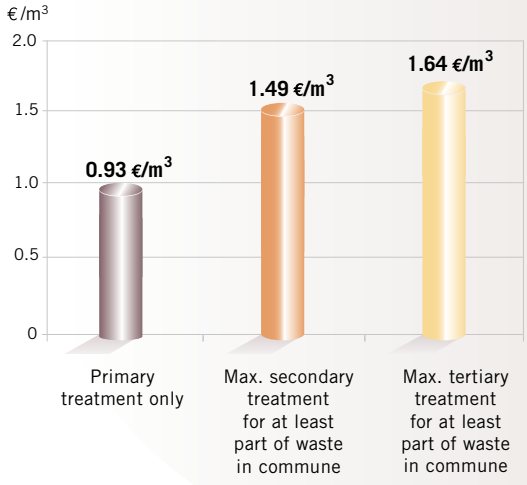
DEPARTMENTAL WATER PRICES (EXCL. VAT) IN COMMUNES WITH COLLECTIVE SANITATION IN 2008

Source: SOeS-SSP, Water survey 2008 – Insee, Population census – © IGN, GEOFLA®, 2006



COST OF DRINKING WATER SERVICE IN ACCORDANCE WITH WATER SOURCE

Source: Ifen-Scees 2007

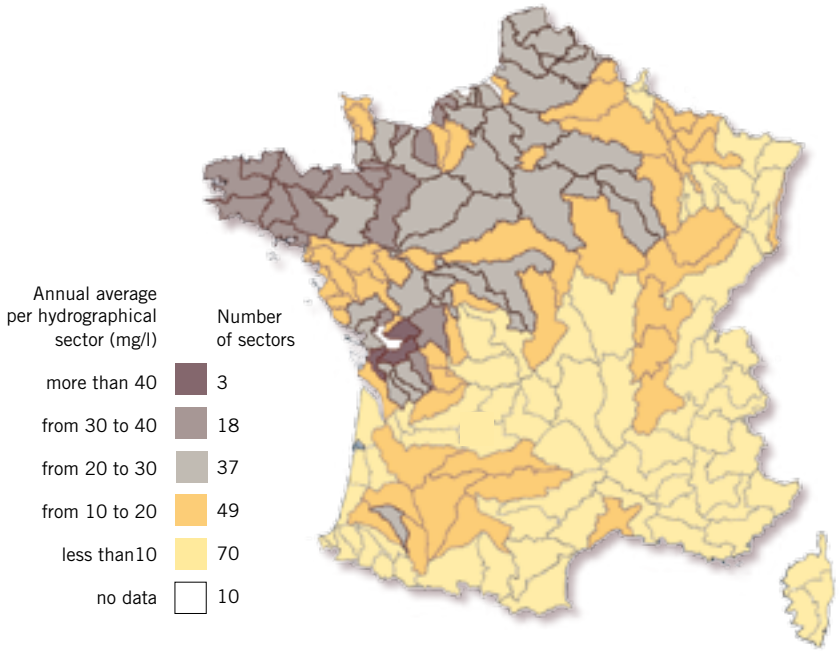


It is clear that the most frequent source of pollution in drinking water in France comes from agricultural sources, particularly nitrates.

This pollution type is behind a large share of price variations that can be observed at a national level.

NITRATE CONCENTRATION IN THE WATERWAYS IN 2007

Source: SOeS according to the water agencies, 2007 – MEDDTL, BD Carthage®, 2008

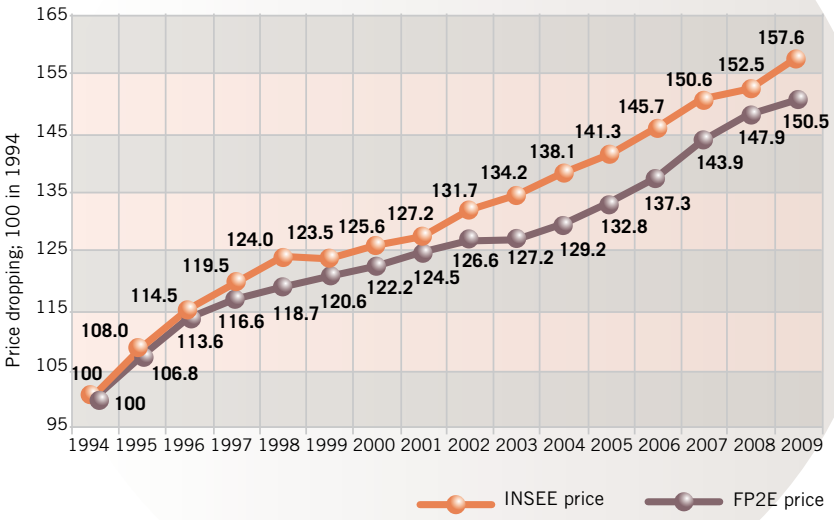


Based on the cost of treating nitrates and pesticides in the drinking water production facilities, the Commissioner-General for Sustainable Development (CGDD) estimates the cost of removing nitrates and pesticides from aquatic environments at more than €70/kg and more than 60,000 Euros per kg for the pesticides. The full cost of decontaminating groundwater reserves is estimated to be more than 520 billion Euros.

Price trends since 1994

WATER SERVICE PRICE TRENDS ACCORDING TO INSEE AND FP2E

Source: BIPE according to INSEE-FP2E data



Since 1994, the price indicator levels set by the French professional federation of water companies (FP2E), which focuses on contracted services, remains higher than the Insee price indicator (€425 per year in 2009 compared with 378 Euros, based on an annual consumption of 120 m^3). Having to manage more complex services is one factor that can explain this difference, tax-related distortions are another: not all operators pay professional tax, property tax and the fees for occupying publicly owned land. Furthermore, only private operators are liable to pay a corporate tax - thus contributing to national or local funding.

Price increases have slowed since 1998. Since part of the investment required to bring WWTPs into line with regulations (stemming from the "residuary urban water" European directive dated 21 May 1991) has been provided by the local authorities.

Average price of sale on 1 July of this year, including drinking water, sanitation and all taxes and charges, for a standard annual bill of 120 m^3 for a domestic customer.

Insee price: average price (year on year on 1 July) for public water and sanitation services, all operators (private and public).

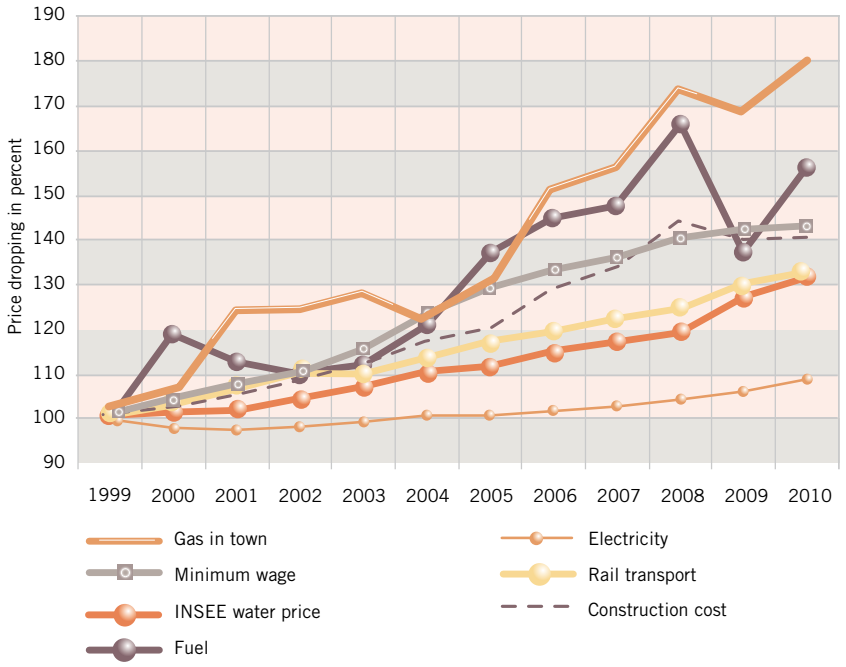
FP2E price: average price of public water and sanitation services set by private operators that are members of FP2E.

Since 1999, water service price increases remain below increases to the French minimum wage

The diagram below shows that over the 1999-2010 period, water service price increases were more contained than the construction cost index and most other consumer prices. The year 2009 was marked by a subsequent fall in fossil energy prices (gas, oil), further to the financial crisis, followed by recovery in 2010; changes in prices for fossil fuel-based energy products followed the same trends. Since price increases for the water service are lower than rises to the French minimum wage (SMIC), there have been limited changes in the impact of water bills on household budgets during the 1999-2010 period.

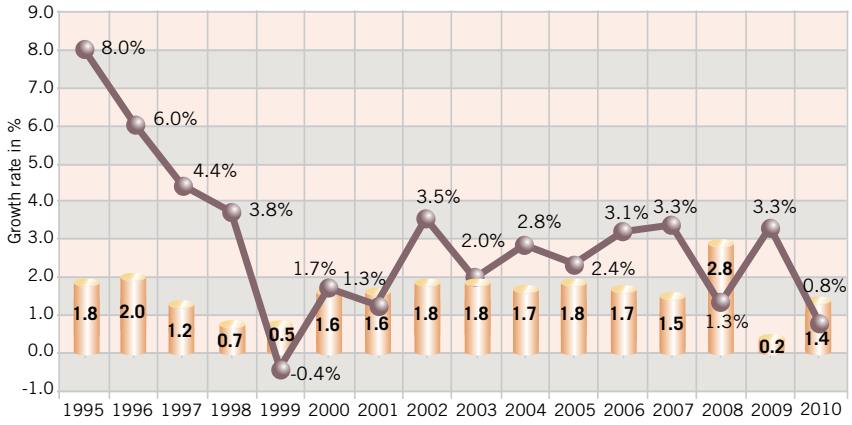
INCREASES IN CONSUMER PRICES, THE FRENCH NATIONAL WAGE AND CONSTRUCTION COSTS

Source: BIPE 2011 according to INSEE data (annual average)



COMPARATIVE CHANGES IN WATER PRICES AND INFLATION (INSEE water price - annual price average as of 1 January)

Source: BIPE 2011 according to INSEE data (annual price average)



Remark : since the Insee sample was modified as of January 1998, price trends between December 1998 and January 1999 do not only reflect price modifications, but also modifications of geographical structures or those related to sales.

Continuous price trends

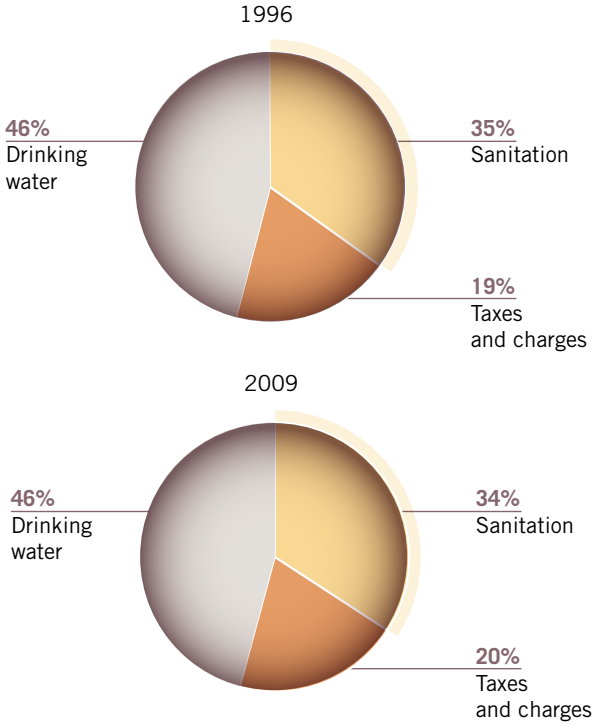
Two main trends came in succession to mark the increases in price of the water service over the last ten years. From 1995 – 1998, price increases reached between 3.7% and 8% per year. This is mainly due to sector-specific factors (investments made by local authorities into drinking water and sanitation). More recently, during the 1999-2005 period, the situation is markedly different: the increase curve clearly drops, with rates comprised between -0.4% and 3.5% per year. Since 2006, apart from in 2008 and 2010, the growth rates are around 3%, due to an increase in investments (driven by regulations).

Stability of proportion related to sanitation and drinking water in the "excluding tax and charges" price

Between 1994 and 1996, drinking water prices (excl. tax and charges) dropped, and at the same time, sanitation prices (excl. tax and charges) increased. Since then, the proportion of prices related to drinking water and sanitation and the taxes and charges have stabilized. An upward trend is observed for taxes and charges, particularly those related to sanitation.

PRICE BREAKDOWN FOR WATER SERVICES IN 1996 AND 2009 (average FP2E price)

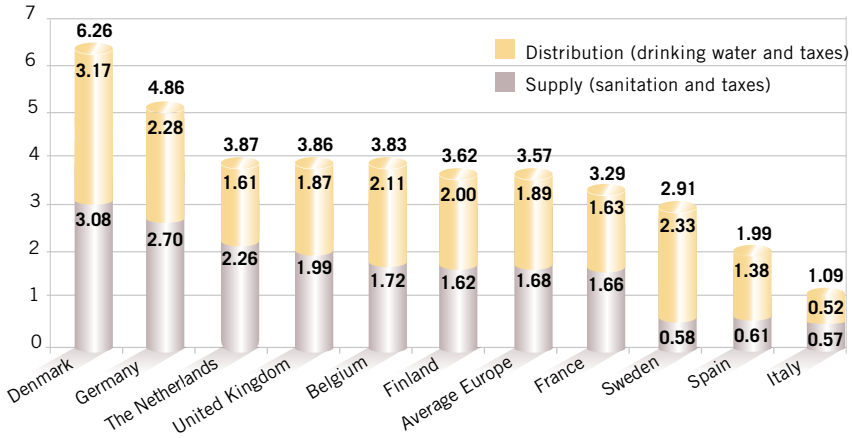
Source: BIPE according to operator survey 2009



Average price of water stands at €3.28/m³ in the five largest cities in France

AVERAGE PRICES FOR PUBLIC WATER SERVICES IN THE FIVE LARGEST CITIES IN EUROPE IN 2010

Source : NUS Consulting 2011



*Price weighted by population except for the European average. Water service price for private customers in the five largest cities in each country, based on an annual consumption of 120 m³.

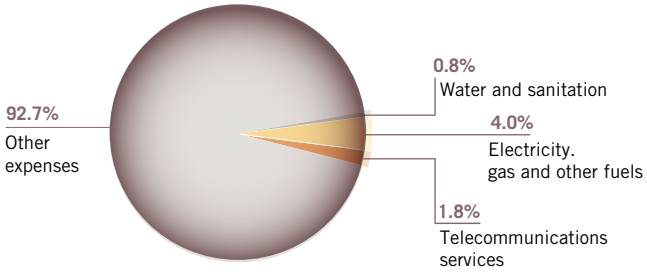
The NUS Consulting study into prices per m³ applied in major European cities revealed that the average price in the five largest cities in France was €3.28 per cubic metre in 2010. It remains 8% below the average of the five largest cities in each of the 11 countries considered in the study.

Several factors explain the differences in price: local service conditions, quality of life; taking account of precipitation levels: they are funded by the end-user in Germany, whereas in France they are funded by the taxpayers. Grants: Spain enjoys significant European and state-funded grants for large-scale structures such as WWTPs, such investments were not felt in the costs. The local authorities expect sharp price increases over the coming years.

Water: 0.8% of household budgets

PROPORTION OF HOUSEHOLD BUDGET EXPENSES RELATED TO WATER IN 2010

Source: BIPE according to INSEE 2010

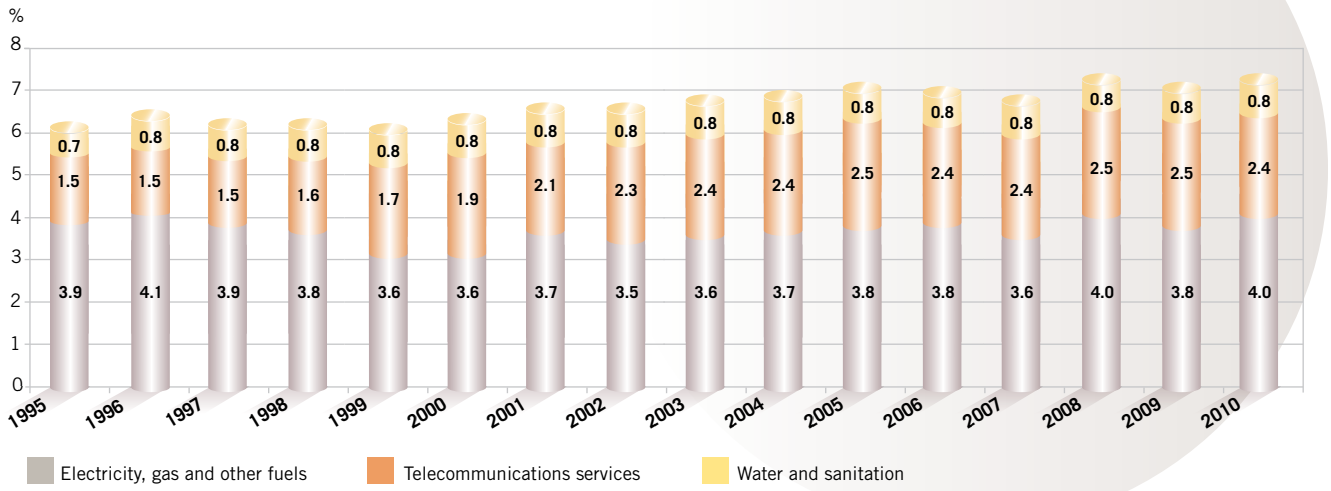


According to Insee, in 2010, the average general budget of French households stood at €39,000, out of which €327 were allocated to water- and sanitation-related spending, representing on average 0.8% of the budget. At the same time, 1.8% of was devoted to telecommunication spending and 4% to energy-related expenditure.

The proportion of household budget expenses related to water in 2010 has been static since 1996: 0.8%. The proportion of energy consumption has hardly changed, whereas the telecommunications proportion increased before stabilizing over the last few years.

TRENDS IN HOUSEHOLD BUDGET EXPENSES RELATED TO WATER FROM 1995 TO 2010 (expressed as a % of average household expenditure).

Source: BIPE according to National Accounting data - INSEE

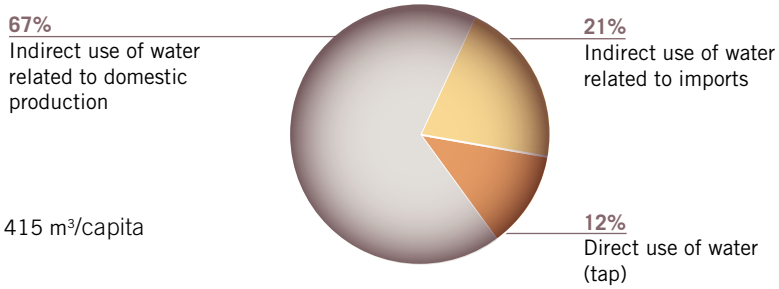


Beyond these expenses that correspond with the direct use of tap water, it is worth taking a look at indirect water expenses. The SOeS estimates, using NAMEA[21] data that the total consumption of water in France is 415 m³/capita/year once the indirect use of water related to that import of consumer goods and their national production (domestic production) has been integrated. These indirect uses of water represent 88% of household consumption.

It is thus possible to calculate the water footprint of households in France. Accommodation and food were the two main items in the water footprints of French households in 2005, including the direct and indirect uses of water. They cover more than 70% of the footprint, whereas they only represent 43% of total household expenditures. 25% of the accommodation water footprint corresponds to sanitation uses. The remaining 75% result indirectly from water used for energy production (mainly cooling systems at electrical power stations). Just 10% of the food water footprint corresponds to tap water consumption. The remaining 90% is related to the production of foodstuffs (mainly irrigation during the agricultural stage). All other goods and services consumed by households, which absorb 57% of their spending, cover 29% of the water footprint.

DIRECT AND INDIRECT COMPONENTS OF THE WATER FOOTPRINT (abstracted) IN HOUSEHOLD CONSUMPTION IN 2005

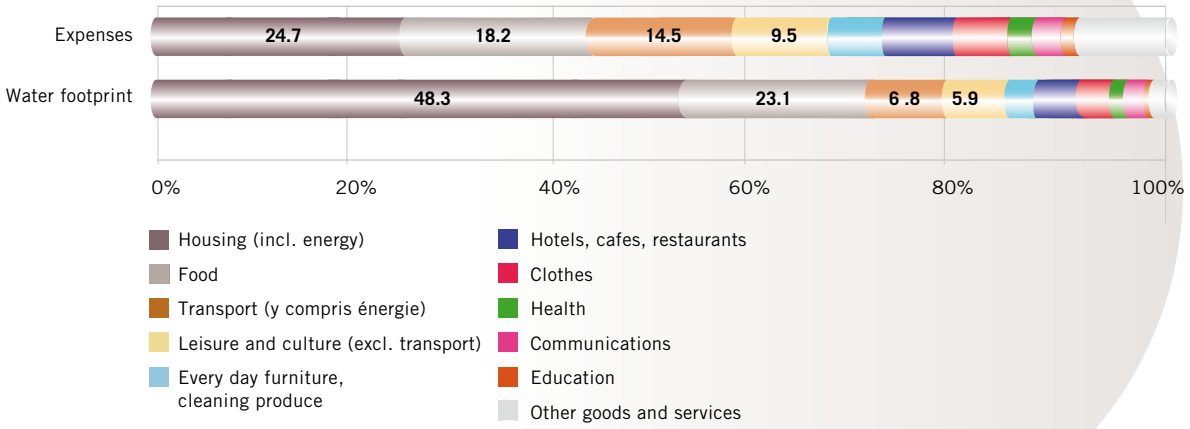
Sources: water agencies – FP2E – Ineris – Insee. Treatments: SOeS - MEDDTL, 2011



21- National Accounting Matrix including Environmental Accounts.

BREAKDOWN OF WATER FOOTPRINT (abstracted) PER CONSUMPTION ITEM FOR HOUSEHOLDS IN 2005.

Sources: water agencies – FP2E – Ineris – Insee. Treatments: SOeS - MEDDTL, 2011



N.B.: the footprint of agricultural and forestry goods only includes irrigation and does not account for water available in the ground that is directly absorbed by plants. Estimates of the water associated with imports are made by assuming that the imported goods and services are produced in the same conditions as in France.

Forward-looking spotlight on three key development factors

Activity in the water sector develops under the influence of different factors

Some factors are specific to water: water-related regulations, tax incentive measures, technological progress and innovations, installing equipment in households, etc. Others are macroeconomic factors. All these factors impact the water sector. Their development has consequences on water consumption and directly on the structure of service costs. Over the long-term, it is necessary to forecast these factors so that local authorities can implement strategies: investment forecasts (equipment design), cost structuring, water policy.

Migration flows: southern and westerly directions

The years 1990-1999 were marked by strong interregional mobility toward the South and the Atlantic coast, to the detriment of the North and East of France; these movements continued during the 1999-2006 period. This trend continues today, and is enhanced by two phenomena:

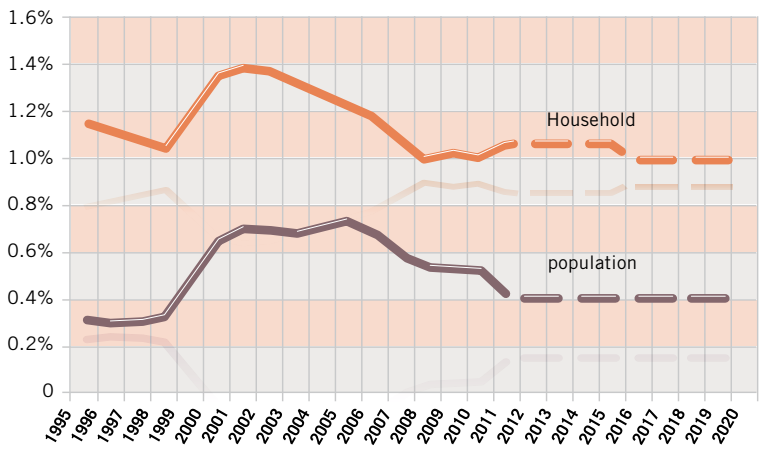
- an aging population, with a sharp increase in "seniors" in the 55-64 age range: a consequence of the baby-boom generation taking retirement, and a reduction in the number of young people of working age (25-39 years old);
- a change in a place of residence of these seniors as well as changes in the behaviour of young people of working age: less appeal in the Ile-de-France, priority accorded to life outside work and personal fulfilment.

Structurally, these population movements will cause local variations in water consumption. The level of individual consumption is highly variable from region to region, sometimes doubling: the SOes records, for example, an average consumption of 109 litres per day per capita in the Nord-Pas-de-Calais region, and 228 litres per day per capita in the Provence-Alpes-Côte-d'Azur region. As such, movements from the north to the south incur huge changes for the water and sanitation services, with sometimes significant consequences (in terms of equipment, pricing and water policies) that the local authorities must manage.

Transformation of household structures

ANNUAL POPULATION AND HOUSEHOLD GROWTH BY 2020

Source: BIPE according to INSEE



The changes including aging of social-economic characteristics lead to the transformation of household structures. There will be 2.9 million additional households between 2010 and 2020, i.e. an increase that is 2.5 times higher than population growth (because of the increasing numbers of households composed of a single person).

For the water and sanitation services, this transformation has an impact on the number of customers, equipment (connections, etc.) and on the water consumption per household.

Total number of households in metropolitan France in 2010: 27.3 million

Behaviour of households and industries, factor involved in lower consumption levels

Changes in household behaviour, for economic and/or eco-citizenship, may cause a drop in water consumption: procurement of hydroeconomic equipment, more attention paid to the length of washing cycles, replacing baths by showers, etc.

Relocating a company connected to the network, as well as the rationalization initiatives implemented in industrial processes also have an impact on the downward trend of water consumption.

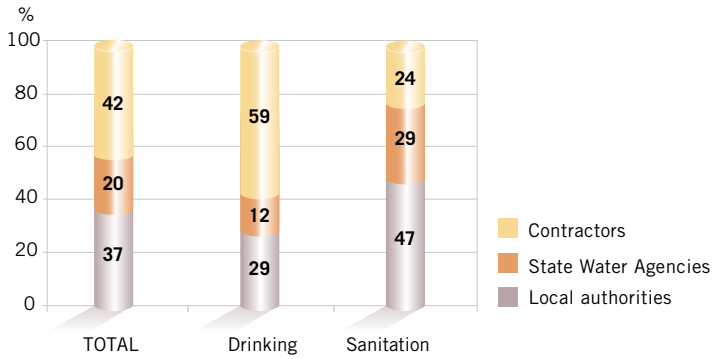
This drop is virtuous from an environmental point of view, but presents a risk in terms of the economic balance of the water services: pricing is indeed in proportion to consumption, whereas service charges are mainly composed of fixed costs, which are increasingly heavy given the constantly reinforced requirements. A thorough rethink of water service funding is now required.

Funding

A total of 12.35 billion Euros billed

57% OF SUMS BILLED IN 2009 PAID TO THE STATE, THE WATER AGENCIES AND TO LOCAL AUTHORITIES IN 2009*

Sources: BIPE according to an operator survey in 2011, water agency data, Cercle français de l'eau, DGCL, FP2E, Ifen, Insee, VNF, Sustainable development statistics
*Data from across France



In 2009, the total sums billed (including tax) by the water and sanitation services were broken down almost evenly within each activity: 6 million Euros for drinking water services and 6.0 billion Euros for sanitation services.

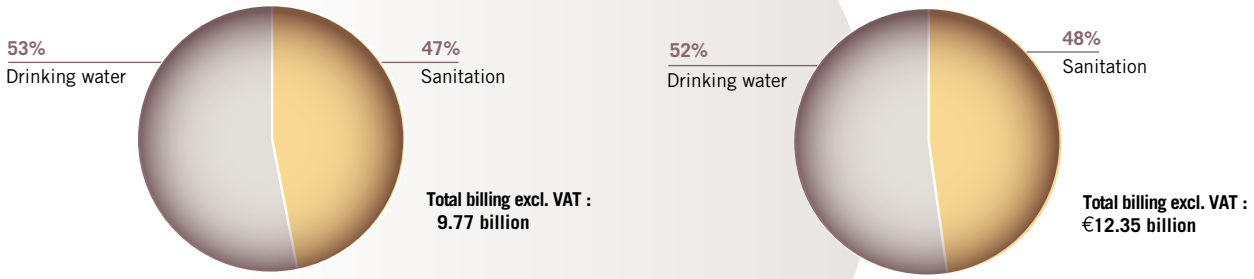
These sums are allocated in the following manner: 42% for contractors, 37% for local authorities (including the communal share returned by the contractors) and 21% for the government and the water agencies.

In 2009, the total amounts billed to domestic customers and industrial consumers[22] is estimated to stand at almost 9.77 billion Euros (excl. VAT and charges) or 12.35 billion Euros (including taxes) for all water supply and sanitation services.

22- Customers paying 6,000 m³ of water and more

BREAKDOWN OF BILLING BY SERVICE TYPE IN 2009

Source: BIPE, operator survey 2011

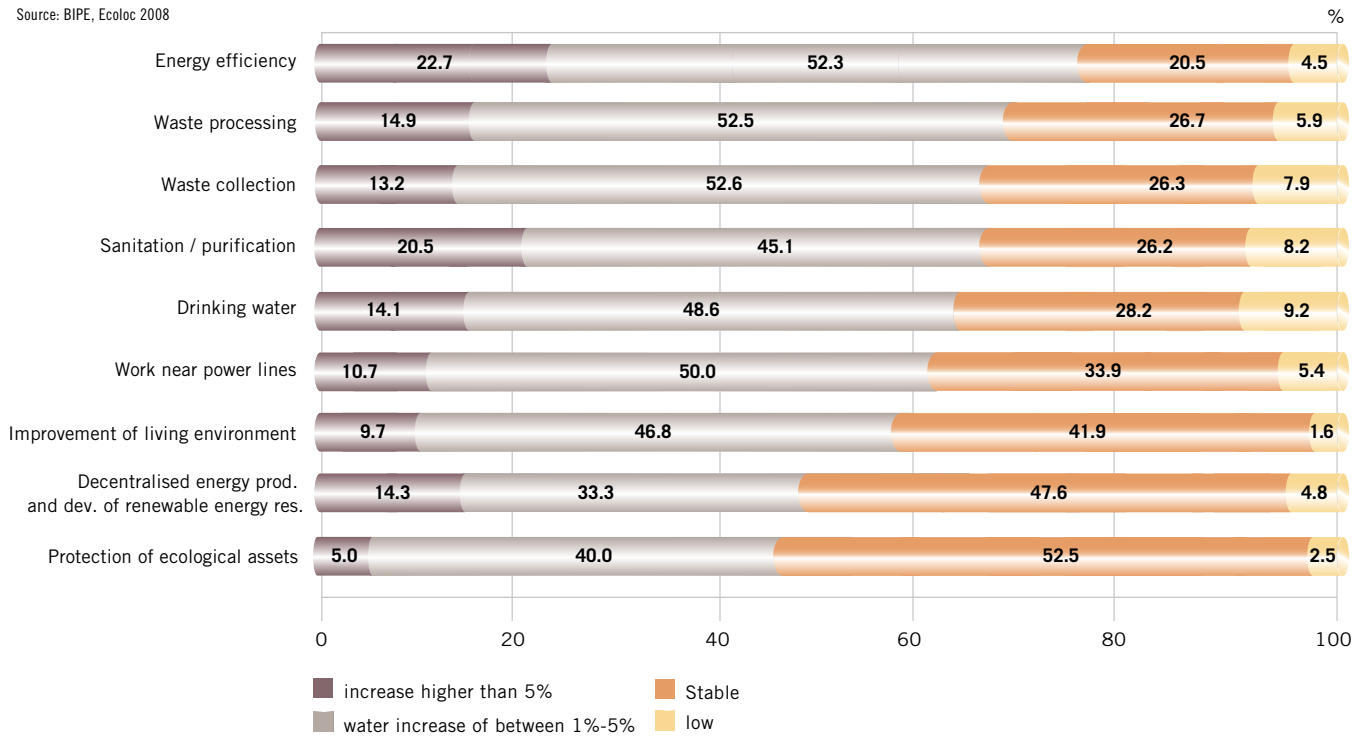


Water and sanitation are among the key investment priorities for local authorities

According to the Ecoloc survey, energy efficiency has become a number one priority for local authorities in terms of investment, particularly as a consequence of the Environment Round Table. However, water management (drinking water and sanitation), which takes up a large part of local budgets, still features among the «environment» investment priorities for all local authorities in the short- and medium-term.

FORECAST INVESTMENT TRENDS FROM LOCAL AUTHORITIES IN THE ENVIRONMENT AND SUSTAINABLE DEVELOPMENT SECTOR BY 2013 (as a % of the number of local authorities included in the survey)

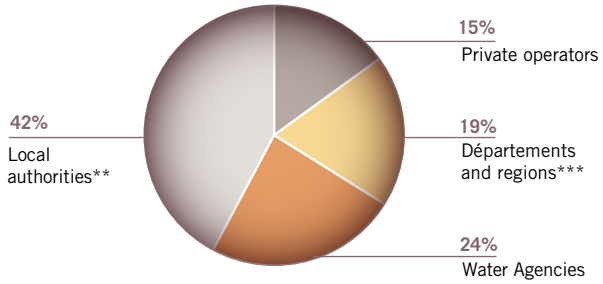
Source: BIPE, Ecoloc 2008



5.62 billion Euros invested in 2009

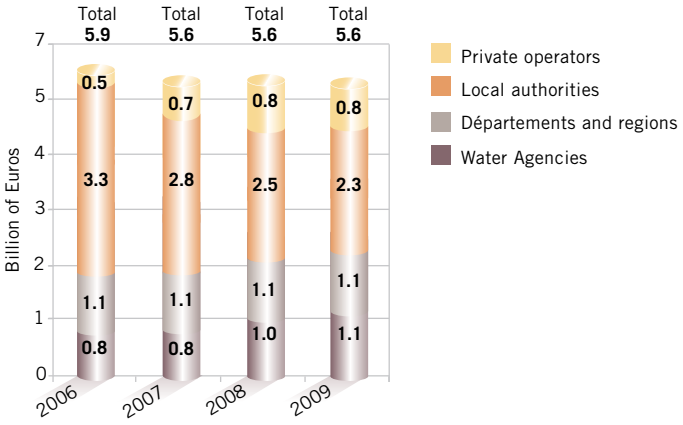
SOURCES OF INVESTMENT FOR DRINKING WATER AND SANITATION STRUCTURES IN 2009*

Sources: BIPE according to an operator survey in 2011, water agency data PLF, Ifen, BIPE estimates



INVESTMENT TRENDS FOR DRINKING WATER AND SANITATION STRUCTURES FROM 2003 TO 2009

Sources: BIPE according to operator surveys in 2007, 2009 and 2011



In 2009, investment in the water and sanitation sector stood at 5.62 billion Euros. This investment was mainly concentrated in:

- the creation of new networks and new water treatment and decontamination facilities;
- upgrading existing equipment, particularly in terms of regulatory compliance.

The communes and commune associations are behind almost half the amount invested.

Water companies invested 819 million Euros as part of their contracting activities, i.e. an increase of 4% compared to 2008.

Financial flows involving multiple players

The diagrams on the following pages concern the following financial flows:

- for drinking water and sanitation;
- for drinking water only;
- for sanitation only.

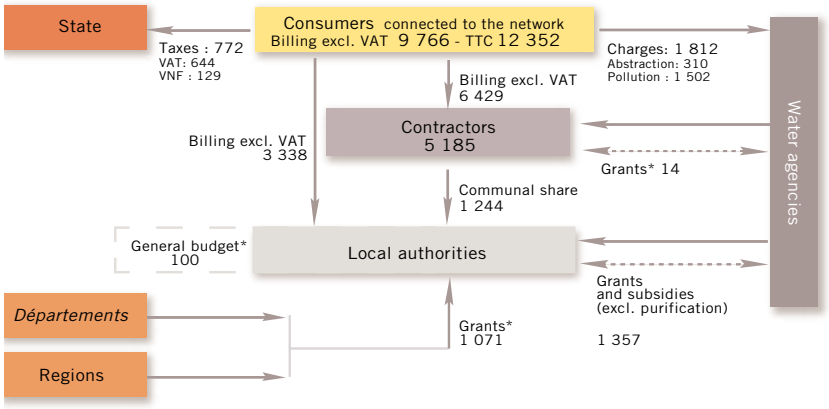
As demonstrated by these three diagrams, the principal recipients of the product of water bills paid by customers are the local authorities, contractors, the water agencies and the government. Transfers are then made between these different players, as well as between the *départements* and regions, both in terms of investment and operations.

For example, in terms of the financial flows for water and sanitation, the total billing of 12.32 billion Euros (including tax) paid by consumers is broken down as follows:

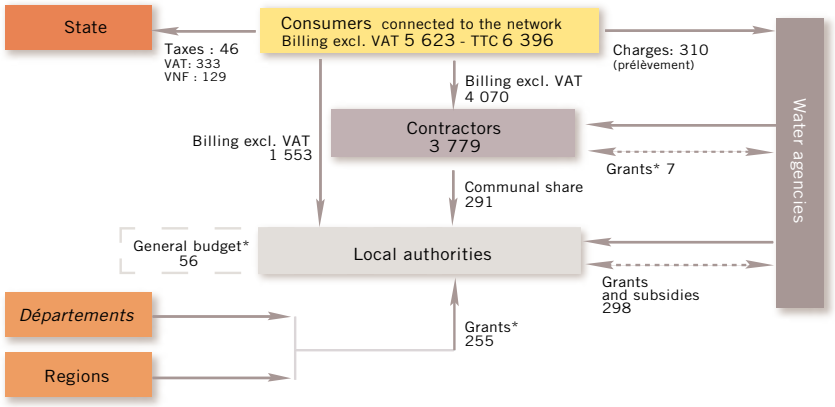
- 773 million Euros for the government (VAT and VNF);
- 3,338 million Euros for local authority governing bodies;
- 6,429 million Euros for contractors, 1,244 million of which are recovered by the local authorities;
- 1,812 million Euros for the water agencies.

*France (country as a whole) - ** Local authorities excluding départements and regions - *** 2007 data
«Domestic water treatment facilities», «domestic wastewater sanitation networks», and «Support of purification performance» budget lines from the water agencies for the sanitation sector and «Overall environment management» for the drinking water sector.

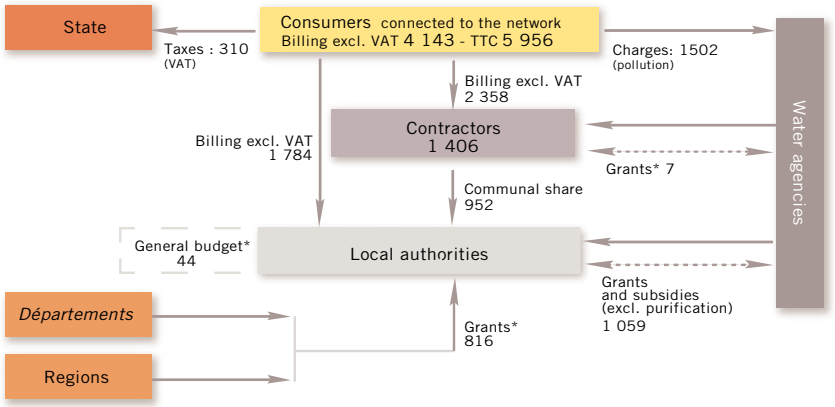
FINANCIAL FLOWS: PUBLIC WATER AND SANITATION SERVICES (2009 in million of Euros)



FINANCIAL FLOWS: PUBLIC DRINKING WATER SERVICES (2009 in million of Euros)



FINANCIAL FLOWS: PUBLIC SANITATION SERVICES (2009 in million of Euros)



* 2007 data

More generally, the local authorities receive:

- remuneration from the water or sanitation services that they manage themselves 'in-house' (operations and investment);
- the "local authority portion" of water bills received by the contractors (essentially intended for investments);
- different types of grants and aid granted by the water agencies, *départements*, or regions;
- a portion of the funding of water and sanitation services provided by the general local authority budget (only for local authorities with less a population of less than 3,000).

Public service contractors pay their local authorities approximately 19% of the sums billed (1,244 million Euros from a total of 6,429 million Euros in 2010).

The water agencies receive two categories of charges in accordance with the scale and rates set for each of the six main drainage basins (charges for water abstraction and charges for water pollution), which return to the water funding system through investment grants. VAT and the «Voies navigables de France» (VNF) tax are paid to the government and to the "Voies navigables de France" (French Inland Waterways) public institution.

The *départements* and regions provided 1,071 million Euros in 2007. The regions mainly intervene within the framework of State-regional contracts, for large-scale investment projects (dams, large equipment projects), in which the water agencies may be associated.

Sources: BIPE according to an operator survey in 2011, water agency data, Cercle français de l'eau, DGCL, FP2E, Ifen, Insee, VNF, Sustainable development statistics

Public water service companies

Private operator activity in public water services

Tightly-controlled procedures

The contracting contracts and their developments over time are tightly controlled by French legislation:

- **the Sapin law of 29 January 1993** organises the systematic bidding system for candidates by formalizing the decision-making process;
- **the Mazeaud law of 2 February 1995** specifies the particularly detailed information that is to be provided by the contractors in the annual report related to each water and sanitation contract;
- **the Démocratie de proximité law of 28 February 2002** introduces the participation of water users through the advisory commission on local public services, to which referrals are filed for all contracting projects.

The year 2009 was marked by a peak in the number of bids

Between 1998 and 2006, the local authorities launched between 477 and 603 bidding procedures each year for the management of their water and sanitation services.

The most recent survey data (temporarily suspended by ONEMA) revealed 2004 was a record year with some 693 bidding procedures. According to the water companies, the trend observed in 2009 was continued in 2010, when the number of bidding procedures launched approached the record obtained in 2007. 2008 was characterized by a drop in the number of bidding procedures launched, probably due to the period of local elections, which may lead to contract deadline extensions.

Since the Sapin law came into effect, the term of public service contracting contracts has stabilized at 12 years (average term of contracts in 2006: 11.2 years). Renewal of contracts with a term >12 years is observed, particularly sanitation distribution contracts.

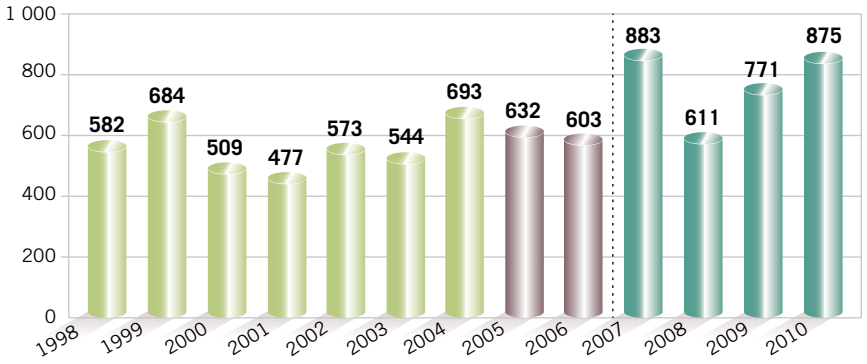
Long-term public service contractors provide a global service and enjoy integrating reporting in terms of sustainable development. These contracts are therefore especially favourable for the implementation of sustainable development approaches.

On average, during a bidding procedure for a water or sanitation service, the percentage of contracts subject to a change in operator is comprised between 8% and 11%.

By a huge majority (96%), the most common phenomena is to retain the initial management mode. 3% of bidding procedures resulted in abandoning governance in favour of contracting and 1% in favour of transition to contracting from governance.

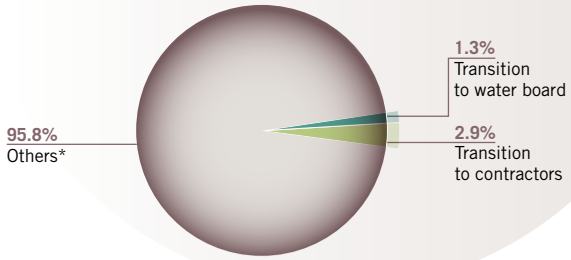
THE YEAR 2010 WAS A RECORD YEAR IN TERMS OF BIDDING PROCEDURES OVER THE 1998-2010 PERIOD

Sources: Engref 1998-2004, TNS-SOFRES 2005-2006, Operator survey since 2007 (number of contracts due to expire)



RESULTS OF BIDDING PROCEDURES OVER THE 1998-2006 PERIOD

Sources: Engref 1998-2004, TNS-SOFRES 2005-2006



Ratio determined using the number of Sapin procedures examined by Engref, i.e. 3,231, which represents 61% of the total number of procedures recorded during the period.

* Others: bidding procedures with no management change, service creation, procedures in progress, etc.

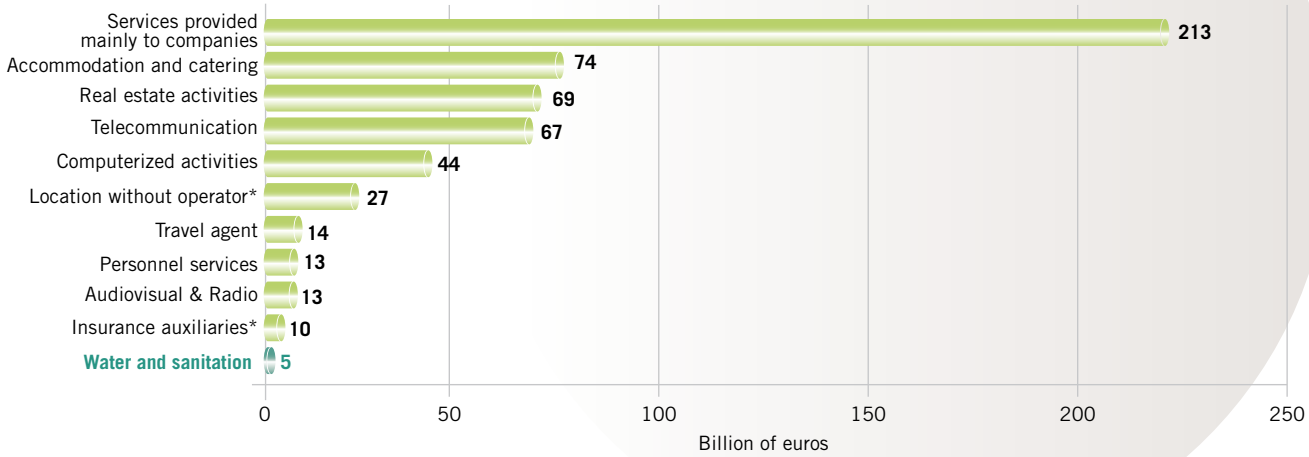
5.2 billion Euros in revenue in 2010

In 2010, the water companies generated a revenue of roughly 5.2 billion Euros excl. VAT in the water and sanitation sector in France, almost 5 billion Euros was from service contracting and a little more than 0.2 billion Euros from the other local authority services.

This figure represents around 1% of the revenue for market services in France (services for companies and private customers).

COMPARISON OF REVENUES FROM WATER AND SANITATION WITH OTHER MARKET SERVICES

Sources: BIPE according to operator surveys and INSEE 2011

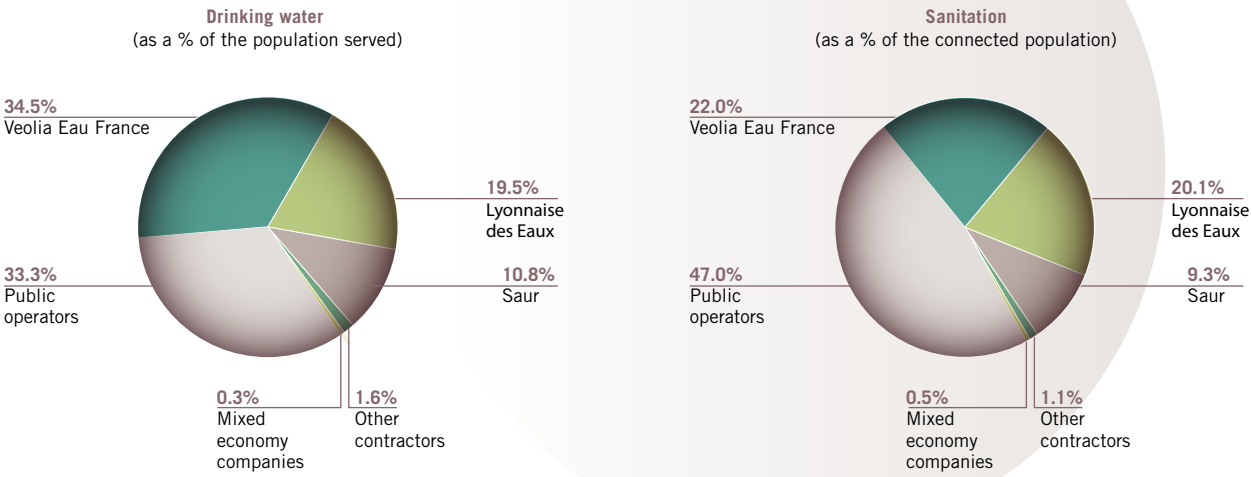


* Excluding transport and shops

In terms of population, the water companies manage two thirds of drinking water services and just over half of the sanitation services

BREAKDOWN OF WATER AND SANITATION SERVICES IN 2010

Sources: FP2E -BIPE according to operator 2011 surveys; INSEE



N.B.: these shares of the sanitation market do not take account of residents served with a treatment service only

Number of drinking water customers in services managed by the water companies: 15.3 million

Number of sanitation customers in services managed by water companies: 9.6 million

126 million Euros invested in research and development

In 2010, water companies spent 126 million Euros on R&D. R&D activities involved almost 1,000 employees.

In 2008, 50 patents were filed and 550 were under application. Furthermore, there were roughly 200 active R&D themes in partnership with public research.

R&D activities sponsored by the water companies made it possible to achieve 'technological breakthroughs' in the water and sanitation management sector, as well as in the protection of natural environments.

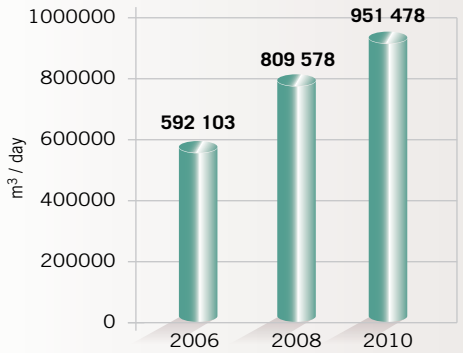
The following examples may be cited:

- the fight against climate change (energy production using biogas and biomass, plant energy efficiency, development of electrical skips (waste collection);
- development of new treatment processes;
- development of monitoring activities of bathing water quality and the biological quality of the environment;
- optimisation of energy efficiency in processes;
- development of new analysis technologies used to detect micro pollutants in water;
- the sustainable management of buildings and towns (improvement of environmental and sanitary efficiency of buildings, identification of local and renewable energy production solutions);
- controlling the impact on the environment (controlling odours, management of release during periods of precipitation).

Water companies are progressively implementing the technologies stemming from their research. For example, the production capacity at membrane-equipped sites has almost doubled between 2006 and 2010.

PRODUCTION CAPACITIES OF SITES EQUIPPED WITH MEMBRANES in m³/day

Sources: BIPE according to operator surveys in 2007, 2009 and 2011



Water companies actively involved in controlling water consumption

Another fast-expanding technology is remote meter reading, which is used to remotely record consumption and to monitor it continuously. Real-time knowledge of water consumption facilitates its control, through the rapid identification of any problems related to overconsumption.

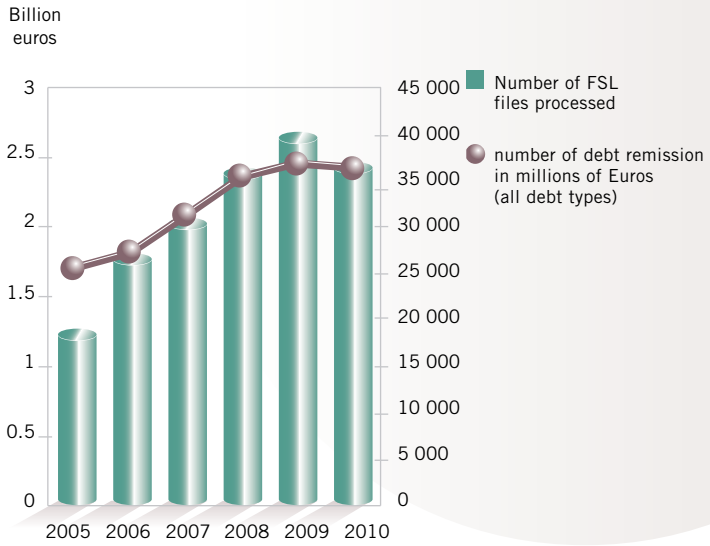
Out of the 15 million meters read by the water companies, almost 9% were fitted with a remote meter reading service in 2010 (compared with just 4% in 2008).

Water companies actively participate in helping the lowest-income households

The water companies are committed to helping the most disadvantaged populations in terms of access to water. There are 73 signed grants binding the companies to the Public Solidarity Fund for low-income households (*Fonds de Solidarity Logement, or FSL*), which represents three-quarters of French *départements*. The objective is to facilitate payment of water bills for the lowest-income households, by organising collaboration between the departmental services and the customer services of the water companies. This collaboration aims not only to implement the remission of debts, but also to act in a preventive manner, by supporting customers in difficult situations in terms of the management of their water consumption and bills.

NUMBER AND AMOUNT OF 'PUBLIC SOLIDARITY FUND FOR LOW-INCOME HOUSEHOLDS' FILES PROCESSED SINCE 2005

Sources: BIPE according to FP2E and operator surveys in 2007, 2009 and 2011

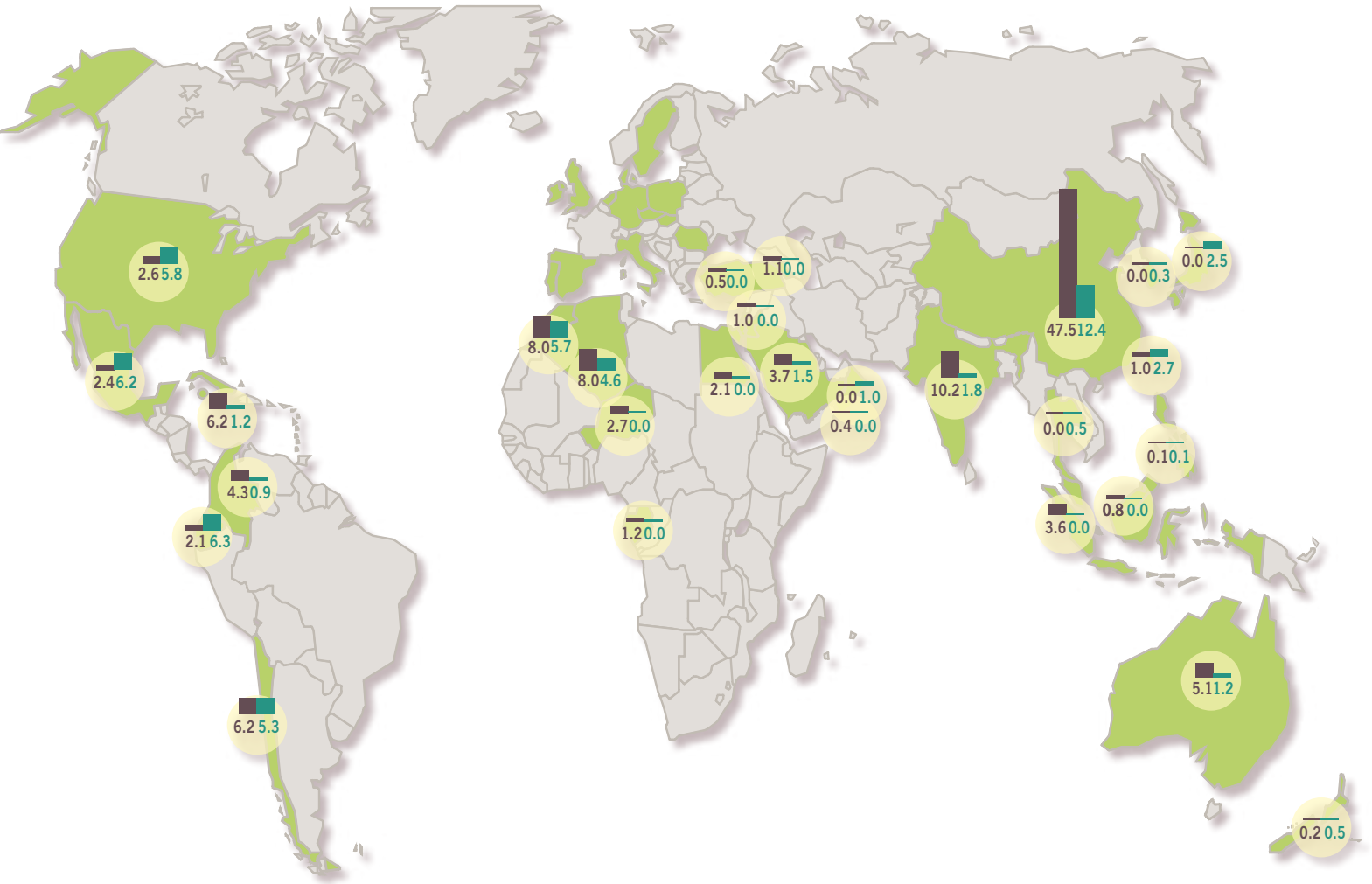


Internationally recognized local presence

The local presence of contractors and their involvement in regional economic life can be assessed through their contribution to employment and to local taxes.

As such, in 2010, water companies paid the Territorial Technical Commission in more than 11,000 communes (i.e. nearly one out of three communes) for a total amount of 76 million Euros (compared with nearly 80 million Euros in 2008).

PRESENCE OF FRENCH OPERATORS: POPULATION SERVED WITH SANITATION SERVICES AND DRINKING WATER IN MILLIONS OF POPULATION EQUIVALENT
Global overview



Water companies contribute to French international trade

Revenue generated internationally by French companies specialized in water supply and sanitation stood at 9.4 million Euros in 2010, i.e. almost twice the revenue generated in France. Abroad, the number of employees from French water companies represented almost four times the French staff, i.e. almost 93,200 employees.

In addition to their skills in innovative technologies, it is their expertise in terms of water and sanitation management services that is being exported by French water companies: in 2010 almost 163 million residents were served with drinking water services operated by French companies and 112 million people were connected to sanitation services contracted to private French operators.

DATA
(in millions of residents)

Country	Water	Sanitation	Population
Africa			
Algeria	7.99	4.57	35.47
Egypt	2.15	0	81.12
Gabon	1.17	0	1.51
Morocco	8.00	5.70	31.95
Niger	2.72	0	15.51
Eurasia and the Arabian peninsula			
Saudi Arabia	3.65	1.46	27.45
Armenia	1.11	0	3.09
Israel	1.00	0	7.42
Jordan	0	2.27	6.19
Oman	0.35	0	2.78
Qatar	0	0.97	1.76
Turkey	0.51	0	72.75
Asia			
China	47.46	12.37	1 341.34
South Korea	0	0.32	48.18
India	10.23	1.81	1 224.61
Indonesia	3.62	0	239.87
Japan	0.04	2.50	126.54
Malaysia	0.82	0	28.40
Philippines	0.08	0.05	4.37
Taiwan	1.05	2.67	23.04
Thailand	0	0.50	69.12
America			
Chile	6.23	1.24	11.26
Colombia	4.30	0.90	46.29
Cuba	6.23	1.24	11.26
Equator	2.10	6.31	14.46
United states	2.60	5.85	310.38
Mexico	2.35	6.24	113.42
Oceania			
Australia	5.14	1.22	22.27
New Zealand	0.18	0.51	4.37

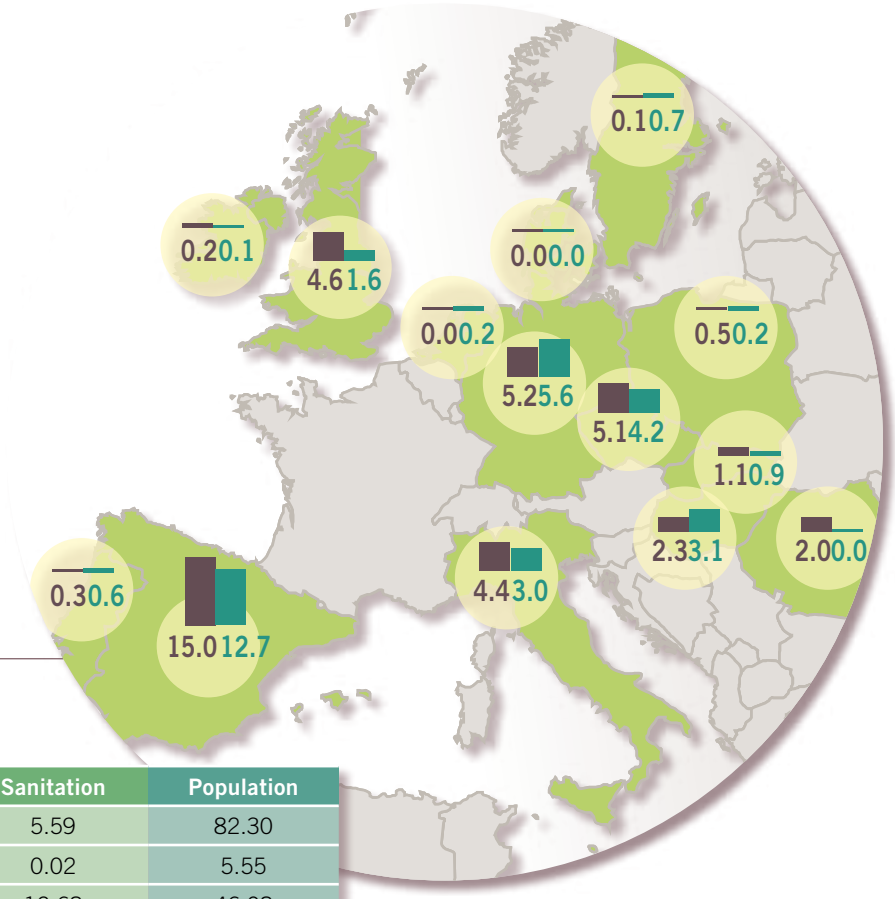
Revenue of private operators abroad in 2010: 9.4 billion Euros

Personnel abroad represented 93,200 jobs in 2010

Drinking water: 162.9 million residents served in 2010

Sanitation: 111.6 million residents connected in 2010

ZOOM ON EUROPE



DATA
(in millions of residents)

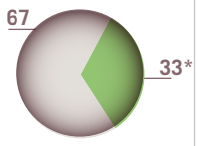
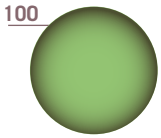
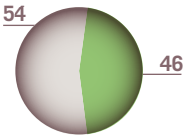
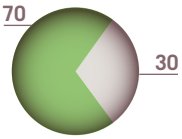
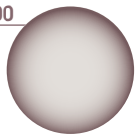
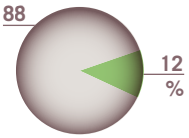
Country	Water	Sanitation	Population
Germany	5.22	5.59	82.30
Denmark	0.00	0.02	5.55
Spain	15.05	12.68	46.08
Hungary	2.28	3.10	9.98
Ireland	0.16	0.11	4.47
Italy	4.38	2.96	60.55
The Netherlands	0.00	0.22	16.61
Poland	0.53	0.22	38.28
Portugal	0.26	0.65	10.64
Czech Republic	5.13	4.18	10.49
Romania	1.96	0.00	21.49
United Kingdom	4.61	1.58	62.04
Slovakia	1.10	0.89	5.46
Sweden	0.10	0.07	9.38

The range of management models in Europe

Europe has a wide range of drinking water and sanitation management models, from the privatization of services (UK) to a fully state-managed system (the Netherlands for drinking water). France, Spain and Germany have mixed management models, which is characterized by favouring the creation of partnerships between the public and private sectors over privatization.

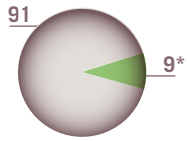
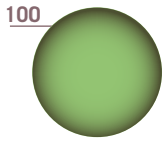
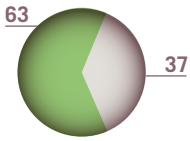
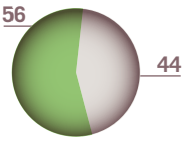
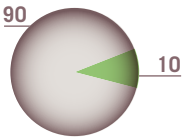
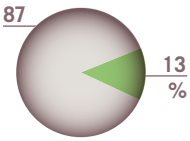
DRINKING WATER SERVICE MANAGEMENT IN EUROPE IN 2008

Source: BIPE - Club Enviroscope 2009

Germany	UK	Spain	France	The Netherlands	Poland
					
Main operators - OEWA (Veolia) - BWB (Veolia) - Gelsenwasser - Eurawasser (Suez environnement)	**Main operators** -Thames water - Severn Trent - United utilities	**Main operators** - Agbar (Suez environnement) - Aqualia - Aguas de Valencia	**Main operators** - Veolia - Suez - environnement - Saur	**Main operators** - Vitens - Brabant Water - Evides	**Main operators** - Saur - United Utilities Public Private*

SANITATION SERVICE MANAGEMENT IN EUROPE IN 2008

Source: BIPE - Club Enviroscope 2009

Germany	UK	Spain	France	The Netherlands	Poland
					
Main operators - OEWA (Veolia) - BWB (Veoia) - Eurawasser(Suez environnement) - Gelsenwasser	**Main operators** - Thames water - Severn Trent - United Utilities	**Main operators** - Agbar (Suez environnement) - FCC - Urbaser	**Main operators** - Suez environnement - Saur - Veolia	**Main operators** - AGV - Van Delfland - Van Rijnland	**Main operators** - Saur - United Utilities - Veolia Public Private

* Incl. SEM

Employment and training within the water companies

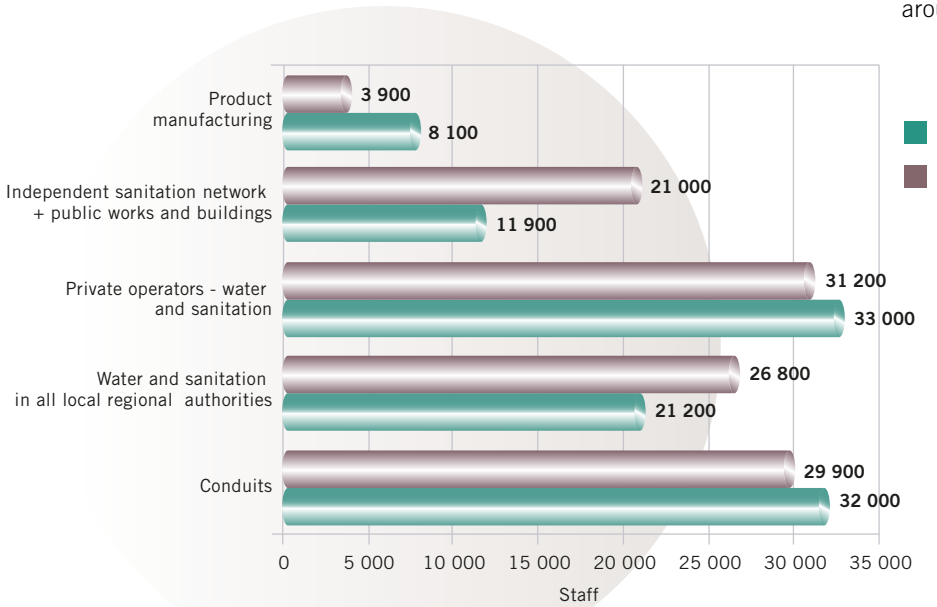
The water sector is a dynamic sector in terms of employment, boosted by the increasingly high environmental challenges posed by wastewater decontamination.

More than 65,000 employees dedicated to water and sanitation

In 2009, employment in the water and sanitation services represented more than 60% of the total number of jobs in the water sector. The employment level in water and sanitation services was estimated to be around 66,000 people.

JOBS IN THE WATER SECTOR IN 2009

Source: BIPE according to the 2011 operator survey (2009 data) and employment survey in 2006 (2004 data)

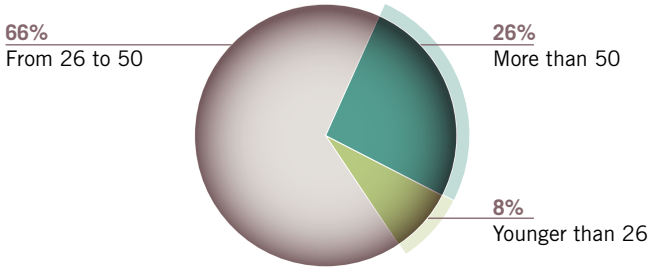


65 000 jobs directly related to public water and sanitation services

Total number of jobs 2009 : 106 200
2004 : 112 800

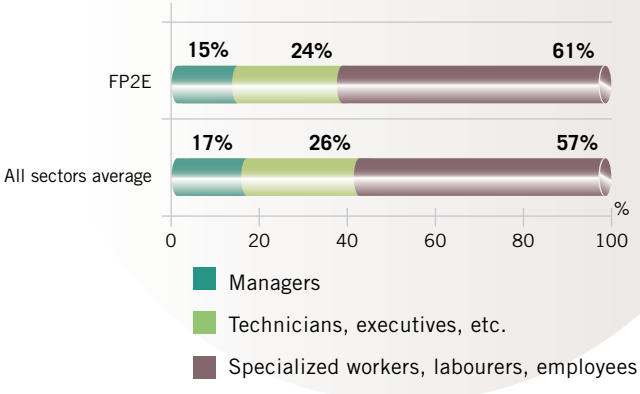
PRIVATE OPERATOR PERSONNEL ACCORDING TO AGE GROUP

Source: BIPE according to 2011 operator survey, 2009 data



BREAKDOWN OF PRIVATE OPERATOR PERSONNEL PER PROFESSIONAL CATEGORY IN 2010

Source: BIPE, Employment survey 2008 – INSEE and private operator survey 2010



Stable employment rate in water companies: 33,000 employees in 2010

In 2010, water and sanitation service water companies employed around 33,000 staff. This level is higher than was forecast in 2004 (+6%).

The breakdown of employees has changed slightly since 2008; there are more employees under the age of 26 and above the age of 50 to the detriment of the 26-50 age range (+1% compared with 2008 for the under 26s and +2% for the over 50s).

Half of all personnel recruited by water companies were under 26*

During the year 2010, the water companies recruited almost 3,622 people (slight decrease compared to 2008 with 4,018). Efforts continued in 2010 to hire seniors, as was the case for private operators in 2008.

A sector with a local and specialized workforce

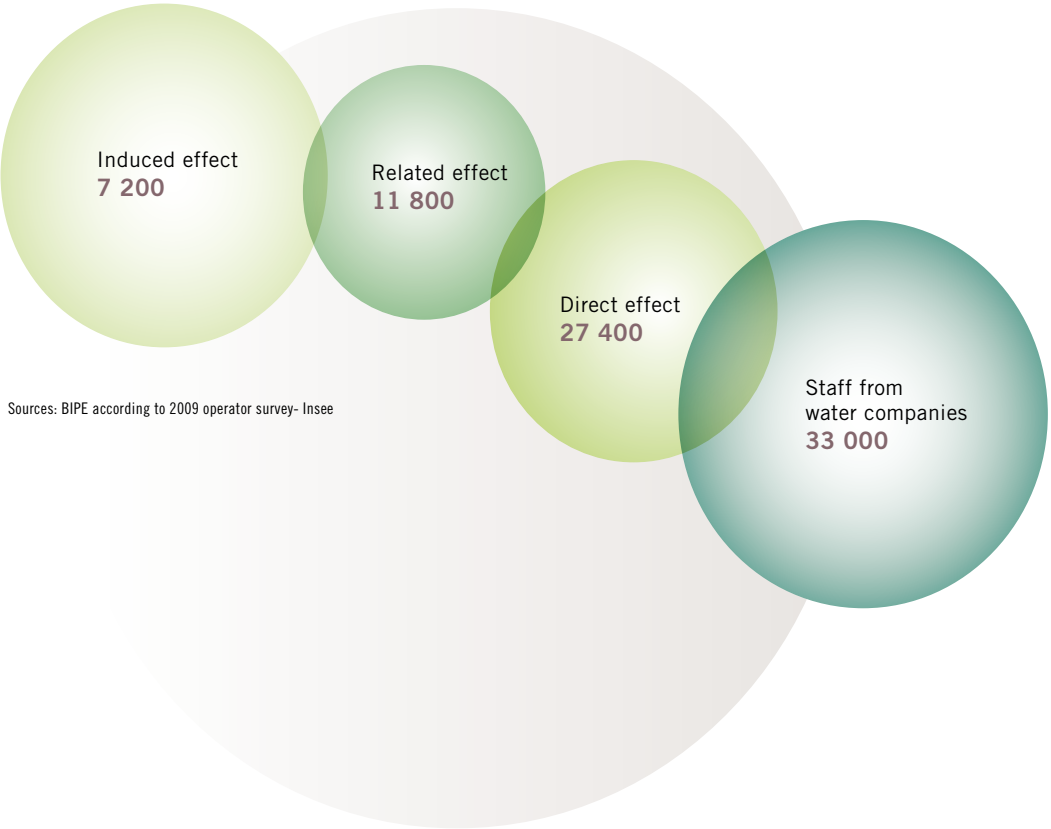
Compared with the national average of all sectors, water companies employ more qualified personnel.

One job created in operator companies generates around 1.4 jobs in the economy

Operator activities generate jobs through their operating procurements, investments and wealth (salary) distribution. In this way, the direct effect concerns jobs generated within operator suppliers; the related effect corresponds to jobs generated by service providers and partners of the operator suppliers; finally, the caused effect is that created by salary distribution, which will entail spending by operator and supply employees (consumer effect).

46,400 jobs are also generated by water company activities.

The majority of jobs created are in the service sector. Furthermore, a contract won abroad generates a share of direct and indirect effects on employment in France.



Sources: BIPE according to 2009 operator survey- Insee

Jobs distributed throughout France

Sustaining good employment conditions

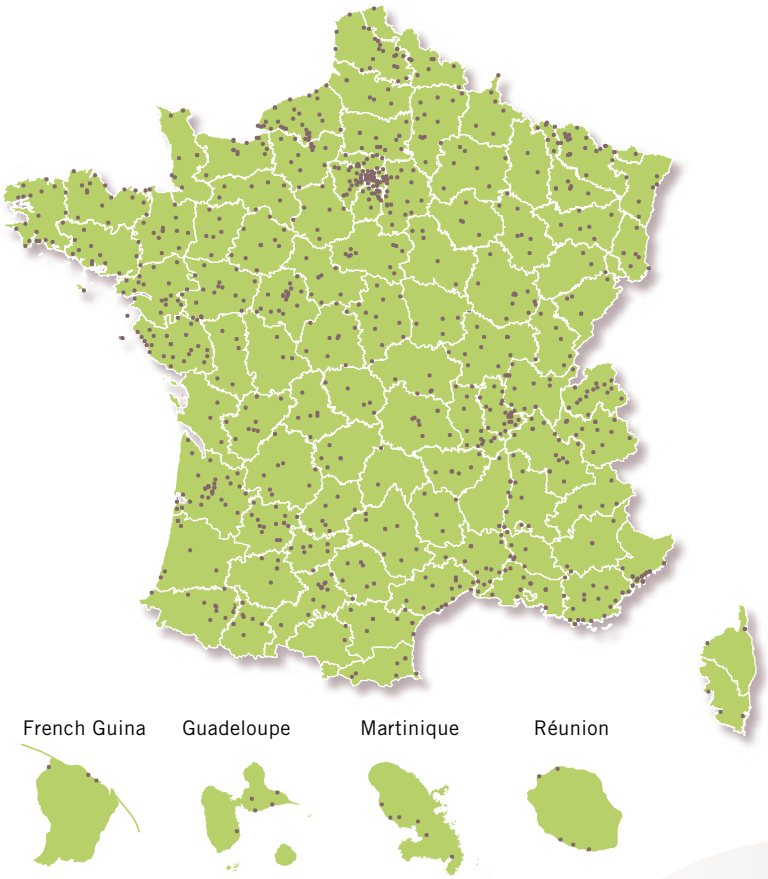
The average length of service of employees is relatively high in water companies; the human resources policy focuses on skill acquisition and maintenance within the framework of a “long-term” career in the company.

A slight drop in length of service, from 14.5 years in 2006 to 13.0 years was observed in 2007, before stabilizing with an average length of service of 13.7 years in 2008 and 13.5 years in 2010.

Average length of service of 14.3 years in water companies

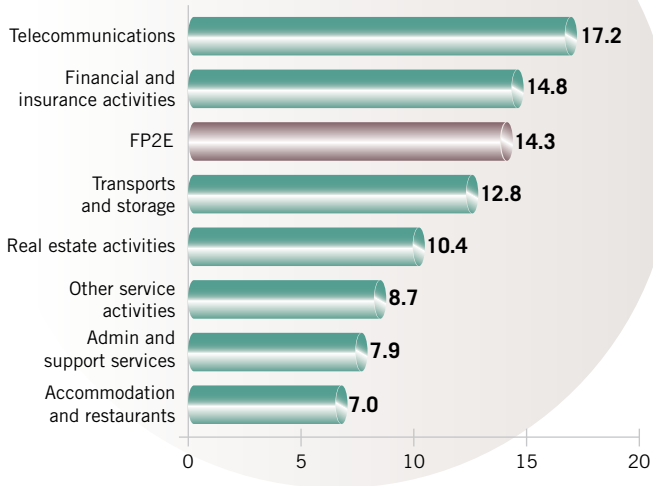
RECRUITMENT LOCATION OF WATER COMPANIES IN FRANCE

Sources: BIPE according to operator surveys in 2006 (Metropolitan France) and 2007 (overseas territories)



COMPARISON WITH PREVIOUS AVERAGE LENGTH OF SERVICES IN WATER COMPANIES

Source: BIPE, employment study 2009 INSEE, operator survey 2011 - data 2009



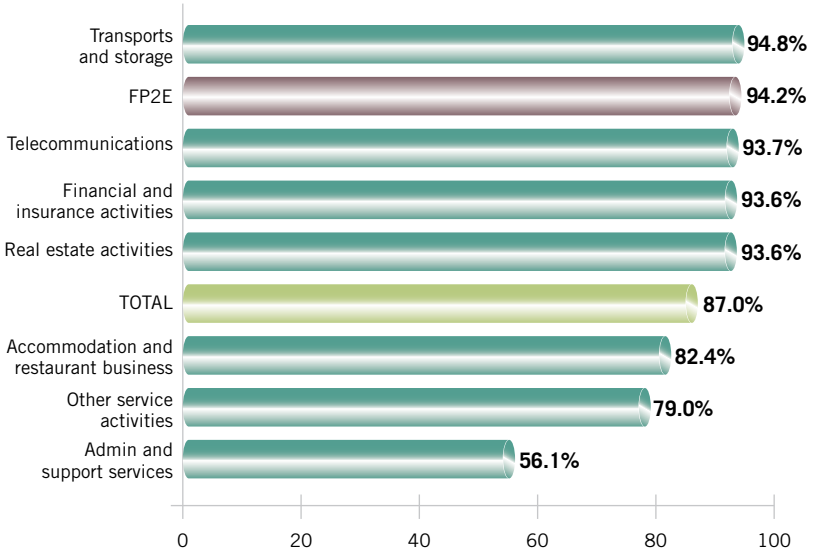
Stable jobs...

At 94.2%, the water companies have one of the highest proportions of permanent contracts among the services studied.

Similarly, there is a very low proportion (1.5%) of resignations (compared to an average of 6.4% in the service sector) and 1.0% of redundancies (compared to an average of 2.9% for in the service sector) indicating that the water companies encourage stable employment.[23]

THE PROPORTION OF PERMANENT CONTRACTS IN WATER COMPANIES IN 2009 as a %

Source: BIPE, employment study 2009 INSEE, operator survey 2011 - data 2009

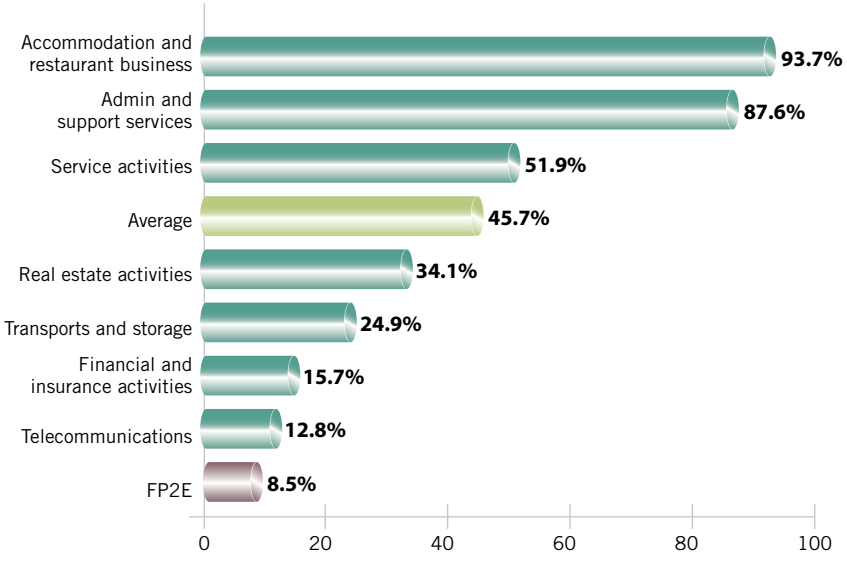


A low staff turn-over

The basis of this stability lies in the water companies' turn-over, which is greatly below the average of the service sector and the lowest in its own sector.

2010 TURN-OVER[24]

Source: DARES, DMMO/EMMO



Scope: Establishments with at least 10 employees in competitive sector (industry, construction and services) in Metropolitan France.

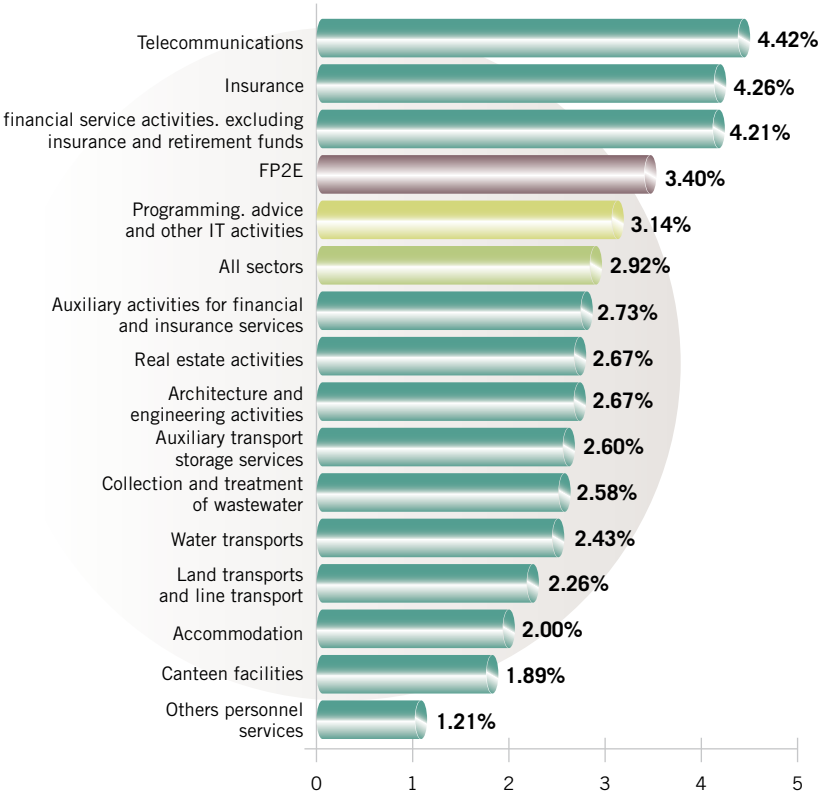
23- turn-over does not include conventional contract terminations and the ends of trial periods

24- Turn-over: (fixed term contract recruitment rate + permanent contract recruitment rate + redundancy rate + resignation rate +retirement rate + departure rate at end of fixed-term contract)/2

Skills development

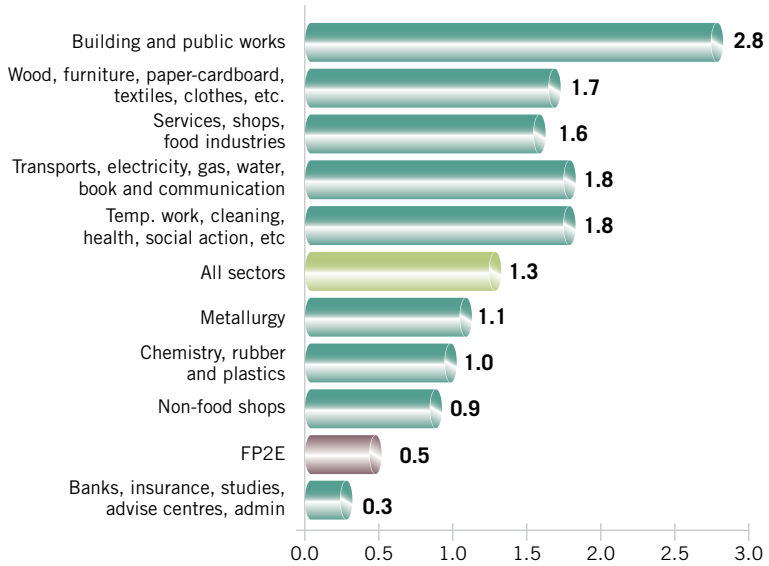
TRAINING EXPENDITURE OF PRIVATE OPERATORS IN 2008 (training/payroll expenditure as a %)

Source: BIPE assessment of tax declarations from employers in 2008 - operator survey 2011 - 2008 data



FREQUENCY RATE OF ACCIDENTS IN THE SERVICES[25]

Source: BIPE, CNAM 2010 data, operator survey 2011 – data 2010



Training expenditure above average in the service sector

The water companies manage personnel over the long-term and encourage skills development. This explains a significant investment in personnel training: water companies have training expenditure that is higher than the average of the service sector. The companies favour continuous learning.

The number of training hours provided to water company employees (13 hours) is among the highest in the service sector; it remained stable over the 2004-2010 period.

Health- and safety-driven actions for employees

The water companies ensure that health and safety is one of their priorities, particularly through the implementation of methodological tools to raise awareness and inform employees. The frequency and severity rate for accidents are among the lowest in industry and service sector.

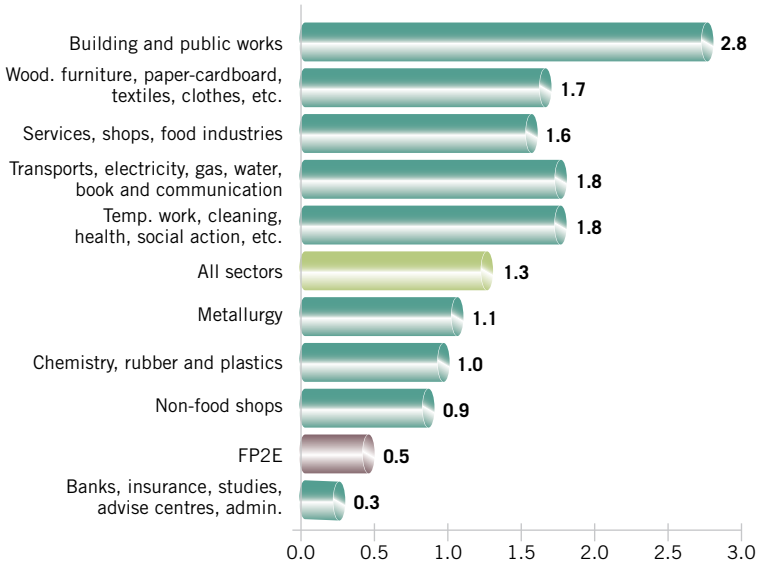
The water companies continued their efforts in terms of prevention, with positive results: the accident frequency rate dropped from 18.04 in 2006 to 16.26 in 2008 and again to 14.8 in 2010; the severity rate[26] remained relatively stable: 0.52 in 2006 and 0.51 in 2010.

25- The accident frequency rate measures the number of accidents in each thousand of hours worked.

26- The severity rate of temporary incapacities measures the number of days of temporary work incapacity per each thousand of hours worked

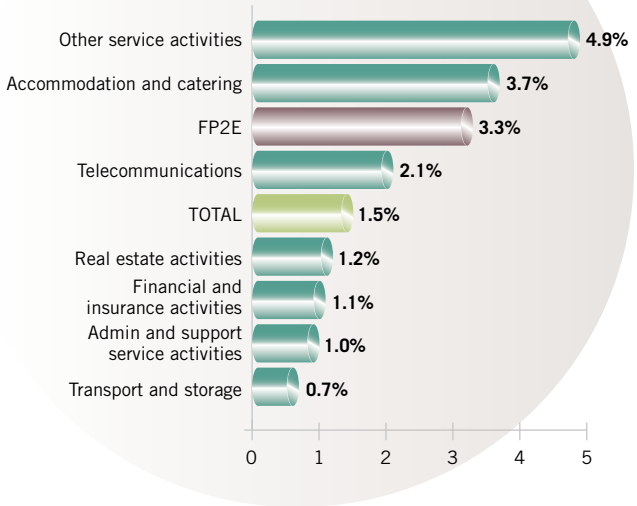
SEVERITY RATE OF ACCIDENTS IN THE SERVICES[27]

Source: BIPE according to the 2011 operator survey (2010 data) – CNAM data 2010



PROPORTION OF EMPLOYEES IN TRAINING IN THE WATER COMPANIES as a %

Source: BIPE, Employment survey 2009 – INSEE and private operator survey 2011 - data 2009



The learning curve for water and sanitation service personnel is above the average in the service sector

In 2010, 1,482 sandwich contracts were active in the water companies: 1,137 in training and 344 in professional development, i.e. 4.6% of the total personnel. The proportion of employees in training increased between 2008 and 2010, from 2.6% to 3.5%.

A myriad of professions and skills

In terms of water production and supply:

- research engineers;
- hydraulic engineers;
- hydrogeologists;
- water production plant managers;
- water treatment technicians;
- electromechanical experts;
- operators;
- engineers and network managers;
- hydrant officers, etc.
- plumbers water meter readers.

In terms of wastewater treatment:

- rural sanitation operators;
- driver/operators;
- sanitation network inspectors;
- hydrobiologists;
- sanitation network technicians;
- sanitation operators;
- WWTP operators and coordinators, etc.

In terms of research and quality control:

- laboratory technicians and managers;
- samplers;
- chemists;
- bacteriologists;
- biochemists, etc.
- water tasters.

For the other services:

- computer engineers;
- customer service executives;
- meter readers, etc.

Furthermore, contractors group together administrative functions that are not specific to their sectors (human resources, legal, finance, marketing, communication and sales departments, etc.).

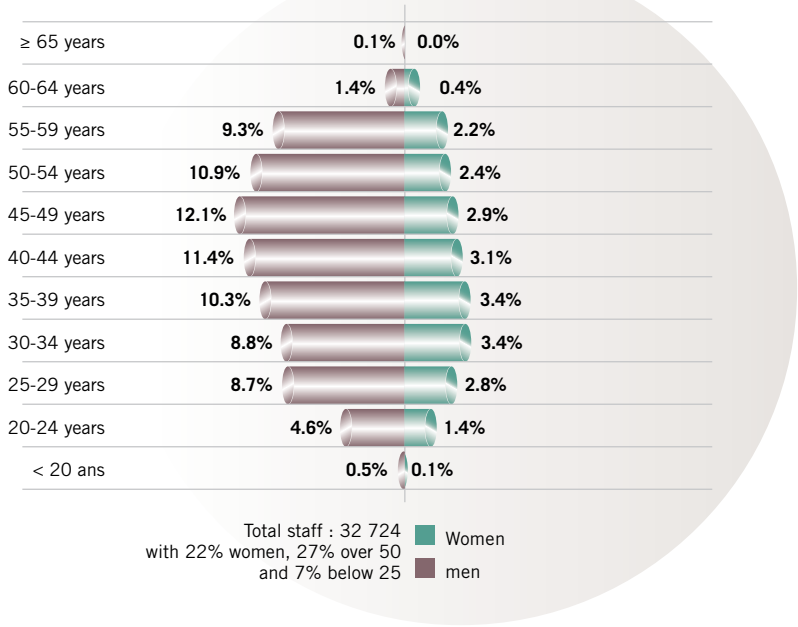
27- The accident frequency rate measures the number of accidents in each thousand of hours worked

Diversity trends

Water companies take particular care to encourage candidates from all social and ethnic backgrounds to join their workforce. To meet new challenges, water companies consider that staff diversity is a major asset. Encouraging pluralism in their collaborators' profiles drives social cohesion, regional presence and is a source of both creativity and efficiency.

THE AGE PYRAMID FOR EMPLOYEES IN THE WATER COMPANIES IN 2010

Source: BIPE according to operator survey 2011



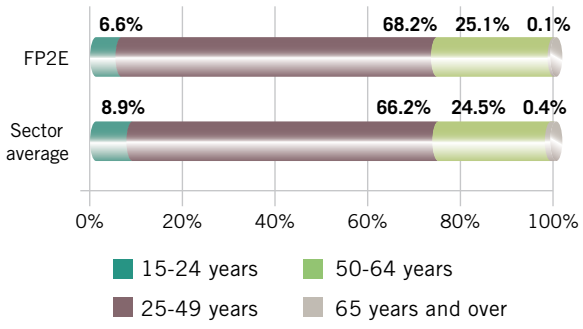
Water companies are motivated to undertake a key role to promote insertion, equal opportunities, and social links and to fight against all forms of discrimination.

Overall, the age pyramid shows that employees are slightly above the average age of employees in the industry and service sectors. The profile of the age pyramid for male employees shows a higher proportion of employees above 50. The water companies have implemented tutoring schemes for junior and senior employees. The profile of the employee pyramid shows a higher proportion of women from 25-49.

Equal opportunities and equality for employees are the lines that structure HR management in the water companies.

AGE PYRAMID COMPARED WITH AVERAGE LEVELS IN OTHER SECTORS

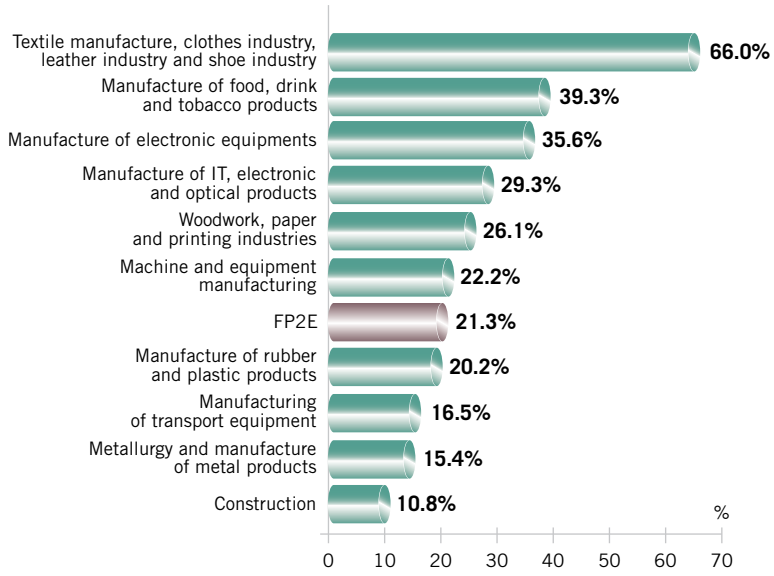
Source: BIPE, Employment survey 2009 – INSEE operator survey 2011, data 2009



In a labour-based sector, the water companies are continuing efforts to encourage female recruits. As such, in 2010, women represented 22% of employees and 31% of total recruits (i.e. an increase of 3 points compared to 2008).

PERCENTAGE OF FEMALE EMPLOYEES IN TOTAL WORKFORCE IN INDUSTRY SECTORS

Source: BIPE, Employment survey 2009 – INSEE operator survey 2011, data 2009



In a profession situated between industry and services, the female employment rate in water companies is more or less average for the industrial sectors.

The proportion of females employed as managers followed an upward trend of 25% in 2008, 25.5% in 2009 and 26% in 2010. It is higher in the water companies than in most other industrial sectors.

Increased awareness has taken hold in water companies since it was revealed that the proportion of disabled employees was below average compared with most other sectors (2.1% in 2004); this has led to an increase in the number of disabled employees since 2007, passing from 2.5% to 2.7% in 2008 and 3% in 2010.

Continued social dialogue

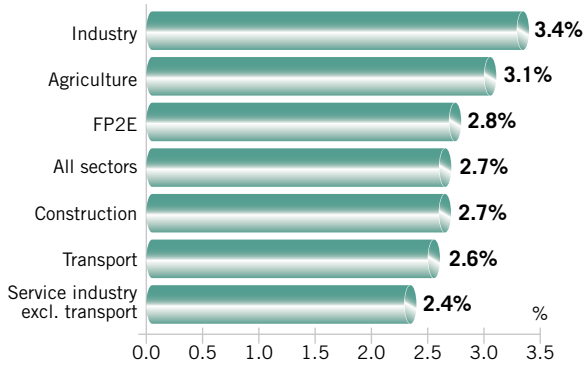
With a view to maintaining working conditions in line with employee expectations, encouraging a company-oriented spirit and conserving a collaborative atmosphere, water companies are receptive to their employees concerns.

Water companies have almost 3,400 personnel representatives (union delegates, staff delegates, works council elected representatives), i.e. roughly 10% of all personnel.

Furthermore, FP2E, through its social commission, composed equally of corporate representatives and union organisations from each branch, is responsible for updating the collective agreement for water and sanitation companies, which has been applicable for all employees in the sector since December 2000. It signs agreements with national union organisations representing the sector, which are applied through ministerial orders to all companies in the sector.

PROPORTION OF DISABLED EMPLOYEES

Source: BIPE, Employment survey 2008 – INSEE and private operator survey 2010



Throughout the years 2009 and 2010, the following were signed and applied:

- two amendments to the sector-specific collective agreement to increase minimum wages in each classification group;
- an amendment to the sector-specific agreement into professional training;
- a sector-specific agreement into corporate contributions and savings;
- a sector-specific agreement into corporate diversity;

Furthermore, within the social commission, a forward-looking observatory was set up in 2008 for the water and sanitation professions. Its remit is to initiate research and study into the predictable developments in professions in the sector. To this end, a first study was performed by the Bernard Brunhes Consultant firm to produce mapping for the professions in the sector. The results of this study were validated by the observatory steering committee.

The study's recommendations included the following:

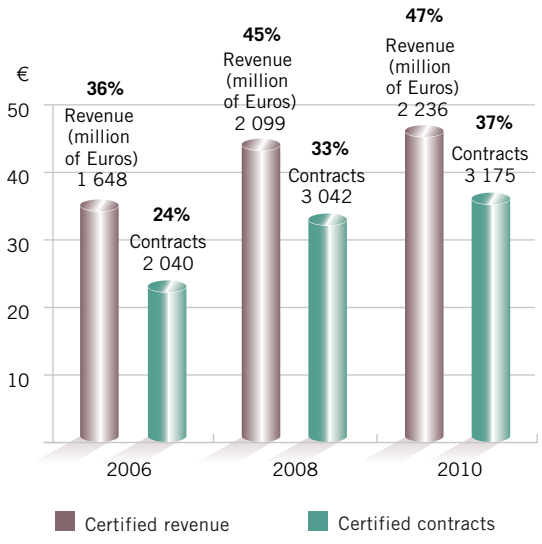
- communication tools aimed at company employees and managers;
- professional recognition tools;
- for some professions, communication kits created to boost their appeal.

Limiting the impact of private operator activities on the environment

Developing ISO 14 001 certification

ENVIRONMENTAL CERTIFICATION (ISO 14001)

Sources: BIPE according to operator surveys in 2007, 2009 and 2011



The water companies aim to limit the environmental impact of their activity by committing to an overall approach, which entails development of ISO 14001 certification. To this end they have forged partnerships with local authorities and have developed veritable expertise in the areas concerned. In 2010, 37% of contracts were ISO-certified, representing almost half the revenue generated by the water companies. These figures are following a sharp upward trend compared to 2008.

Limiting greenhouse gas emissions

In a context of confirmed climate change, the water companies are committed to limiting greenhouse gas emissions, particularly by optimizing the use of energy in its industrial processes.

The main greenhouse gas (GHG) contributors in water and sanitation services are:

- for drinking water, within the scope of production activities, pumping and initial discharge;
- for sanitation: aeration of wastewater in the plants and pumping in the networks.

In 2010, according to their assessments, water company GHG emission related to direct and indirect* consumptions stood at 5.33 kg eqCO^2/capita/year for drinking water and 6.14 for sanitation (compared with 4.94 and 6.39 respectively in 2008). With regards to drinking water, the drop in emissions can be explained on a structural level (reduction in water abstraction) as well as by the efforts of private operators in terms of equipment energy efficiency. With regards to sanitation, the increase can be explained by the improved processing levels.

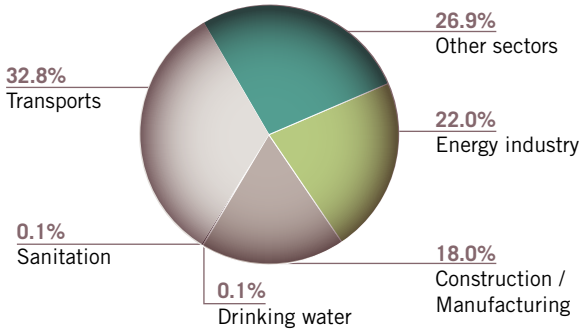
These emissions represent the total energy values required for operators to meet the drinking water and sanitation requirements of the population.

To place these figures in perspective, these annual emissions are equivalent to the carbon dioxide released to travel a little over 100 km in a Renault Twingo (petrol) or a Peugeot 206 (diesel).

The diagrams below show energy-based GHGs (i.e. from electricity and heat consumed, as well as fuels burned for each activity sector) compared with the population density. For each population concerned, this diagram illustrates the proportion of GHG emissions related to the drinking water and sanitation activities overseen by the water companies.

BREAKDOWN OF ENERGY-RELATED GHG* per capita

Sources: CITEPA/ADEME 2011 (2008 data) – 2011 operator survey (2008 data)



Total energy emissions/capita in 2008: 6.39 tonnes

* Emissions from electricity consumption, as well as the use of fossil fuels

Performance indicators for contracted services in 2010

Developments in 2008-2009

Supplement

Performance indicators for contracted services in 2010

DRINKING WATER PUBLIC SERVICE INDICATORS

VARIABLE	2008	2010	Unit
Sanitation inspections: microbiology – rate of compliance Key: Corresponding volumes	99.6	99.7	%
Sanitation inspections: physics-chemistry – rate of compliance Key: Corresponding volumes	98.7	98.6	%
Efficiency of supply network Key: Corresponding volumes	82.0	81.1	%
Proportion of unpaid bills (bill in year n-1) Key: Corresponding revenue	0.7	0.7	%
Number of complaints Key: Number of corresponding residents	4.8	4.9	Per thousand
Knowledge and asset management index for drinking water networks Key: corresponding linear	56.1	55.6	%
Linear index of unaccounted volumes Key: corresponding linear	5.9	4.8	m³/km/day
Progress index for protection of water resource Key: Corresponding volumes	53.1	58.2	%
Occurrence rate of unscheduled service interruptions Key: Number of corresponding residents	3.1	2.8	Nb/1000 customers
Advisory commission on local public services in place Key: Number of corresponding residents	79	85	%

Caution: between 2008 and 2010, the scope of the survey has developed and now also includes a population of less than 10,000.

COLLECTIVE SANITATION PUBLIC SERVICE INDICATORS

VARIABLE	2008	2010	Unit
Proportion of unpaid bills (bill in year n-1) Key: Corresponding revenue	0.9	0.8	%
Number of complaints Key: Number of corresponding residents	3.2	2.4	Per thousand
Knowledge and asset management index for wastewater networks Key: corresponding linear (km)	53.1	50.1	%
Rate of sludge from WWTPs evacuated using regulatory means Key: Corresponding tonnage	94.7	98.6	%
Number of points in collection network requiring frequent cleaning operations per 100 km of network Key: corresponding linear (km)	4.8	4.8	See description
Advisory commission on local public services in place Key: Number of corresponding residents	71	71	%

Caution: between 2008 and 2010, the scope of the survey has developed and now also includes WWTPs with a PE of less than 10,000.

Since 2002, the water companies have implemented, for contracted services concerning populations in excess of 10,000 (i.e. for around 30 million residents), a performance indicator baseline. The latter is provided each year in the contractor annual reports. Within the framework of the decree and the order of 2 May 2007, with regard to the 2008 fiscal year, part of these indicators was applied to all management modes since they must also feature in the Mayor's annual reports. New indicators were also set up.

Since 2008, the FP2E has continued is error-reduction approach, in accordance with recommendations from the interministerial circular of 28 April 2008 related to the application of the Report into the Cost and Quality of Water And Sanitation Services.

In terms of regulations, there are 29 performance indicators in total :

- 6 joint indicators for the drinking water and sanitation services;
- 9 specific indicators for drinking water;
- 8 specific indicators for sanitation. Some indicators are specific to the local authorities.

The performance indicators presented here take account of the contracted service performances and any room for improvement in areas such as the quality of drinking water, service continuity/quality provided to consumers and the implementation of knowledge tools by the local authorities for their underground assets (drinking water supply networks).

11 indicators (including one in the form of a scatter graph) were presented in 2006. Improving data reliability and mobilizing operators to meet the regulatory requirements made it possible to present 16 such indicators in 2010.

Developments in 2008-2009

The data presented in the brochure has several sources:

- institutional organisations (MEDDTL, SOes, water agencies, etc.);
- operators;
- BIPE;

Furthermore, calculations were performed using existing data and hypotheses produced by the BIPE.

Each year, the FP2E and the BIPE aim to enhance the reliability of the data they produce, which is still sometimes tarnished through a lack of statistical data homogeneity and/or through an lack of basic hard data.

From this perspective, the water sector is constantly developing. Actions implemented by institutional players are oriented to a better understanding of the sector. Operators are striving to ensure their organisation produces more information, thus contributing to a better understanding of their activity.

Also, it is necessary to update some data presented in the brochure and it is not, strictly-speaking, comparable from one year to the next.
This is why, for this fifth edition, we chose to feature the 2008-2009 developments using a constant methodology.

	2008	2009
Volume of drinking water billed (Mm^3)	4 055	3 909
Public operators – billing of drinking water excl. tax and charges (million of Euros)	1 551	1 553
Private operators – billing of drinking water excl. tax and charges (million of Euros)	4 216	4 070
Sanitation volumes billed (Mm^3)	3 532	3 416
Private operators – billing of sanitation excl. tax and charges (million of Euros)	2 461	2 358
Public operators – billing of sanitation excl. tax and charges (million of Euros)	1 753	1 784
Private operators – revenue excl. VAT generated by drinking water (million of Euros)	3 614	3 779
Private operators – revenue excl. VAT generated by sanitation (million of Euros)	1 367	1 406
Local authorities" share of drinking water (million of Euros)	602	291
Local authorities" share of sanitation (million of Euros)	1 094	952
Public operators – total drinking water billed (million of Euros) including local authorities' share	2 153	1 844
Public operators – total sanitation billed (million of Euros) including local authorities' share	2 847	2 737
Public and private investment (M€)	6 018	6 656

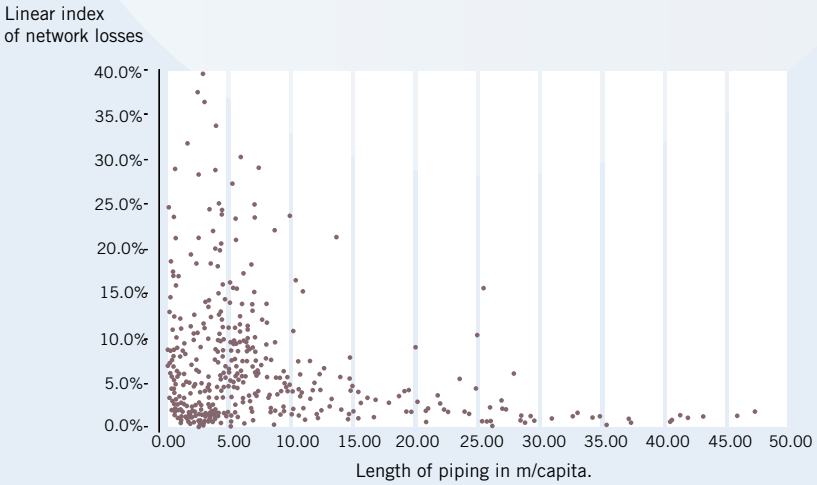
Supplement

Linear index of losses

The linear index of losses (LIL) takes account of water losses per length of piping. It reveals the joint efforts of operators and local authorities to reduce the leakage volumes (monitoring, detection, repair, renovation). The diagram opposite represents a non-exhaustive linear index of losses and water consumed for contracted services for populations in excess of 10,000 (and producing more than 2,000 m³/day). It is compared with the network density, i.e. the length of piping per capita. The diagram shows the LIL is comprised between 1 and 45 m³/km/day. The greater the network density, the higher the LIL.

LINEAR INDEX OF NETWORK LOSSES COMPARED WITH LINEAR INDEX OF NETWORK PER CAPITA

Source: BIPE in accordance with operator survey 2009 (from 464 services with a population of more than 10,000)



Reminder of the definition:

LIL (m³/day/km) = (volume supplied – volume billed)/365/total length of network excl. connections

Where volume supplied = produced volume + imported volume - exported volume

This notion is used to compare the volume of losses with the size of the network, and therefore, to compare the physical state of the two networks.

FP2E

Created in 1938, the French professional federation of water companies (FP2E) today includes almost all French companies managing water and sanitation services.

They include:

- **E2S (Siagnole);**
- **Lyonnaise des Eaux;**
- **Nantaise des Eaux Services;**
- **Saur;**
- **Société de Fin d'Oise;**
- **Sogedo;**
- **Veolia Eau.**

The federation provides elected representatives, consumer representatives and public authority managers with professional insight into water sector-specific themes. To this end, FP2E is supported by the daily practices of its members to coordinate the facilities, manage customers, forge relations with local administrations and provide financial engineering, as well as the work completed by its seven commissions (economic, scientific and technical, legal, social, customer-relations, European affaires, health and safety) open to experts from member companies in the areas concerned.

BIPE

Created in 1958, the BIPE is a economic research and strategic advice consultancy company, working in conjunction with large private companies and public authorities.

The BIPE has fifty consultants based in Paris; it bases its operating methods on:

- combining expertise in economic forecasts, through strategic and prospective analysis;
- providing expertise in simulation and modelling tools;
- ensuring its experts specialize in key areas of the economy.

The BIPE has developed special skills in the water and waste sectors. Its expert assessment and analysis services for the economy of services related to water and waste (price composition, economic equilibrium, development opportunities, investment requirements, and sticking points) provides support for public authorities, their institutional partners and players from industry so they can successfully develop their activities.

Methodology

The results presented in this document are based on the analysis of data collected from the main baseline players. The results were gathered using two approaches:

- using national public sources ((MEEDDTL, SOeS, water agencies, etc.);
- an exhaustive survey on all FP2E member companies;
- calculation using existing data and hypotheses.

Each year, the FP2E and the BIPE strive to enhance the information produced. From this perspective, the water sector is constantly developing; actions implemented by institutional players are oriented to a better understanding of the sector, and, operators are striving to ensure their organisation produces more information. But this cannot happen overnight. Also, it is necessary to update some data presented in the brochure and it is not, strictly-speaking, comparable from one year to the next.