



# **WATER AFFORDABILITY**

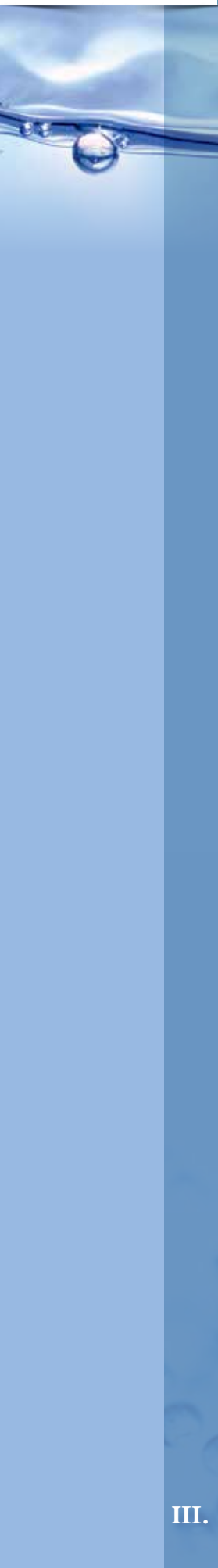
PUBLIC OPERATORS'  
VIEWS AND  
APPROACHES ON  
TACKLING WATER  
POVERTY





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**By Célia Blauel, President of Aqua Publica Europea and of Eau de Paris; Deputy-Mayor of Paris**



The vast majority of European households are today connected to safe water and sanitation, and their expenditure for water is on average lower than for other essential services. However, this does not mean that the water bill is affordable for all.

It is not always easy to have clear and definitive information on the number of households who face difficulties in paying their water bill: the very same concept of “affordability” presents a series of theoretical complexities and methodological challenges. Yet, even in affluent Western Europe, we note that for an increasing number of people paying the water bill represents a problem, however cheap this bill is.

We are persuaded that ensuring that everyone has access to affordable water is, first of all, an ethical imperative. It has also increasingly become an obligation according to international law: as we know, the human right to affordable water has been recognised by the United Nations and represents an essential element of the international Development Agenda adopted last year.

All of the above urge us to identify effective instruments to address potential water affordability problems. More precisely, by “effective instruments”, we mean approaches that enable us to treat affordability problems in an efficient, equitable and systematic way (i.e. avoiding case-by-case responses), while ensuring cost-recovery of water services. In fact, cost-recovery and affordability considerations need to be addressed together: economically disadvantaged citizens are those who are likely to suffer more from under-financed and poorly performing water services.

The responsibility of adopting the solutions that can reconcile adequate financing, environmental sustainability and affordability, lies primarily in the hands of political representatives. However, other stakeholders—and especially water operators—have crucial responsibilities too. Firstly, water operators must strive to continuously improve their performance, so as to deliver the best quality service at the lowest cost. Aqua Publica members are fully committed to respond to this challenge, as shown by their engagement in international benchmarking exercises. In addition to this, Aqua Publica members, as non-profit organisations, are dedicated to keeping water charges as low as possible, by reinvesting all revenues in the water cycle.

But we are persuaded that the responsibilities of publicly-owned operators should stretch even further than their industrial function. As companies that form an intrinsic part of the territory in which they operate, public operators should play a proactive role in society. Concretely, this means that they have to mobilise their intellectual resources, and collaborate with political authorities and other stakeholders in the search for viable solutions to common challenges.

It is with this spirit that we have decided to produce this publication, which presents a series of accounts describing concrete solutions to affordability issues. Such solutions may vary substantially depending on the context. However, interestingly, the challenges operators are confronted with are quite similar. This is worth noting, as it highlights the need to extend the discussion on affordability beyond local or national contexts. We hope that this document may represent a small but concrete contribution to this debate.

Ensuring that all citizens have access to affordable, high quality and sustainable water services is a complex task that requires the coordination of a plurality of institutions and actors operating on different levels. The members of Aqua Publica Europea are ready to play their part.



## ● ABOUT AQUA PUBLICA EUROPEA

Aqua Publica Europea (APE) is the European Association of Public Water Operators. It brings together 100% publicly owned water and sanitation services, and their national and regional associations. Our mission is to promote public water-management at both European and international level.

Overall, APE members provide water and sanitation services to over 70 million Europeans, covering the rich and varied landscape of our continent—from the North Sea to the Mediterranean, and from capital cities to remote rural areas.

- APE is a platform, facilitating knowledge exchange and joint projects among members to improve performance.
- APE is a forum for public operators to meet and discuss water policy issues with the objective of contributing to international policy-making in the water sector.
- APE is a catalyst, supporting the development of the international water community by promoting a dialogue between public water operators, the business sector, the academic world, and public institutions.

# ● ACRONYMS

<b>AEEGSI</b>	- Autorità per l'Energia Elettrica, il Gas e il Sistema Idrico
<b>AEOPAS</b>	- Asociación Española de Operadores Públicos de Abastecimiento y Saneamiento
<b>APE</b>	- Aqua Publica Europea
<b>AQP</b>	- Aquedotto Pugliese
<b>ATO</b>	- ambito territoriale ottimale
<b>EGA</b>	- Ente di Governo d'Ambito
<b>FONI</b>	- Fondi per nuovi investimenti
<b>ISEE</b>	- Indicatore della Situazione Economica Equivalente
<b>MTI</b>	- Metodo Tariffario Idrico
<b>PPP</b>	- Public-private partnership
<b>UNECE</b>	- UN Economic Commission for Europe
<b>WHO</b>	- World Health Organisation





# ● INTRODUCTION: WHY AFFORDABILITY MATTERS

INTRODUCTION

The affordability of water and sanitation services is crucial for the realization of the human right to water and sanitation. The reason is evident: if water services are physically available but a part of the population does not have the economic means to access them, they will either turn to more expensive and/or less safe sources, or they will have to forego other human rights in order to pay for safe water.

The link between affordability and the realization of the right to water is widely acknowledged by the international community. The UN General Assembly resolution 64/292, recognizing the right to water and sanitation as a human right, "calls upon States and international organizations to [...] scale up efforts to provide safe, clean, accessible and affordable drinking water and sanitation for all" (United Nations, 2010, italics are ours). The 2030 Agenda for Sustainable Development, adopted by the UN in September 2015, sets the achievement of "universal and equitable access to safe and affordable drinking water" (United Nations, 2015) as one of its main targets. The Equitable Access Scorecard approach developed by the UN Economic Commission for Europe (UNECE) and the World Health Organisation (WHO) (UNECE and WHO, 2013) argues that affordability issues represent one of the three key dimensions in the concept of equitable access to water, together with geographical disparities and specific barriers faced by vulnerable groups.

Although the challenge to ensure universal access to affordable water and sanitation services is certainly more acute in developing countries, EU member states have also witnessed more concerns being raised in recent years, as is highlighted in the UNECE and WHO report No one left behind (UNECE and WHO, 2012). Two kinds of factors can explain this trend.

First, the economic stagnation that has been affecting Europe for almost a decade now is having adverse effects on disposable income, especially for the more vulnerable households: according to most recent Eurostat data, the share of population at risk of poverty in the EU-27 has been steadily growing since 2008, reaching 17,2% in 2015.<sup>1</sup> In some European countries, the direct impact of the crisis and of austerity measures on water affordability has been particularly marked, giving rise in some cases to strong social protest movements (see European Parliament, 2015, on the impact of the crisis on fundamental rights).

Additionally, we can also identify some more "structural" factors, which are specifically intertwined with the organization of water services and its legal framework (OECD, 2009). More precisely, the price of water has been increasing in the EU because of:

- A general reduction of cross-subsidization of water services through general taxation (partly due to the implementation of the article 9 of the Water Framework Directive).
- Increasing environmental standards (especially regarding wastewater) and the consequent rise in investment needs.
- A decreasing trend in water consumption in several European countries, which is hampering the capacity of water operators to recover the high fixed costs of the service.

A decreasing trend in water consumption in several European countries, which is hampering the capacity of water operators to recover the cost. These different dynamics combined explain why the issue of the right to water in general, and of water affordability in particular, has been gaining importance in Europe. As a result, civil society movements fighting for the right to water have been mobilizing in recent years in several European countries and also at EU level, where the European Citizens Initiative Right2Water collected almost two million signatures. At the same time, policy-makers and regulators in different countries and at different levels (national, regional, etc.) have recently been experimenting with new legal frameworks and tools to address affordability problems.

<sup>1</sup> Data available at <http://appsso.eurostat.ec.europa.eu/nui/submitViewTableAction.do>



If the link between the right to water and affordability is evident, what is less straightforward is the definition of operational concepts and instruments to measure and tackle this issue. This is due to the fact that affordability is a multi-faceted concept, encompassing various—and not only economic—dimensions; as argued by the UN Rapporteur, “the affordability of water and sanitation services is highly contextual” (United Nations 2015b, p.9).

Generally speaking, it is now widely acknowledged that low tariffs are not an appropriate response to affordability issues: under-financed water utilities will provide low quality services, which will hamper their capacity to ensure universal access, thus ultimately harming lower-income households and marginalized groups. However, as also recognised by the UN Rapporteur on the right to water, the **tension between environmental objectives** (charging for the use of water to discourage wasteful consumption), **economic rationales** (financial sustainability to ensure a good service for all) **and affordability considerations**, is often inherently linked to tariff setting. This is not just a theoretical dilemma, but a very concrete challenge: if a tariff increase related to full cost recovery objective results in a significant upsurge in the number of households unable to pay, there will be a push to increase tariffs even further to compensate for the loss of revenues of households in arrears, thus potentially generating a vicious and unsustainable circle.

This report aims precisely to explore the challenge of how to reconcile these three imperatives—environmental sustainability, cost recovery and affordability—from the perspective of public water operators. The objective is to contribute to the international debate, building on the concrete experience of the members of Aqua Publica Europea (APE): a community of political representatives, technicians and experts who share common values as regards the mission and obligations of the public water service, but also value the diversity of approaches that exist within the field.



# ● SCOPE AND METHODOLOGY OF THE REPORT

The UN resolution on the right to water clearly assigns the responsibility to fulfil this right to States. As the UNECE and WHO report (2012) observes, affordability cannot be ensured just through tariff design but it “requires a social policy infrastructure” that only state or regional administration can provide.

As an association of public water operators we fully share this approach. We are persuaded that the distinction of responsibilities among the different actors involved in the management of water resources needs to be clearly defined and this is a key condition in guaranteeing effective governance of the sector and in achieving the broader objectives of water-related policies.

At the same time, the members of Aqua Publica Europea believe that the responsibility of publicly-owned utilities should not simply to execute a technical task in compliance with exiting legislation. On the contrary, we consider that public operators need to play a proactive role at the local level. In other words, APE members are committed to becoming a real territorial actor that contributes to identifying effective solutions to common challenges, by sharing their know-how and by making their resources available to other institutions and stakeholders.

This report thus intends to contribute to the European affordability debate by drawing on the specific experience of public water operators. To be more specific, the **report attempts to map existing approaches and experimental measures in the field of affordability in some selected European countries**, with the aim of identifying and better understanding the main trends and challenges to be addressed. Considering the above, this paper does not seek to provide a comprehensive overview of all existing instruments across Europe, nor does it have the ambition to draw general conclusions about the best way to tackle affordability problems.

More simply, this report attempts to describe the state of the current situation in certain countries, enriching this description with references to some specific case-studies. More specifically, it intends to:

- Provide an overview of how the issue of affordability is understood and addressed in different contexts.
- Report on ongoing debates and approaches to ensure affordability in different contexts.
- Provide some accounts on how different measures such as increasing block tariffs and water solidarity funds are concretely implemented in different contexts.
- Consider the possible pros and cons of each instrument/initiative by reporting the specific point of view of the water operator that is involved in their implementation.

The information contained in this report that has not come from external sources has been provided by the members of APE through an internal questionnaire and some direct interviews. Responses to the questionnaire were collected from January to April 2016, whereas interviews were held from June to September 2016.

The questionnaire and interviews revolved around a series of questions aimed at understanding:

- The monitoring tools used to assess affordability problems in a given region.
- The instruments used to address affordability problems.
- The actors involved in the management of these instruments.
- The legal framework specifically dealing with the problem of affordability.
- The assessment of the instrument (effectiveness, handiness, etc.) in its specific context by the operator using it.

It is important to point out that our internal survey focused only on affordability for domestic users. Consequently, the report does not consider potential affordability problems for other (business) users. Neither does the report consider accessibility problems concerning those who do not have a connection to the water system because of different reasons (they are homeless or in irregular housing conditions, or they belong to nomadic communities). This choice does not imply that Europe is exempt from accessibility problems for specific disadvantaged social groups (on the contrary, there is evidence that the problem exists, especially in large urban centres). Simply, accessibility for these categories of communities entails a different set of challenges and problems and, therefore, a different set of responses, when compared with domestic users. Also, precisely because these categories are not connected to the network, they are often not “known” by operators. Consequently, this problem deserves to be analyzed separately and will be the subject of ... another publication.

Finally, regarding the structure of the publication, the document is organised into a series of country reports. For each of the countries here considered, we try to provide general information regarding:

- The structure of the water and wastewater industry.
- Tariffing mechanisms to recover the costs of water and wastewater services (taxes and tariffs, components and parameters of the water bill and the recent evolution of the price of water).
- Methodologies to assess affordability (if any) and legal frameworks.
- Measures for improving affordability, results and assessment of these policies.
- Legal frameworks on disconnections from the water supply network and on flow limiters.

As for the types of measures used to tackle affordability, we have mainly distinguished between preventive and remedial measures. From an operator perspective, a preventive measure is a tool applied before a payment difficulty occurs and is aimed at ensuring that the water bill can be paid by the user. The curative measure is taken once the problem of households not being able to pay has become apparent and is implemented to solve this situation.

Each country report is then complemented by one or more accounts from operators regarding their experiences of tackling affordability issues, including: affordability and experimental measures and approaches taken.

The document ends with a final chapter that tries to identify existing similarities and common trends among EU countries and among the experiences of the operators surveyed.



## BELGIUM

Belgium is divided into three Regions, namely Brussels, Flanders and Wallonia. Each of them is responsible for managing water within its own territory. The chapter regarding Belgium is thus divided in three sub-chapters—one per Region.

### WALLONIA

#### General overview of water and wastewater services

Drinking water is supplied by three different types of water operators, all of which are publicly-owned:

- One Regional company: the Société Wallonne des Eaux (SWDE) supplying 67% of the population.
- Nine inter-municipal companies, supplying 27% of the population.<sup>2</sup>
- 40 municipalities, supplying 6% of the population.

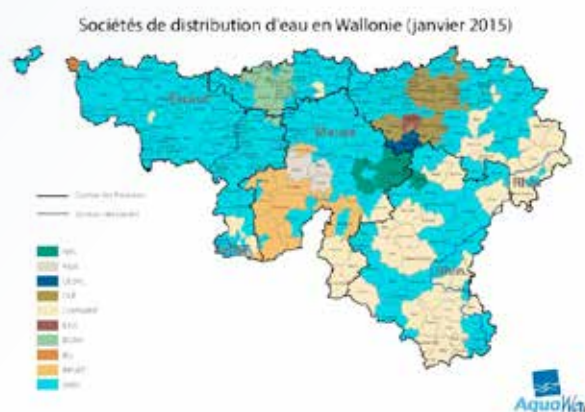


Fig 1 – Companies supplying drinking water in Wallonia. Source: Aquawal

Wastewater management is coordinated by the Société Publique de Gestion de l'Eau (SPGE). It delegates the building and management of wastewater treatment plants to 7 inter-municipal companies called “approved treatment bodies”.



Fig 2 – Companies in charge of treating wastewater in Wallonia. Source: Aquawal

<sup>2</sup> Including one supplying only industries, not represented on the map.

## Pricing of water and wastewater services

The “water bill” includes water and wastewater services. The VAT rate is a reduced rate of 6% on the total water bill.

The price of water is set by water operators based on a standard accounting scheme adopted by the Walloon government. This scheme defines which costs must be recovered through the bill following a single template that is applicable to all operators. The price of water is regulated: this means that the tariff to be applied has to be approved by the Walloon minister of economy following an assessment by the “Comité de contrôle de l’eau”, a consulting body comprising consumer representatives, social partners (labour organizations, industry, farmers...) and municipalities.

The pricing structure is the same for all water operators and is defined by the law as follows:

Block	Formula	SWDE price per m <sup>3</sup> VAT incl
<b>Fixed part</b>	20 X CVD + 30 X CVA	122,8 EUR
<b>From 0 to 30m<sup>3</sup></b>	0,5 CVD + WSF	1,42 EUR
<b>From 0 to 5 000m<sup>3</sup></b>	CVD + CVA + WSF	5,05 EUR

Where “CVD” is the price for drinking water, “CVA” the price for sanitation and “WSF” the contribution to the social fund for water.

The price of water in 2016 is about €520 for 100m<sup>3</sup> (mean consumption per user). The share of each service in the total price is shown in the following chart, where an average user paid €275,89 for water distribution, €211,50 for waste-water treatment and €2,53 to the social fund:

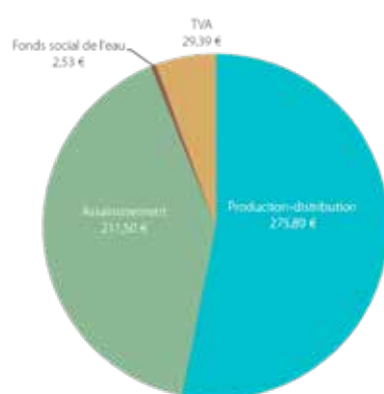


Fig 3 – Share of the different services in the total price of water

The price of water has increased over the last decade due to several factors, amongst which:

- The increase in investments in order for Wallonia to comply with the European Directives (91/271, 2000/60, 98/83, ...)
- The decrease of mean water consumption
- The dispersal of activities on the territory (urban spreading)
- The inclusion of new taxes by the Walloon government

## Assessment of affordability

**Affordability is measured in two ways.**

**The first method** is based on the annual assessment of consumers who are in a state of financial insecurity and struggle to pay their water bill. This falls under the responsibility of the Société Publique de Gestion de l'Eau (SPGE).

A consumer in difficulties of payment is defined as a household that does not pay its water bill after the second reminder. The number of consumers at risk of being unable to pay has increased over time in parallel with the increase in the price of water (see chart below). If we compare this figure to the total amount of consumers, the ratio of consumers at risk of being unable to pay is about 9%.

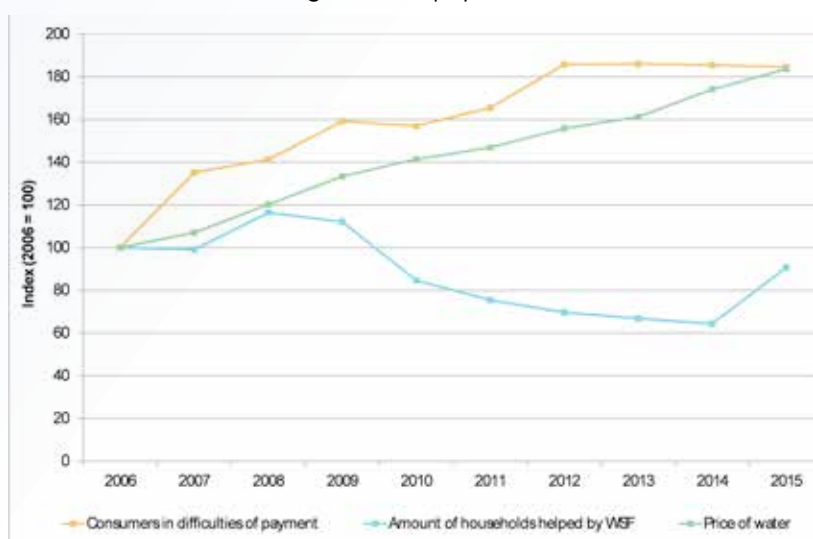


Fig 4 – Consumers in difficulties of payment, related to the amount of households helped by the Water Solidarity Fund and the price of water in Wallonia, 2006-2015. Source: Aquawal

**The second method** is based on a survey. The most recent survey was carried out in 2015 and estimates the share of total income devoted to the water bill. The threshold for assuming that water is no longer affordable is 2%; 16% of the households exceed this threshold. If the threshold was raised to 3%, 5,7% of households would be considered to find their water bill unaffordable.

This survey also shows that the households that are the most touched by affordability problems tend to be large households whose head is usually aged between 45 and 54 years.

## Preventive measures

The pricing structure, coupled with the way water and wastewater services are organised, allows for geographical solidarity to take place. Considering that the price of drinking water is the same for the whole area supplied by a same operator (SWDE), two thirds of the population pay the same price, whether they are in urban or in rural areas. The geographical disparities are also reduced by the fact that only one price exists for wastewater services (there is only one operator responsible for wastewater).

Geographical subsidization can help to ensure affordability by allowing less populated areas to have acceptable prices even if the real cost for supplying and treating water would in reality be very high in that specific area.



## Remedial measures

The main remedial measure implemented in Wallonia is the social fund for water. This mechanism is based on a contribution by all households of 2,5 eurocents per cubic meter. This amounts to around 4 million euros for the whole Walloon region. These resources are aimed at reducing the water bill for consumers in a financially vulnerable situation.

A small share of this fund (5%) is specifically dedicated to the improvement of indoor water systems (reducing leakages, replacing a high water consuming washing machine, etc.)<sup>3</sup>

## Disconnections and flow limiters

Domestic users can be disconnected from the service under certain specific conditions:

- To protect public health or the continuity of service;
- Following a request by the user;
- In the execution of a court decision following non-payment;
- In case the meter is inaccessible.

However, even if this possibility does exist in legislation, only a few disconnections are usually carried out by water suppliers. In 2014, about 1 500 disconnections out of 1,5 million users were undertaken. This is for the most part due to the reluctance of the municipal courts to grant disconnection, which is essentially based on the United Nations' recognition of water as a human right. As a consequence, drinking water suppliers tend to install flow limiters.

<sup>3</sup> At the time of writing, a legislative proposal intends to double this share in order to better tackle the problems of overconsumption.



## Operators' view on affordability

By Cédric Prevedello, Scientific Advisor, AQUAWAL



Operators consider the water bill to be generally affordable. Indeed, the typical burden is about 1% of the families' income. However, some low income families may encounter temporary or long-term difficulties.

These payment problems are unsustainable from a social point of view, as well as an economic one. As the economic dimension is less understood, it requires an explanation.

If a bill goes unpaid, the water operator must recover its credit from the user. To do so, it implements several tools, including sending a reminder, using the services of debt collectors or lawyers, or even court proceedings...

However, implementing the aforementioned tools represents a cost to the operator which then has to be counteracted by an increase in the price of water, following the full-cost-recovery principle. Even when these methods succeed in recovering the payment in arrears, the money that is recovered will rarely be enough to compensate for the additional cost incurred by the water supplier. Therefore, one could say that both the fact of not paying and the debt-recovery procedures lead to inefficiencies. What is more, lack of payment sets in motion a vicious circle: more payment difficulties imply a higher price of water which, in turn, is conducive to more payment difficulties.

There are several ways to ensure water affordability, general income support and rebates on the water bill for certain categories of the population being two of them.

Following some initial experimental processes during the 90's, Wallonia decided to adopt the water social fund approach. The underlying rationale is that water being affordable for the vast majority, only a few cases truly necessitate support.

Water operators are very satisfied with this system. First of all, because money is collected from the water bill, the available amount of money for this purpose is stable from year to year. This allows for a kind of pre-debt-recovery to take place, which reduces the cost of the operation to almost nothing.

Moreover, this system also involves the municipal social services who are responsible for each individual case and thus permit a clear separation between people in need and those who simply do not want to pay (the so-called "bad payers"). This is, at once, the major strength and potential weakness of the system. Municipal water services have to be very careful when assessing the real level of financial difficulty of the family. If a poor assessment was to take place, a household facing true difficulties could be left behind in terms of financial accessibility to water.

The small share of the social water fund that is devoted to technical improvement assist those that are in real need to help them to significantly decrease their water consumption. This is very effective economically and socially speaking, because it reduces the financial burden on the family as a result of the lower water bill and is also effective from an environmental point of view.

It is worth noting that non-eligible users must pay their due. If they do not do it, water operators are able to adopt measures to sanction the user, by, for example, limiting the flow of water or cutting off the water supply.

In conclusion, **Walloon water operators prefer that money for maintaining access to water for the poorer comes directly from the water bill** (i.e. is paid by the other users) and that only genuine cases of economic disadvantage should involve help, the end goal being that of efficient economic management.

## FLANDERS

### General overview of water and wastewater services

Similarly to Wallonia, the water supply, sanitation and wastewater treatment companies in Flanders are publicly owned. The water operators are responsible for the integral water cycle but the operation of wastewater collection and treatment can be delegated.

**Drinking water supply** is a municipal task. However, except for one community, all municipalities delegate this to inter-municipal entities.

There are four major companies supplying more than 92% of the population and there are also four small partnerships. The main Flemish operators are the following:

- The regional company De Watergroep supplies 45% of the Flemish population
- Pidpa operates in the province of Antwerp (19%)
- Water-link operates in the urban region of Antwerp city (9%)
- Farys serves the axis Brussels – Ghent – Oostende (20%)
- IWVA operates in six rural communities near the Belgian coast
- The Brussels suburbs are operated by Vivaqua and IWVB
- Knokke-Heist is the only communal operator

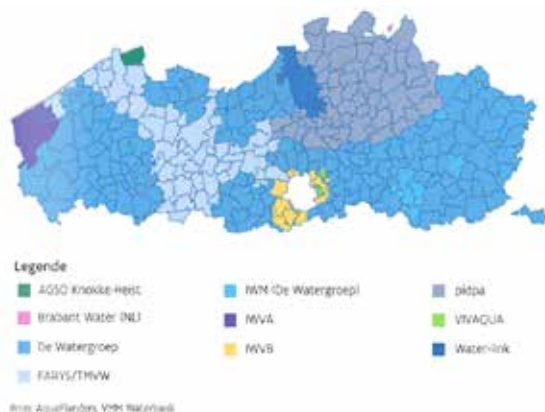


Fig 5 – Flemish drinking water suppliers. Source: AquaFlanders

**Wastewater collection** is relatively complex because it can fall under the management of inter-municipal companies that can be either a drinking water company or another service supplier (Infrac). A lot of municipalities organize the service themselves.

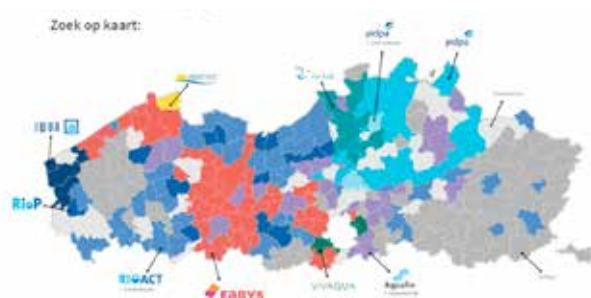


Fig 6 – Wastewater collection companies in Flanders

**Wastewater treatment** is managed by Aquafin, who serves the whole Flemish region.

## Pricing of water and wastewater services

The water price is fixed by law. The pricing structure is the same for all drinking water companies and has the same structure for the three components: drinking water, sanitation and wastewater treatment.

The water price consists of a fixed fee and a variable fee for the volume of drinking water consumed. There is a price reduction mechanism available depending on the family size, which is divided into two parts.

The pricing structure is the following:

### Fixed part:

- 100 (€50 for water, €30 for sewage and €20 for wastewater treatment).
- Reduction of €20 per household member (however, no negative fee can be applied)

### Variable part:

- Block 1 'basic consumption', from 0 to  $(30\text{m}^3 + \text{nb inhabitants} \times 30\text{m}^3)$ : water is charged at basic price (applied on the three components). The basic price is different from company to company.
- Block 2 'comfort consumption', when the threshold of  $30\text{m}^3$  is exceeded: charged at twice the basic price (for the three components - drinking water, sanitation and wastewater).

A 6% of VAT is charged on the three components.

The cost of the bill is determined by the number of household members and on their relative consumption, thus, a household consuming  $100\text{m}^3$  will pay a different amount depending on the number of inhabitants (see the table below for a comparison of the bill of a two- and three-people household consuming  $100\text{m}^3$  each).

	3 member household	2 member household
<b>Threshold for the 'basic consumption'</b>	$30 + 3 \times 30 = 120 \text{ m}^3$	$30 + 2 \times 30 = 90 \text{ m}^3$
<b>Volume billed at 'comfort tariff'</b>	$0 \text{ m}^3$	$10 \text{ m}^3$
<b>Drinking water (TVA excl.)</b>	168 EUR	192,8 EUR
<b>Municipal sanitation (TVA excl.)</b>	142,33 EUR	161,36 EUR
<b>Regional wastewater treatment (TVA excl.)</b>	101,09 EUR	114,40 EUR
<b>Total TVA incl.</b>	436,11 EUR	496,68 EUR

Fig 7 – calculation of the water bill for a household of 2 and of 3 people consuming  $100\text{m}^3$  based on the tariffs of De Watergroep in 2016.

The price of water increased the last decade due to several factors, amongst them:

- The increased level of investment in the wastewater collection networks and the wastewater treatment infrastructure.
- The decrease of drinking water consumption
- The change in regional planning (urban spreading)
- The decrease of investment subsidies for wastewater treatment by the Flemish government

## Price regulation

The **drinking water** price is determined by the water regulator, which is part of the Flemish Environmental Agency. By law, as of the 5<sup>th</sup> of February 2016, each operator must introduce a six year forecast based on a 'Tariff Plan' with the specific (yearly) prices for household consumption (basic tariff and comfort tariff) and non-household tariffs. The first cycle starts on the 1st of January 2017. Any adjustments to the variation in the cost of living are set to be introduced at the beginning of the following year.

The analysis and monitoring of the sanitation and wastewater treatment services is executed by the economic surveillance department of the Flemish regulator.

## Assessment of affordability

The new legislation on the tariff regulation of drinking water includes an affordability test by the regulator. However, the specifics of the test are yet to be designed. The yearly official report 'Watermeter', which contains the official information on drinking water prices and consumption rates of all the Flemish drinking water operators, also monitors the social impact and affordability. This report is published by the regulator and is drafted in close collaboration with civil society organizations and the drinking water companies.

## Preventive measures

Since 1st of January 2016 the water pricing includes some identical discounts for the tree components of the price of water:

1. Compensation for households: for each person in a household, there is a €20 discount on the fixed part of the bill (fixed part can drop to €0). Moreover, the size of the household is also taken into account in order to define the threshold separating the "basic" and the "comfort" consumption categories.
2. Some specific groups also have the right to a 80% rebate on their total bill (drinking water; sanitation; wastewater treatment). These groups are:
  - Users that receive disability benefits.
  - Users that receive the minimum social welfare allowance from the municipal social services.
  - Users that are receiving the revenue complement for older people.<sup>4</sup>

## Remedial measures

People of the targeted groups can also ask for a monthly payment of the water bill (instead of a quarterly payment), without additional costs. They also can ask for a so-called "Water Scan" free of charge, which helps them to analyse water consumption and losses.

<sup>4</sup> For further information on this point, see:  
[http://www.belgium.be/fr/emploi/pensions\\_et\\_fin\\_de\\_carriere/pensions/regles/revenus\\_garantis\\_-\\_grapa](http://www.belgium.be/fr/emploi/pensions_et_fin_de_carriere/pensions/regles/revenus_garantis_-_grapa)

## Disconnections and flow limiters

Disconnections are allowed following a predefined procedure and are carried out in the event of a threat to public health or non-payment.

In case of non-payment, the water supplier can only cut off the water supply following approval by the local municipal advice commission. These commissions are organized at the municipal level and fall under the management of the Public Centre for Social assistance and are composed of different parties, including representatives of the centre for social assistance, a representative of the water supplier, a representative of a debt mediator and a representative of the council for social welfare. The user is systematically invited to defend their case before this commission.

Flow limiters are not used in Flanders.

## Operators' view on affordability

By Marc BUYSSE, Director, AquaFlanders



**Flanders has a good safety net in terms of affordability of the water bill. It is therefore correct to say that in Flanders the water bill is affordable,** although some families may slip through the net.

The old tariff system that each year provided 15 m<sup>3</sup> of water per capita for free was abandoned in January 2016. However fair the '15 m<sup>3</sup> for free' system may seem at first sight, it never guaranteed a high level of affordability, because all costs had to be covered by the cubic metres that were charged, these cubic metres were very expensive. This had a negative effect, especially for low-income families who generally have the highest levels of consumption per capita, due to the fact that their infrastructure is often older and poorly maintained and suffers from a lack of investment.

The new tariff structure makes the pricing of all components of the water bill (drinking water, sanitation and wastewater treatment) identical and introduces a uniform reduced rate for low-income customers.

The new billing structure contains two distinct parts, a low-rate fixed tariff and a variable tariff (determined by the volume consumed). The pricing structure is identical for all 3 components of the bill (drinking water, sanitation and wastewater treatment).

The variable part of the bill offers a 'basic consumption' per capita at a low price (typically 30 m<sup>3</sup> per year per person) and considers all over-consumption as a luxury. The 'comfort tariff' is stated by law as double the basic tariff (e.g. a family of 3 people is rated for the first 120 m<sup>3</sup> at the 'basic tariff': 30 m<sup>3</sup> standard per habitation + 3 inhabitants at 30 m<sup>3</sup> per person. Every cubic metre above this volume falls into the category of 'comfort tariff' and is rated at double price).

Recipients of social welfare benefits, i.e., elderly people with a low income, people with a minimum allowance from the social welfare and people with disabilities, are entitled to an 80% reduction on their bill. They can request a monthly bill instead of quarterly payments, without extra costs. In addition, they can ask for a so-called "water scan" free of charge to help them reduce consumption.

Currently, about 10% of residential customers benefit from this protection. Nevertheless, the fact that the protection is an 'all or nothing' system means that some families cease to be protected, mainly single parent families.

## BRUSSELS

### General overview of water and wastewater services

Drinking water services are supplied by two companies: VIVAQUA and HYDROBRU. VIVAQUA is responsible for water production and HYDROBRU for supplying water, but has delegated the operations to VIVAQUA. Together, they produce and supply water to the 1,1 million inhabitants of the Brussels region.

Sewage management, including storm water, is also under the responsibility of HYDROBRU, which, here too, has delegated this task to VIVAQUA. The shareholders of both companies are the 19 municipalities of the Brussels region.

Wastewater treatment is the competence of SBGE (Société Bruxelloise de Gestion de l'Eau), a Regional company created in 2006. It has a management contract with the government of the Brussels region and manages the two wastewater treatment plants responsible for the sanitisation of Brussels' wastewater.

### Pricing of water and wastewater services

By law, the Brussels-capital region has only one active (public) operator that manages the water supply. There is only one pricing structure that applies to the entire territory for domestic use. This structure is an increasing block-tariff that takes into account the number of people present in the households (on the condition that there is a single water meter for one single housing unit). A different pricing scheme with a unique linear tariff is put in place for non-domestic users and for meters with multiple housing units (in cases where there is one water meter for two or more apartments).

All services (water supply, sewage and wastewater treatment) are billed together (i.e. the user gets one single bill). In 2016, the total price varies from 2,06 EUR/m<sup>3</sup> to 7,95 EUR/m<sup>3</sup> depending on per capita consumption.

Block	3 member household	2 member household	Price for regional wastewater treatment	Total price (6%VAT incl.)
<b>Fixed part</b>	23,80 EUR			25,23 EUR
<b>From 0 to 15m<sup>3</sup>/capita.yr</b>	1,0756 EUR/m <sup>3</sup>	0,5657 EUR/m <sup>3</sup>	0,3054 EUR/m <sup>3</sup>	2,0635 EUR/m <sup>3</sup>
<b>From 15 to 30m<sup>3</sup>/capita.yr</b>	1,9679 EUR/m <sup>3</sup>	0,9770 EUR/m <sup>3</sup>	0,5274 EUR/m <sup>3</sup>	3,6806 EUR/m <sup>3</sup>
<b>From 30 to 60m<sup>3</sup>/capita.yr</b>	2,9164 EUR/m <sup>3</sup>	1,4398 EUR/m <sup>3</sup>	0,7773 EUR/m <sup>3</sup>	5,4415 EUR/m <sup>3</sup>
<b>Above 60m<sup>3</sup>/capita.yr</b>	4,3292 EUR/m <sup>3</sup>	2,0571 EUR/m <sup>3</sup>	1,1104 EUR/m <sup>3</sup>	7,9465 EUR/m <sup>3</sup>
<b>Linear tariff</b>	2,1553 EUR/m <sup>3</sup>	1,0080 EUR/m <sup>3</sup>	0,5552 EUR/m <sup>3</sup>	3,9416 EUR/m <sup>3</sup>

Fig 8 – Composition of the tariff structure for drinking water, sanitation and wastewater treatment in Brussels

### Assessment of affordability

The assessment is based on European Benchmarking Cooperation methodology, showing that the bill accounts for, on the average, 1,1% of household income.

### Preventive measures

There are currently no preventive measures but it is foreseen to develop an IT infrastructure allowing for monthly electronic billing, so that the water bill can become part of the monthly household budget.



## Remedial measures

A social fund is being implemented. This fund is aimed at helping the households who are struggling to pay their bills. This fund is financed through the price of water and corresponds to €0,03 per cubic metre. This fund amounts to about 2 million euros per year. In 2014, almost all the available funds were used.

This mechanism can also help improve the quality of indoor installations (leakages, taps...) and help deliver advice on how to consume water conscientiously.

## Disconnections and flow limiters

Disconnections are allowed in the Brussels region after a court decision, provided that the water meter serves a single housing unit. This court decision is preceded by a standard procedure:

- The water supplier has to send a formal notice;
- It has to inform the public centre for social assistance so that it may intervene (pay the bill), if deemed necessary;
- It has to transfer the file of the customer concerned to a lawyer who sends another formal notice before sending the file to the court;
- The court has then to take the decision on allowing or not the disconnection before the operator can proceed.

Cut-offs are only allowed during a certain period (from the 1st of April to the 30<sup>th</sup> of June and from the 1st of September to the 30<sup>th</sup> of October).

Flow limiters are not used.

## Operators' view on affordability

By Manu Cluten, Deputy CEO, HYDROBRU



Generally speaking, the water bill in Brussels is quite affordable, as it usually represents 1% of the overall household income. However, in Brussels, the capacity of households to pay can vary significantly. The following indicators give a better picture of the situation.

Population growth has been strong since the mid 90's (mainly due to economic migration from abroad) and this has put pressure on housing prices and availability. Migration has also changed the age demographic of Brussels, with a much younger population today than in the 90's, which is the opposite trend compared with the other regions of Belgium. One third of the population of Brussels does not speak either French or Dutch (the two official languages of the region). It creates tensions on the employment market with a high level of unemployment, especially for young people.

On the economic side, the region is active and generates a lot of economic value, being home to European and national institutions, financial industry and other activities. It is the region with the highest added value per capita in the country.

**Nevertheless, while the region is economically rich, this is often not the case of its inhabitants. As a consequence, the public water company has developed programmes to support people who have difficulties to pay their water bill, including a social fund, splitting up the bill into several**



**payments, etc.** The social fund goes to the public centres for social assistance who are in charge of managing the fund. For social and privacy reasons, the public water operator has no access to the information managed by these centres.

The building structure in Brussels is also quite particular. We have many buildings that include multiple housing units with a single meter. These are either older houses split into apartments or apartment buildings from the 1960's or 1970's. Only on third of the housing units have a single meter, and two thirds share meters. This makes the application of our progressive tariff much more difficult as we have to know the household composition to be able to bill the consumption per capita. The progressive tariff can be applied in only one third of the households. For the others, we apply a simple linear tariff per m<sup>3</sup> which is billed to the owner of the building and not to the final consumer. This creates difficulties when trying to assist and keep up-to-date with the people who have difficulties to pay their water bill, and it also complicates the procedure to recover the unpaid bills.

The procedure to cut off the water supply is strongly regulated. It has to be approved by a court decision and can only be applied if the housing unit is connected to a single housing unit meter. As consequence, this measure cannot be used for two thirds of the households.

Progressive tariffing has a positive objective, which is to increase awareness around the impact of water consumption and make consumers much more responsible. However, the consequences of the system have not only been positive. To implement progressive tariffing, our household composition database (provided by national institutions) has to be updated at the beginning of January every year. As a result of the added time it takes to check the data, a delay in the billing of the first weeks of water consumption can occur, which can impact upon a household's billing (i.e. a child born on the 10th on January will not be taken into account in the first year).

We have also observed a constant drop in water consumption per capita, mainly due to technological developments (more efficient washing machines, showers, toilet flushes...). This has resulted in less consumption of water falling under the higher price tariff. The population is growing and the volume of water being billed is staying stable, but the average price paid per m<sup>3</sup> is constantly dropping (without taking into account any price increases).

We can conclude that the global picture of drinking water in Brussels is inherently conflicted. As a result, it is difficult to set the tariff at a level which allows the water company to fulfil its obligations and, at the same time, which makes water affordable for everyone in the city.



## General overview of water and wastewater services

In France drinking water is supplied by 13 806 services (SISPEA/ONEMA 2015). These services are usually quite small, serving on average 4 700 people.

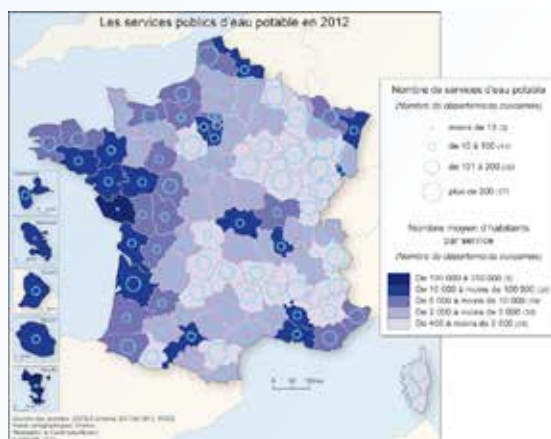


Fig. 9 - Spatial distribution of public drinking water operators according to the number of people covered, by department, in 2012. Source: Observatoire des services publics d'eau et d'assainissement, Panorama des services et de leur performance en 2012 (SISPEA/ONEMA 2015)

The municipality can either manage the drinking water supply directly or it can delegate the management to a private operator (Fig. 10). The share of water services which are either directly managed or delegated is shown in the table below:

	Direct management	Delegation of public service
<b>Number of services<sup>5</sup></b>	9 359	4 232
<b>Share of population</b>	39%	61%

The same rationale applies to wastewater services, with more than 17 000 collective sanitation services.

	Direct management	Delegation of public service
<b>Number of services</b>	13 092	3 837
<b>Share of population</b>	43%	57%

<sup>5</sup> Among the 13 591 services that have answered the 2012 survey

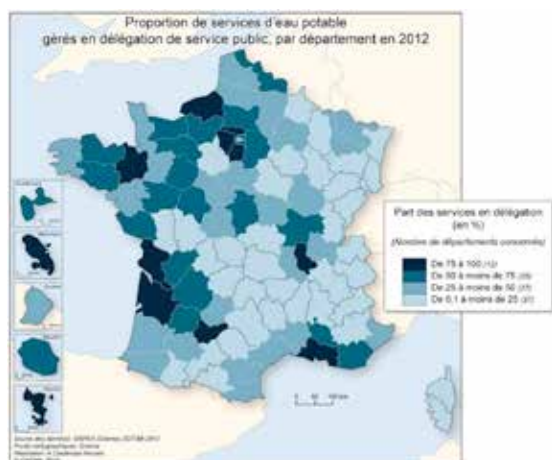


Fig 10 - Spatial distribution of drinking water services managed through public service delegation, by department, in 2012. Source: Observatoire des services publics d'eau et d'assainissement, Panorama des services et de leur performance en 2012

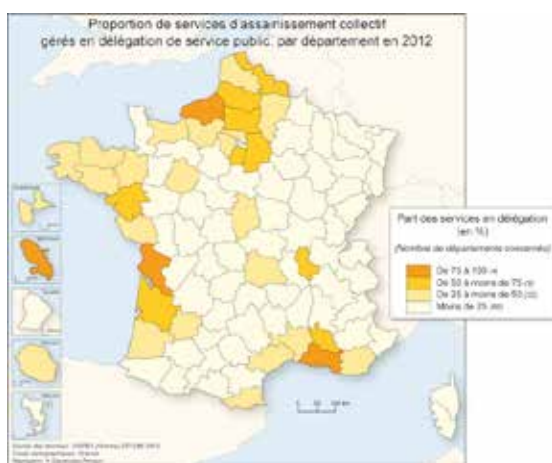


Fig 11 - Spatial distribution of collective sanitation services managed through public service delegation, by department, in 2012. Source: Observatoire des services publics d'eau et d'assainissement, Panorama des services et de leur performance en 2012



Fig 12 - Spatial distribution of publicly managed collective sanitation services, by department, in 2012. Source: Observatoire des services publics d'eau et d'assainissement, Panorama des services et de leur performance en 2012.

## Pricing of water and wastewater services

Pricing in France depends on the strategic water/wastewater management decisions made by the local authorities. These decisions are affected and limited by strong local constraints such as the quality and availability of water resources, population density, etc. The variety of contexts and operators is very diverse and as a result, pricing of water and wastewater varies significantly across the country. In 2012, the prices on the departmental scale ranged from 2,8 to 5,3 EUR/m<sup>3</sup> (based on a 120m<sup>3</sup> water bill). As these figures represent an average calculated on a "department" scale, the actual price difference between different operators in France is, in fact, bigger (as many operate at a lower scale).

Although the price is defined by the municipality or local authority, some operators like **Eaux de Grenoble-Alpes** regulate prices based on a co-decision made between the management of the public company, user representatives and civil society.

### Focus on the territorial reform in France

If the current organization of French water and wastewater services appears particularly fragmented, it is important to emphasize that territorial reform adopted in 2015 will, over a short period of time, deeply change France's institutional landscape. Indeed, among other competencies, the responsibility of managing water and wastewater services will shift from the current (mostly small) entities (mainly municipalities) to newly created authorities operating at larger scale. The purpose of this change is to achieve a more coherent and efficient organization.

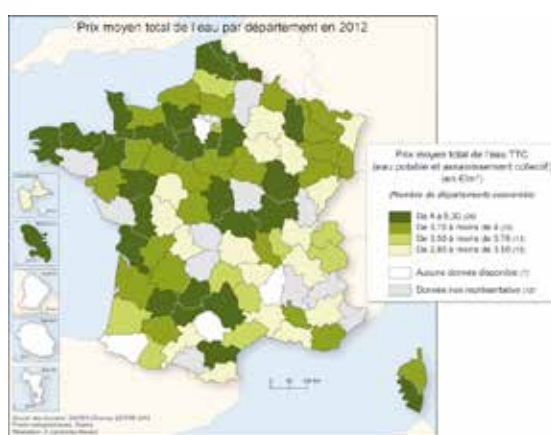


Fig 13 - Total price of water (drinking water + sanitation ) by region in 2012. Source: Observatoire des services publics d'eau et d'assainissement, Panorama des services et de leur performance en 2012

## Assessment of affordability

The right to access water in financially acceptable conditions is a legal principle in France.<sup>6</sup>

The average water price is quite moderate (€4,18 incl. VAT/m<sup>3</sup> in 2015). However, statistics do not exist on the subject of water affordability for households nor do they exist regarding the rates of non-payment of the water bill. Nevertheless, water operators witness directly that several thousands of households struggle to pay their water bill, which is an issue of concern for local and national authorities. Specific responses to these concerns will be highlighted in some case studies presented below.

<sup>6</sup> 1<sup>st</sup> article of the 2006 law on water and aquatic environment

On a more general level, the Brottes law<sup>7</sup> was adopted in 2013 and modified the existing legislation regarding affordability. First of all, it allows the local authorities organizing water and wastewater services to experiment with social tariffs for a five year period (ending in 2018). These tariffs can take into account the household composition, the families' income, the allocation of social benefits etc. Fifty local authorities, responsible for organizing water services, are taking part in the experimentation processes, among them are the city of Paris, Grenoble Alpes-Metropole and Strasbourg Eurometropole.



Fig 14 –Public authorities allowed to experiment a social tariff for the right to water. Source: Direction générale de l'aménagement, du logement et de la nature (2016)

## Preventive measures

Given the autonomy each municipality has in defining its pricing policy, it is not possible to provide a general, nation-wide account of preventive measures in France. In this section, we will give only some examples of preventive measures which will be better developed in the case studies below.

### *Raising awareness among the economically disadvantaged*

**Eau de Paris** has introduced the concept of “water ambassadors”, who are assigned the role of identifying households that are at risk of water poverty. The idea is to give them advice on how to limit the water bill, as well as identifying changes that can be made in order to save water. This task is outsourced to associations.

### *Preventive allocation to some categories of population*

As stated before, **Eau de Paris** will participate in the social tariff experimentation under the Brottes law. Nevertheless, it is a very unique operator as it has no direct link with the individual (or groups of) users, as the city has a lot of collective buildings. A structured social pricing approach is therefore complicated.

That is why the city of Paris decided to give away, free of charge, a certain amount of water, equal to the amount considered necessary to satisfy the basic needs, as defined by the World Health Organization (that is to say, 20l/capita/day of drinking water). Only the drinking water part of the invoice (that is, around 1/3 of the invoice) is targeted.

Households are eligible if they are beneficiaries of social welfare assistance but do not have access to housing welfare assistance. It is expected that 15 000 households will benefit from this aid.

<sup>7</sup> Loi n°2013-312 du 15 avril 2013 visant à préparer la transition vers un système énergétique sobre et portant diverses dispositions sur la tarification de l'eau et sur les éoliennes.



**Eaux de Grenoble-Alpes**, in the same way as previously the Régie des Eaux de Grenoble, applies preventive measures, which exclusively target University students. Those who are recipients of housing welfare are also given a discount on the fixed part of their bill.

### Remedial measures

The solidarity fund for housing (Fonds Solidarité Logement) is a mechanism implemented on a departmental level. This housing solidarity fund was created in 1990 and is aimed at helping families in need so that they can have access to decent and independent accommodation which includes energy, telecommunications, internet, water, etc.

A large part (77%) of the fund is financed from the general budget of the Department and 23% is financed by voluntary contributors from a variety of public and private entities. Water operators contribute on the nation-wide scale to only 0,5% of the total amount, while the assistance delivered through this mechanism for lowering the water bills makes up 3% of the available funds. The average discount on the water invoice was €151 in the 2005-2010 period –Ministère du logement, 2015) Indeed, despite the fact that contributions from water operators are voluntary, several members of APE, such as Eau de Paris, do contribute to it.<sup>8</sup>

In certain cases, the water operator can also implement payment plans (through which households are granted additional time to pay the bill) in order to assist those who are struggling financially.

### Disconnections and flow limiters

The Brottes law prohibits any disconnections of the water service. Water suppliers are not allowed to cut off water, whatever the financial situation of the non-paying consumer<sup>9</sup>. Moreover, operators are not allowed to limit the water flow in case of non-payment, as recently ruled by French courts.

<sup>8</sup> Eau de Paris paid 500.000 € as from 2011. Source: Chambre Régionale des Comptes, Rapport d'observations définitives et sa réponse. Régie Eau de Paris. Exercices 2009 et suivants.

<sup>9</sup> Article L115-3 of the Code of social action and families.

## Operators' view on affordability

By Eve Janodet, Scientific Adviser, Eaux de Grenoble-Alpes



Eaux de Grenoble-Alpes-Métropole has been, since the end of 2014, experimenting with the social pricing of water. Issues that were raised leading up to the experimentation include the following:

- Important disparities exist within the metropole's territory in terms of family income distribution and water prices (from 2,17 €/m<sup>3</sup> up to 4,77 €/m<sup>3</sup>)
- Insecurity about water concerns, both technical access and financial access (low incomes)
- A progressive tariff system would be very complex to implement due to:
  - The difficulty to deal with households that are not direct users of the service (community housing costumers)
  - The difficulty in deciding thresholds for this type of tariff system
  - The discussion on the possibility of distributing a basic amount of water for free
  - How to compensate the fact that households with numerous members will automatically pay higher tariffs?
- Other solutions could involve:
  - Specific tariffs for some customers. However, these "social categories" are yet to be defined
  - Limited or regular assistance measures
- The cost of the measures implemented should not be excessive.

After having taken into account all these issues, **the Métropole finally chose to provide a "chèque eau" to be given to the households whose water bill exceeds 2,5 % of their overall income.**





By Eric Pfliegersdoerfer, Institutional Relations, Eau de Paris



**Water is a vital common good and, as such, has to be managed according to the fundamental values of performance, quality, responsibility, solidarity and sustainability.** It is this strong political belief that led the city of Paris to make Paris' water management public again, after two decades of private delegation, and hence, to create Eau de Paris.

As a fully publicly-owned operator, the Eau de Paris management strategy is not conditioned by the obligation to generate short term capital return.

This allows the company to adopt a long term vision and approach and guarantees that present and future generations' best interests will be at the core of decision-making.

**Transparency and open governance** enable not only political control but they also allow citizens to have a say with regard to the direction company takes and also, its activities. They make sure that strategic choices (industrial, pricing, resource protection and patrimonial policies) are taken with the general public interest in mind.

The fact that the different water price components (respective shares of water production activity, water distribution activity, wastewater collection and treatment, pollution and resource preservation taxes) are specified also allows for more transparency with regard to citizens. It reflects and assesses long term policy choices and the performance of the water service within a particular area.

Eau de Paris' economic and industrial project is inseparably linked to the social and political project which is aimed at enabling equal access to water for everyone, at the best price, while respecting the sustainable management of resources.

Water access for all, especially for the less well-off citizens, is written in Eau de Paris' articles of association and can also be found in its objectives and performance contract. To this end, Eau de Paris contributes yearly to the housing solidarity fund and manages and develops the free public fountains network, among other actions.

Due to the unique nature of the Parisian water subscriber base (collective housing and metering and lack of direct link with the end users) the implementation of a social and differentiated water pricing structure was not a feasible option. Instead, the Council of Paris decided to introduce a new temporary assistance scheme and a preventive awareness campaign.

Within this framework, Eau de Paris is implementing the "water ambassador" programme.

This programme is intended for the most financially vulnerable households. It focuses on good water practices, such as promoting, for example, tap water consumption as a substitute for more expensive bottled water and tackling water wastage, such as leakages. These awareness-raising measures aim to help reduce the financial burden of water on families on a long term scale.

As part of this programme, a call for projects has been launched to support projects defined and headed by social associations that are in line with the values of the water ambassador programme. Partnerships between public and private landlords of social housing will also be built, in order to co-finance awareness-raising measures that will benefit their tenants.

By Jean-Marc Riebel, Vice-President,  
Syndicat des Eaux et d'Assainissement du Bas-Rhin (SDEA)



**SDEA, in partnership with the departmental authorities of Bas-Rhin and in conjunction with user representatives, has developed a social policy on access to water which is designed to detect as quickly as possible users who are in a state of financial insecurity.** The objective of this policy is to monitor and follow their situation and find solutions which can be adapted to their particular needs.

The policy is built around the following principles:

- Combining solidarity with the responsibility of guaranteeing access to water for everyone but, at the same time, maintaining the operator's economic balance, despite increasing levels of poverty.
- Promoting eco-friendly consumption both environmentally but also socially speaking.
- Ensuring a rigorous and fair management of the debt, in conjunction with the national administration of the Treasury (Trésor Public, in charge of debt collection) and local representatives, in order to cancel the debt of those who cannot pay and hold those accountable who do not want to pay.
- Ensuring optimized cost management.

In terms of organization, this policy has been made possible through the creation of the position of an officer responsible for solidarity (who is part of the staff of SDEA), and who acts as a contact person for users, the Treasury, the social services and the local representatives.

This officer is also responsible for advising the financially vulnerable users in order to assist them in the optimization of their spending and the management of their water budget. This assistance entails advice on how to reduce water consumption and wastage by, for example, choosing tap water over bottled water. Further solutions include breaking down the payment of the bill, by staggering it and/or making monthly instalments and also, directing the user to the social assistance schemes in place, when necessary.

Through the policy that SDEA has in place, the user representatives intend to make all stakeholders responsible for striking a balance between the principles of social solidarity and economic and environmental sustainability, demonstrating that **the objectives of social solidarity and the optimization of the management of public funds and water resources can be reconciled.**



By Christophe Lime, President of the Besançon water operator

Ville de  
**Besançon**



**The city of Besançon provides its inhabitants with excellent quality tap water and with a wastewater collection and treatment system of a very good standard. At the same time, the price of these services is among the cheapest of French cities. These excellent results are the consequence of the direct management of the distribution and sanitation services by the municipality.**

In 2006, Besançon branded the drinking water it distributes as "la Bisontine". This brand is considered to be of high quality, particularly from a health perspective, and also easily accessible for users. Now Besançon has decided to continue its promotion of tap water by offering "drinking water for free", that is, offering each household a free 3 m<sup>3</sup> per year, this is equal to the drinking water consumed by a 5 person household each year.

This new water tariff, whose main goal is to make people drink tap water, has been applied since the 1st of January 2016. It should also allow households to save money. By switching from bottled water to tap water, a household of four may save on average €500 per year, tap water being around 40 times cheaper than bottled water.

This pricing structure also encourages households to control their water consumption by introducing a higher rate (1.09 EUR/m<sup>3</sup>) for so-called "comfort" volumes, that is, for a consumption of over 80 m<sup>3</sup> per year. Specifically, households consuming between 3 and 80 m<sup>3</sup> pay €1,02 per m<sup>3</sup>, and households consuming more than 80 m<sup>3</sup> are charged 1,09 EUR/m<sup>3</sup>. This tariff of €1,09 also applies to all industrial and commercial consumers.

la Bisontine  
PATRIMOINE VITAL DE BESANÇON

Compared to the former pricing structure, households pay 1,75% less for a consumption of 50 m<sup>3</sup> per year and 0,24 % less for a consumption of 100 m<sup>3</sup> year. In contrast, large consumers (consuming 120 m<sup>3</sup> per year) will experience an increase of 0.29% on their invoice. Very large consumers, consuming 200 m<sup>3</sup> per year, will see their bills increase around 1.4% per year.

We are however aware that this new tariff structure is not perfect. Thus, especially some poorer families may be penalised. This is why local authorities are already contributing to the «Water Solidarity Fund» managed by the Departmental Council, which pays part of the total water bill for households that cannot manage to make ends meet. Moreover, the "Community Centre for Social Action" of the city of Besançon has been made aware of this pricing change, and steps have been taken so that those responsible for social housing reflect these new tariffs in their housing charges.

# ● GERMANY

## General overview of water and wastewater services

Water management in Germany is the duty of local governments. The municipalities and their democratically legitimized bodies have the right and responsibility, secured by the German constitution, to take the strategic decisions regarding the water supply and sanitation. They are largely free to decide the organizational structure of the services they provide. Decisions are taken on the basis of regional and local conditions; as a result, water supply and wastewater disposal are always treated with locally adapted solutions.

A vast majority (99%) of the population is connected to the public drinking water supply networks, whose rates of water losses are one of the lowest in Europe. The customer satisfaction is high. The per capita use of water is at 121 litres per day. Nearly the entire wastewater is treated according to the highest EU purification standards and 97 % of the population is connected to sanitation.

## Pricing of water and wastewater services

Fees, drinking water quality, environmental requirements, abstraction and discharge rights are all subject to strict regulation and control. Thus, the German federal states (Laender) system's laws for prices and tariff setting are subject to German competition law (GWB, Federal Law) and Local Taxation Acts. The regulations for municipalities of the 16 different federal states determine the framework for the calculation of charges. Accordingly, the principles of public financial conduct (contained in the "local taxes and charges act"), which apply for all 16 Laender laws, are essentially applied as:

- Principle of equivalence (proportionally): Charges must be in due proportion to the service provided in return.
- Principle of cost recovery: All costs associated with water supply and wastewater disposal must be covered by the charges or contributions. Long-term insufficiency or surplus cover is not admissible.
- Prohibition of cost overrun: The estimated revenue from charges must not exceed the likely cost of the facility.
- Principle of equality or equal treatment: Arbitrary discrimination of consumers is to be excluded.
- Economic principles: Charges must be calculated in accordance with economic principles and methods.

These principles do not allow for charges that fulfil a conscious social objective. They may include the principle of net real asset value preservation and the principle of real capital preservation, as well as the principle of water resources and environmental preservation.

## Assessment of affordability

German customers spend on average 0,9 percent of their disposable per capita household income on their water supply and wastewater disposal and treatment. In the last few decades, water charges have developed below the inflation index. Very poor people, who are not able to live from their income, are supported by social funds, which are based on social legislation and are paid for by taxpayers.

## General overview of water and wastewater services

Water services are under the responsibility of the municipalities. The framework law on water in Italy is the so-called "Galli law", which introduces the concept of "Ambito Territoriale Ottimale" (Optimal Territorial Zone or ATO, according to the Italian acronym). These ATO are geographically defined areas divided up according to the logic of efficient water management. All municipalities within the area have to choose the same concessionaire operator, be it public, private or mixed. There are currently 91 ATO (Guerrini and Romano, 2014), and amongst them 72 are active (i.e. have chosen an operator):

- 6 are served by a private operator
- 12 are served by a "mixed" (public-private) operator
- 13 are served by operators listed on the stock exchange
- 34 are served by publicly-owned operators ("in-house")
- 7 are other.

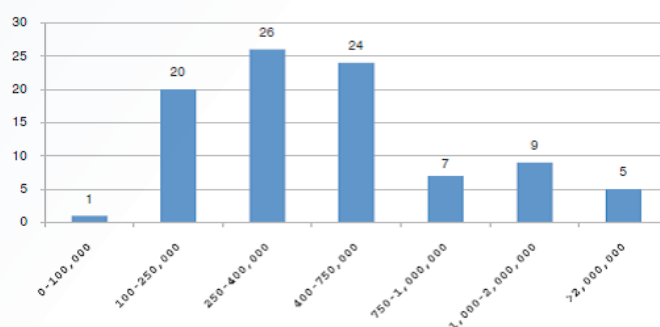


Fig 15 – Italian ATOs active in 2009 according to the number of inhabitants supplied

For the remaining 19 "non-active" ATOs (i.e. where the Galli law has not yet been completely implemented), the picture is far less clear and defined, as the reporting mechanisms have not yet been put in place. According to a survey carried out by "Autorità per l'Energia Elettrica, il Gas e il Sistema Idrico" (Italian National Regulator for Water, Gas, and Energy services or AEEGSI, according to the Italian acronym), there are overall 1 500 operators operating at various stages, including water supply, sewerage and purification, along the way. This clearly implies that the vast majority of these operators are located in "non-active" ATOs.

## Pricing of water and wastewater services

The price of water is regulated. Each "optimal territorial zone" has its own price and, as previously mentioned, generally one "operator". The yearly price changes are decided and controlled by the national Regulator (AEEGSI), based on the proposal of the public authority governing the ATO (in Italian, E.G.A.: i.e.: Ente di Governo d'Ambito), responsible for its territory. Each proposal must be based on and comply with the "tariffing calculation method" (Metodo Tariffario Idrico – MTI), established by the AEEGSI and valid for the entire country.

The price of water in Italy is relatively low within the European context, with a yearly average expenditure for a household of 3 people amounting to €260 for 150 m<sup>3</sup> in 2014 (i.e. 1,73 €/m<sup>3</sup>, all included). This amount can greatly vary across cities, ranging from €86 in the city of Isernia to €410 in the city of Pisa for 150m<sup>3</sup> (Federconsumatori, 2015).

The bill has two main sections, a fixed and a variable one. The variable one is then in its turn divided up into distinct parts; a part of the bill covers the cost of drinking water, another part covers the cost of sewage and wastewater treatment.

The price for the variable part is usually increasing by block of consumption and is composed of 3 to 5 blocks. In some municipalities, the price for drinking water can also vary according to the number of people in each family. The price for sewage and for wastewater treatment is mostly directly proportional to the water consumption.

The VAT rate is 10% on the total water bill.

Another point that is worth noting is the geographical disparity between the Italian regions: the north-western region as well as the southern Italy are both usually cheaper than the rest of the country with the highest prices encountered in the center.

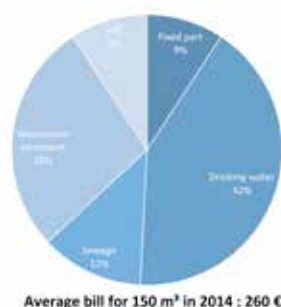


Fig 16 – Composition of the Italian average water bill for 150m³ in 2014

## Assessment of affordability

No specific assessment of affordability is available in Italy.

However, there are some statistics concerning ratios of lack of payments over a 24 month period (from the due date of the invoice: Unpaid Ratio – UR24). In 2010, the average national percentage of non-payers, over the previous two years, was 4,3 %. Also in this regard, there is a strong territorial variation going from 2,4 % in the North to 8,6 % in the South, depending on the local situation (Federutility, 2013).

This territorial disparity is taken into account by the MTI, as it ensures that the losses accumulated from unpaid bills can be recovered through the tariff according to coefficient (proportion) which varies according to the geographical area where the utility operates. For example, for 2014 and 2015, the rates of unpaid “covered” by the tariff were:

- 1,6% for the North;
- 3,0% for the Centre;
- 6,0% for the South.



AEEGSI has changed these rates for 2016–2017, as the following figure shows, following a worsening of the economic context:



Fig 17 – Rates of unpaid water bills in Italy, 2016. Source: Bardelli, 2016

### Preventive measures

Affordability issues are usually tackled through a tariff system. Assuming that a more affluent household tends to consume more water, usually the price that they pay increases according to the consumption level. Thus, the pricing system is divided up into blocks based on water consumption per cubic meter (known as an increasing-block tariff).

Some preventive measures may be put in place for the members of society that are more financially vulnerable. For instance, SMAT company (Torino) allows a discount on the water bill if the yearly income is less than €12 000 (see also the case of Apulia region, reported in the box here below).

While each ATO can choose its own tariff composition within the limits of the law, the AEEGSI has been mandated by a recent law (law n. 221 28-12-2015) to ensure the access, on favorable terms, to the quantity of water needed for the satisfaction of basic needs for all citizens across the country. The Law should be implemented through tariffing based on consumption levels (blocks) and also through tariffing based on “water uses”. However, the Regulator has not yet specified what these different “uses” are.

A small component of the water tariff, called UII (€0.4 cents for per cubic meter), is reserved in the case of a natural disaster, such as an earthquake, and is paid by each household. This money is transferred by the operators to a Fund controlled by AEEGSI, and can be used to tackle the water crisis caused by the natural disaster.

The AEEGSI (AEEGSI, Direzione Sistemi Idrici, 2015) has also been studying a mechanism similar to the UII experience that would allow for a new tariff component, at a national level, intended to redress the social and territorial inequalities (“territorial cross-subsidization”). This part of the tariff could be employed for the uses listed below:

1. Protection of economically weaker groups of users, through national subsidization systems (i.e. based on a national fund);<sup>10</sup>
2. Incentives for merging processes among operators, so as to get one operator and one tariff for each territorial zone – ATO, as required by the Galli law (the national subsidy would intervene in case the merging process entailed an excessive increase of the tariff for a particular part of a given territorial zone).

<sup>10</sup> To distinguish between people that are helped by this mechanisms and the others, most probably, the ISEE index will be used (on ISEE, see next note).



3. Investment prioritization, with particular reference to overcoming the EU infringement processes related to the implementation of EU water-related legislation;
4. Supporting reorganization/restructuring of operators facing default risk, with the aim of recovering financial sustainability.

The AEEGSI has already launched piloting of the measure four above, by financing (through loans) an operator of the South, which was facing particular difficulties, through resources collected from other geographical areas.

## Remedial measures

Since 2012, the MTI (calculation method of the water price) has been giving the local public authorities governing the ATO the faculty (with certain limits) to allocate a part of the resources collected from the water bill for social purposes, rather than for future capital investments. The EGA may use the collected money to financially support weaker groups of users, as identified through the ISEE index (Indicatore della Situazione Economica Equivalente / Equivalent Financial Position Indicator ) when in difficulty of payment, by offering a discount on the price of water (known in Italian as a “water bonus”) The local authority may delegate to the operator the task of allocating the bonus. The decision of how to handle this new faculty varied from region to region.

## Disconnections and flow limiters

Disconnections are allowed , and can be decided by the water operator. However, the ability to do so will soon be regulated at a national level by the AEEGSI, in observance to a recent provision in the law. To be more specific, the AEEGSI shall:

- adopt guidelines in order to limit user arrears. These guidelines are aimed to strike a balance between ensuring that non-payers have access to the minimum quantity of water required to meeting basic needs, while guaranteeing, simultaneously, that operators can maintain economic and financial balance.
- define the procedures for the management of arrears and the suspension of supply, ensuring cost-recovery.

The great majority of Italian operators find that a general, nation-wide regulation on the procedure for cut-offs is indeed needed (Federutility, 2013).

<sup>10</sup> The ISEE index is a synthetic index used in Italy to establish the relative wealth of an household. It is based on a combination of indicators, including income, real estate assets, etc.

<sup>11</sup> Under the Italian Civil Code (Codice Civile), the supply of water is considered a private contract, so if the consumer fails to comply (does not pay the bill), the manager may stop the supply. Usually, the general conditions of the contract (“Carta dei Servizi”) allow to cut off water supply in case of two or more consecutive unpaid bills, only after a written notice giving a reasonable time to comply has been sent.

<sup>13</sup> Law 28-12-2015 n. 221, art.61.

## Operators' view on affordability

By Paola Briani, VIVERACQUA scarl



**Viveracqua believes in the basic principle that every member of the community must contribute to covering the cost of water, but Viveracqua also believes that it is the responsibility of the operator to pay particular attention to families experiencing economic hardship. In this context, some members of the Viveracqua consortium have created a solidarity fund** (about 1 euro per user per year), which is divided between local authorities (shareholders of the water company) according to the number of users.

Local Authorities, through their social services' departments, report to Viveracqua on which households are entitled to claim for a reduction in their water bill and by how much it is to be reduced. The discount is then automatically granted in the bill, thereby generating a concrete collective support to users who, due to economic difficulties, are not able to give their contribution to the maintenance of an essential service.

Through the Italian association of water companies (Utilitalia), some members of Viveracqua are also collaborating with national policy-makers on the drafting of a law that will provide for the establishment of a "guarantee fund", managed at national level, that all operators would be able to access in order to balance the economic losses deriving from unpaid bills.

By Michele Falcone, Director General, CAP Holding S.p.A. (Milan)



**In 2016, the CAP Holding Group proposed to its local authority (ATO of the Metropolitan City of Milan) that it adopt a "Regulation for the establishment of social tariffing schemes for people in need".** Although the average tariff in the geographical area served by CAP Holding is already particularly low (around 1 EUR/m<sup>3</sup>) and although there is a preferential tariff structure for essential consumption already in place, we have been observing an increase in the number of families affected by economic hardship and facing difficulties to pay their water bill. This proposal for regulation, that has been recently

approved, therefore aims to respond concretely to this situation. This proposal would basically offer a discount for identified users, either on the amount due for unpaid bills or a reduction for future bills.

This facility shall be financed through a special fund with a total allocation for 2016 of two million euros, while the total population served by CAP is 1.8 million. The special fund has been established as a component of the Fondi per nuovi investimenti - Fund for new Investment (FONI, according to its Italian acronym) dedicated to supporting households facing financial difficulties and who live in the geographical area served by CAP Group. CAP Group recognizes that municipalities are best able to manage the socio-economic policy within their own territory. Therefore, CAP left each municipality the responsibility to define the eligibility criteria in order to gain access to the support instrument, as long as these criteria are based on the ISEE index and respect principles of fairness, impartiality and transparency. The total fund is thus placed at the disposal of local authorities, in proportion to the number of inhabitants living in each municipality.

## By Nicola Di Donna, Director General, Acquedotto Pugliese



The Italian law D.Lgs 152/2006 "on environmental matters" provides for the possibility to subsidize households' consumption of essential goods and services for specific categories of consumers (based on revenues) through "tariff modulation".

While the AEEGI is working on a national "Water tariff discount" (or "bonus idrico", similar to the one existing for gas and energy users), the Apulia Region (Southern Italy) already introduced, in 2012, the possibility for water tariff reduction for low-revenue households. This regional tariffing scheme, which is based on an "Institutional Agreement" between the regional Apulia Authorities, the regional Association of Municipalities, and the regional Public Water Operator (Acquedotto Pugliese), is specifically aimed at ensuring the realization of the right to water.

### The financing of the tariffing scheme

In accordance with the national water tariff regulation adopted by the AEEGI in 2012, the Apulia preferential tariffing scheme is financed through resources coming from the FONI (national fund for new investment). In 2012/2013, the resources allocated to this purpose amounted to 27 M€.

Regarding the eligibility criteria for households to benefit from reductions, the Apulia authorities decided to adopt the mechanism already in use for the "energy bonus". More precisely, households are classified according to a mix of economic indicators (in particular through the "ISEE" index) and physical inability factors (see table below).

Indicator	Water Bonus Category
<b>Economic condition index (ISEE) less than 7.500€</b>	Category A
<b>Economic condition index (ISEE) less than 20.000€ and at least 4 dependent children</b>	Category B
<b>Physical inabilities</b>	Category C

The amount of the tariff reduction (or water allowance) for each category for 2012-2014 has been set as follows:

Water Bonus Category	Amount Reduction 2012 (€)	Amount Reduction 201 (€)	Amount Reduction 2014 (€)
<b>A</b>	40,69	42,72	45,53
<b>B</b>	128,47	134,89	143,75
<b>C</b>	61,03	64,08	68,29

### Conditions to access the water bonus

In addition to the socio-economic eligibility criteria above mentioned, in order to access the "water bonus" Apulia households must:

- Be beneficiary of the "energy bonus",
- Have a water provision contract with Acquedotto Pugliese, and
- Be up to date with the payment of the water bills.

The bonus is granted following a request that households have to submit to AqP, by filling in an online form or calling a toll-free number. After verifying the fulfillment of eligibility criteria and conditions, the water bonus is automatically allocated to the beneficiary through a consequent reduction on the water bill issued by Acquedotto Pugliese.



### Value and amount of the water bonus

In 2014, around 27 000 requests for benefitting from the water bonus were submitted. The requests concerned years 2012 and 2013 and lead to an overall disbursement of 1,9 million euros. In 2015, around 20.000 requests were submitted for 2014, and the total disbursement amounted to 1,1 million euros.

### Information tools

In order to ease the eligibility verification procedure, Acquedotto Pugliese has signed an agreement with the National association of municipalities to access the online platform already in use to assign the "energy bonus". Potential beneficiaries of the water bonus thus automatically receive a communication, informing them of this opportunity as well as a code to activate the procedure.

What is more, in order to raise awareness among potential beneficiaries, a communication plan has been developed and implemented together with the other signatories of an "institutional agreement", including consumers' associations and other stakeholders.

To conclude, Apulia institutions and stakeholders as a whole have always been mindful of more vulnerable people. In this sense, the Apulia region was the first to introduce a "water bonus" in accordance with the approach envisaged by the national Regulator at national level. So far, however, it has yet to be implemented.

**By Roberto Ferrari, SAL Chief Executive Officer**



The price of drinking water in Italy is among the lowest in Europe, whereas pro capita consumption is higher than the European average. **In Lodi Province (Northern Italy), the average cost for one cubic meter is €1,42 (10% VAT included), whereas average per capita consumption is 70 m<sup>3</sup>. This means that the first instrument in order to ensure water affordability is to incentivize a sound use of the resource and a reduction in household consumption.**

This is primarily a "cultural" objective that we try to achieve by raising consumers' awareness: for instance, in each water bill, we add a "fact sheet" that updates consumers on costs and on good practices to reduce water costs. This approach works well. Over the last 3 years we have registered an 8% reduction in household consumption. We would like to highlight this approach as it allows us to put emphasis on a characteristic of publicly-owned water operators: indeed, which private operators would invest resources into reducing their turnover?

We use also a series of other "economic instruments" to guarantee access to water for all.

First, the tariff structure (as defined by the governing body of our ATO) provides for different prices depending on consumption blocks: so, every household benefits from a reduction on the first 180 m<sup>3</sup> consumed each year.

What is more, for those who face temporary economic difficulties, the water operator offers the possibility to postpone payments for 12 months without additional interest penalties on arrears.

Because of the prolonged economic stagnation, and the tariff increase due to new investments (full cost recovery), we register an increase in the number of households postponing the payment and arrears in general. In this context, we need to distinguish users that are experiencing a real difficult economic period from "free-riders" who exploit the length of time it takes before an actual disconnection takes place.

To address this problem, following similar experiences in the Venetian region, in 2016 SAL has launched the “fund for unintentional arrears”, which is funded through the water tariff (€1 on each new connection). Municipal and local social services are responsible for identifying the users who are really in need and define the amount of the reduction. Each municipality has a share of the Fund that is proportional to its inhabitants. There is no transfer of resources to the eligible households but rather, they receive a debt reduction but still remain responsible to pay the rest of the debt.

We aim thus to achieve two objectives: reduce the debt of households in need and raise their awareness regarding the obligation to pay the water bill.

We believe that this entails a positive synergy among all the different stakeholders involved: the regulator (who made it possible to use part of the revenues from the tariff for social objectives), the local authorities (who know better than anyone else the real economic difficulties of their citizens), and the water company (who will be in position to recover the debt more effectively).

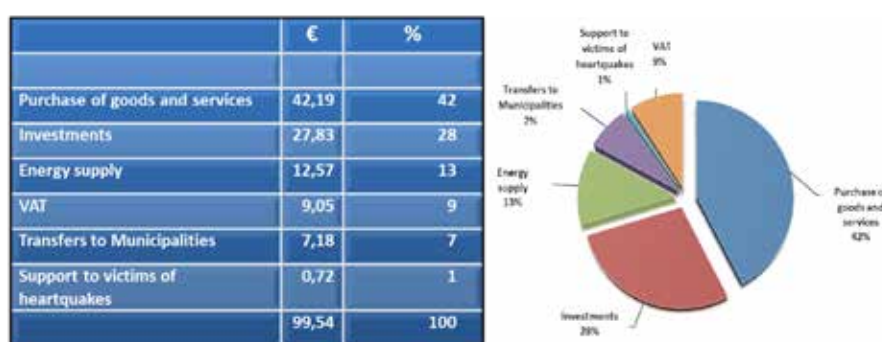
To conclude, we have developed a wide range of instruments to facilitate water accessibility, while we are waiting for the national regulator to define homogenous, nation-wide criteria to deal with arrears.

By Paolo Romano, SMAT's Chief Executive Officer



**Water being an essential commodity, its affordability is a key issue in Europe. SMAT, a 100% publicly owned company, has tackled this subject for a long time, also anticipating the measures that are going to be taken by the National Authority AEEGSI.**

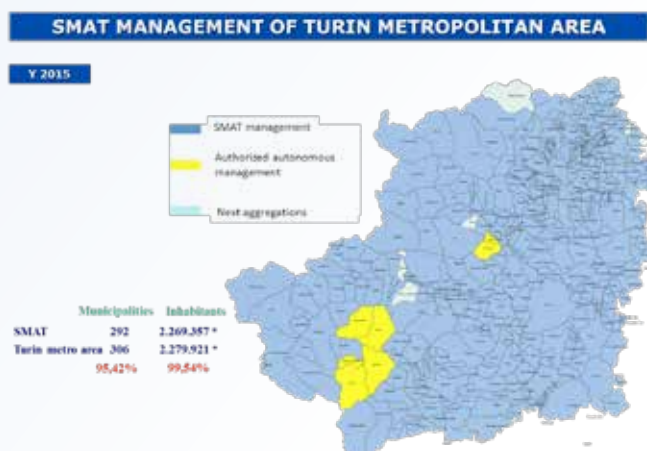
Within Turin Metropolitan Area, the 2015 cost per person per year for the consumption of 60 cubic meters of water (integrated water service: drinking water supply, sewage and wastewater treatment) is less than €100 (average cost is €1,659/m<sup>3</sup>), i.e., 8,29 EUR/month. It is split into the following main components:



Any family resident within the Metropolitan Area of Turin (292 served municipalities for over 2,3 million inhabitants) whose income does not exceed €12 000,00 per year, may apply for the reduction of water bill. The procedure is simple, fast and, above all, anonymous (even for those that occupy communal apartment blocks). A specific ISEE certificate is presented by the family, who is then granted a tariff reduction of 50%. The reduction is credited directly to the holder of the water bill and not even the neighbor will ever notice the fact that the family is undergoing a tough economic period.

This aid has targeted about 30 000 low income families in 2015, delivering an overall reduction of €1 million.





Another step taken by SMAT has been to reduce the amount paid by municipalities for the water and sanitation supplied for “public uses” (e.g. schools, kindergartens, retirement housing, premises used for social activities, etc.). The water price is reduced by 50% (with an overall saving of €5,3 million by municipalities in 2015). The discount, therefore, eases the running costs for municipalities for socially-oriented initiatives, indirectly reducing the city taxation charges.

Last but not least, SMAT has rolled out the “Punto Acqua” initiative, installing, within the Turin Metropolitan Area, **148 Punto Acqua (“water kiosks”)** where **citizens may get drinking water from the network either for free (as from a modern fountain) or sparkling for the token price of 5 cents per 1,5 litres. This initiative had a tremendous impact; Italy is known to be one of the largest bottled water consumers in the world**, with a yearly average consumption of 190 litres per person. In 2015, SMAT water kiosks accounted for 36 million litres of supplied water, having a positive impact environmentally speaking (more than 20 million plastic bottles have not been produced, stored, transported to the shelves and sold) and also, financially speaking, with a saving of a minimum of €5 million in one year (when compared to water bottles sold by supermarkets). Thus, we can conclude that the Punto Acqua initiative represents just another public water management success.





## General overview of water and wastewater services

In Scotland, public drinking water and sewerage services are provided by a public corporation, Scottish Water, which is accountable to Scottish Ministers and thereby, to the Scottish Parliament.<sup>14</sup>

Scottish Water is entirely responsible for the provision of water and wastewater services to all customers, be it private households or businesses, and for maintaining the public system.

## Pricing of water and wastewater services

Pricing in Scotland depends on whether the consumption is metered or not. In fact fewer than 600 homes are metered so over 99% are not metered. Those that are, are often or high-value, lower-occupancy properties or properties which contain high water-consuming facilities such as swimming pools.

If unmetered, each household's water charge is calculated on the basis of the value of the property, which is based on bands assigned by the local tax assessor. Unmetered household charges are collected by Local Authorities (also known as councils) alongside local property tax (called "council tax" in Scotland). While the level of charges is regulated by the Scottish water regulator (Water Industry Commission for Scotland<sup>15</sup>), the user pays directly to the local council, which transfers the money to Scottish Water.

Unmetered charges are defined in several nominal categories ranging from A to H:

Category of property value	Drinking water	Wastewater collection	Combined
<b>A (min)</b>	130.8£	151.8£	282.6£
<b>H (max)</b>	392.4£	455.4£	847.8£

If metered, the price of water is the following:

	Drinking water	Wastewater	Total
<b>Fixed part</b>	147£	151£	298£
<b>1<sup>st</sup> block (25m<sup>3</sup> for DW, 23.7m<sup>3</sup> for WW)</b>	2.3094 £	2.9860 £	5.2954 £
<b>2<sup>nd</sup> block</b>	0.8368 £	1.4120 £	2.2488 £

In this case, it is important to note that only 95% of the metered water consumption accounts for the wastewater bill as 5% is assumed to have been used for drinking consumption. In addition, charges will be levied for household drainage.

## Assessment of affordability

In a UK context, charges in Scotland are the lowest on average by around £40 per year. The charging profile is a progressive one based on council tax bandings which in turn relate to historic property values. A recent study showed that for almost all households in Scotland water affordability is not a problem and this is based on an assumption that charges are below a 3% of income threshold.

<sup>14</sup> Source: Scottish Water Industry Background [website], available at: <http://www.gov.scot/Topics/Business-Industry/waterindustryscot/SWI-1>

<sup>15</sup> Water Industry Commission for Scotland (2014) sets the charge caps to be respected by Scottish Water when setting their tariffs.

## Preventive measures

When a household makes a payment to its Local Authority for unmetered household water charges and property tax, part of that payment is kept by the Local Authority as council tax and part is paid to Scottish Water as water and wastewater charges. Specific council tax discounts and exemptions are available for specific groups of people (e.g. students, low-income households, disabled persons, etc.)<sup>16</sup>. These discounts generally allow for either 25% or 100% off the bill.

By using the local tax band system, a subsidy is provided to those in the lowest value homes, who tend to be the more vulnerable members of society, paid for by those in more valuable properties, who tend to be the better off.

Affordability is also tackled by working to keep charges low for everyone. Scottish Water's average household bill is the 2<sup>nd</sup> lowest in the UK.

## Disconnections and flow limiters

Under Scottish legislation, disconnections are not allowed if the water is used for domestic purposes. Non-households may be disconnected for unpaid bills. The water regulator (the Water Industry Commission for Scotland) sets the rules which govern those disconnections based on legislation<sup>17</sup>.

## Operators' view on affordability

**By Barry Greig, Hydro Nation Manager, Water Industry Division, Scottish Government**



Scottish Water operates in a regulated framework and charges are agreed by an independent economic regulator (Water Industry Commission for Scotland). Charges must reflect Scottish Ministers' 'Principles of Charging' and these demand that for the current charging period (2015-21) charges must not rise above inflation, remain stable and that cross subsidy be removed unless made transparent, such as exemption for students or certain charities. **As such, from an operator view, charges reflect the political will and are determined by an independent third party.**

In Scotland, water charges are collected by local authorities alongside local tax and paid across to Scottish Water, thus guaranteeing a stable income. **Measuring customer satisfaction more widely shows Scottish Water has a very strong level of customer confidence** and it is fair to assume that this would be eroded if affordability was a significant issue.

<sup>16</sup> More information can be found on the webpage of local authorities. See, for example, the webpage of the Edinburgh Local Council: [http://www.edinburgh.gov.uk/homepage/63/council\\_tax\\_discounts\\_and\\_exemptions](http://www.edinburgh.gov.uk/homepage/63/council_tax_discounts_and_exemptions)

<sup>17</sup> That is, the Scotland « Disconnection Code », which can be accessed at: <http://www.watercommission.co.uk/UserFiles/Documents/130520%20Disconnections%20Document%20-%20clean.pdf>

## General overview of water and wastewater services

Water and wastewater services are both under the responsibility of the municipalities,<sup>18</sup> which can manage them directly or delegate the supply and sewage treatment through concession contracts, PPPs, lease contracts, etc. (Ministerio de Medio Ambiente, 2007). Public operators supply water to around half of the Spanish population (AEAS-AGA / ECODES, 2016).

## Pricing of water and wastewater services

There is no national, Spain-wide law or organization regulating the setting of the tariffs. It is generally the municipalities who are in charge of setting (and in some cases approving) the water tariff. There is therefore a great variation between the different elements contained in the water bills. Nevertheless, in some regions (Comunidades Autónomas) a region-wide law establishes a minimum regulation of water prices, although the extent of these laws is generally quite limited, as they do not establish a specific way of calculating water charges.<sup>19</sup>

In addition, water tariffs in Spain can either be classified as a charge or a tax, depending on whether the water and wastewater services are provided directly by the municipality or by an entity (be it under public or under private ownership) falling under private commercial law.

Depending on whether the tariff is considered a charge or a tax, the process of approving and reviewing these tariffs, is also different (although, in all cases, they have to be overseen by some public authority). In the cases where the water services are directly managed by the municipalities, the water tariff is considered a tax. In that case, the approval of the water tariff goes through the normal administrative channel, i.e., the publication of a local ordinance after the proposal has been presented and been subjected to the scrutiny of the public. In the cases where the water services are managed by a commercial company and the tariff is considered to be a charge, the tariffs have to be approved first by the relevant public authority and then by the regional authorities, generally through so-called "Price Commissions" ("Comisión de Precios"<sup>20</sup>).

This dual tax/charge system also has an influence on the way unpaid water bills can be recovered: for an unpaid tax, an administrative procedure can be started, which may lead to the seizure of the goods of the debtor. Whereas, when we are referring to a charge, the operator needs to start a legal procedure in order to recover the debt.

The Survey on water supply and wastewater in Spain ("Encuesta sobre el suministro y saneamiento del agua"), carried out by the Spanish statistical institute, provides some figures on water prices across the country. The mean price of water is 1,83 EUR/m<sup>3</sup> but it varies from 1 EUR/m<sup>3</sup> in Castilla y León to 2,73 EUR/m<sup>3</sup> in Murcia (figures for 2013). The typical domestic consumption is 130 litres per capita per day. Prices do not only vary across regions, but also within a same region. For example, according to the draft of a study<sup>21</sup> carried out by the Badajoz provincial authorities, households pay a yearly average of €124,4, spanning from €29 to €222 depending on the municipality.<sup>22</sup>

<sup>18</sup> Ley 7/1985, de 2 de abril, Reguladora de las Bases del Régimen Local, available at: <https://www.boe.es/buscar/act.php?id=BOE-A-1985-5392&tn=1&p=20160715&vd=#a25>

<sup>19</sup> See, for example, the "DECRETO 120/1991, de 11 de junio, por el que se aprueba el Reglamento del Suministro Domiciliario de Agua of Andalucía": <http://www.juntadeandalucia.es/boja/1991/81/1>

<sup>20</sup> These "Price commissions" are generally composed of public officials, representatives from consumer organisations, trade unions, etc. See the pages of the Comisión de Precios of Extremadura (<http://www.gobex.es/comercioextremadura/comision-de-precios>) or the law setting up the "Price commission" in Catalonia, accessible at: [http://portaljuridic.gencat.cat/ca/pjur\\_ocults/pjur\\_resultats\\_fitxa/?action=fitxa&documentId=669809&language=ca\\_ES&mode=single](http://portaljuridic.gencat.cat/ca/pjur_ocults/pjur_resultats_fitxa/?action=fitxa&documentId=669809&language=ca_ES&mode=single).

<sup>21</sup> Not yet been published

<sup>22</sup> These figures were calculated on an annual basis assuming a yearly consumption of 120m<sup>3</sup> per household.

According to a study from the Spanish association of water operators (AEAS-AGA, 2014), the fixed, non-volumetric part, usually makes up around 30% of the bill (38% for the water supply and 18% for wastewater) although of course these are average figures and in some cases the fixed part (excluding sewage) can make up a much larger part of the water bill.

Finally, water charges (freely set by the operator or the municipality) may also include a variety of other charges not directly related to the provision of water and sanitation services. For example, several regions have introduced a so-called "water tax" ("canon del agua"), whose general objective is to fund activities related to the integrated water management, although the revenues generated by this tax may also be destined to other activities or purposes.

### Assessment of affordability

Several studies have assessed this subject in Spain. These studies use different methodologies and data and, thus, come to different conclusions. According to the Spanish Institute for Statistics,<sup>23</sup> water consumption represents an average burden of 0.8% on the total income, which could indicate a good average level of water affordability in Spain.

According to a study by the Catalan water regulator (Agència Catalana de l'Aigua, 2015), the amount spent on water by households spans from 0,5% of their income in Zaragoza to 1,8% in Murcia. It should however be noted that the disposable income data used by this study differs significantly from the disposable income statistics on Eurostat. The Eurostat declared disposable income is in fact considerably lower than the one taken into account by the Catalan water regulator.<sup>24</sup>

### Preventive measures

While there is no general law regarding affordability in Spain, most regions provide for tax reductions or exemptions from their "canon del agua" tax. These exemptions are often directly managed by the regional<sup>25</sup> or local authorities. In addition, many water operators allow for tariff reductions for different categories of consumers who may not be able to pay their water bill (retired people, people with disabilities, families where no member is in employment, etc.).

Those water tariff reductions are funded through different sources. One such source is known as a solidarity fund, which has been becoming more popular in recent years due to the economic crisis in Spain. Preventive rebates of the bill, funded directly by the operator, are another widely used tool.

To provide an example, the **Zaragoza water operator** offers a 75% discount on the water bill to low-income households. The usual beneficiaries are families of up to 5 people with an income lower than 166% of the inter-professional minimum salary (SMI, 655,20 EUR/month in 2016). This discount is increased for larger families. The operator does not cut the water supply even if, despite the financial support, the family is still not able to pay its bill.

<sup>23</sup> Instituto Nacional de Estadística (INE). Household Budget Survey, INE, Madrid, Spain, 2013, reported by García Rubio et al. (2015).

<sup>24</sup> The Eurostat data on Disposable income of private households by NUTS 2 regions can be accessed at:

<http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&pcode=igs00026&plugin=1>

<sup>25</sup> <http://web.gencat.cat/es/iramlis/iramlis-lemes/Canon-social-de-l'aigua-00001?category=75b0b894-a82c-11e3-a972-000c29052e2c>

## Remedial measures

In addition to the measures discussed above, the national association of public water operators (Asociación Española de Operadores Públicos de Abastecimiento y Saneamiento, **AEOPAS**) is promoting an approach based on a so-called “*minimo vital*” or «lifeline minimum service», whose aim is to guarantee the human right to water. This guarantee applies to each household’s main place of residence and is carried out by the fact that the operator cannot cut the water supply or threaten to cut it. The user will nevertheless be requested to contribute to the funding of the water service as far as their means permit. Should it be proven that the user cannot, in any way, pay a water bill, even after specific discounts or possibility of a later payment have been applied, they will benefit from the necessary minimum quantity of “free” water funded by a specific social fund.

AEOPAS and the Spanish operators have thus developed a specific protocol to address the lack of payment of a water bill: first, a letter needs to be sent to the person/family in order to request them to contact the water operator and explain why they are not paying. In case the person or family does not answer, the operator would initiate an administrative action to recover the funds. If they contact the operator back and it is proven that the person/family has difficulties in paying, they would benefit from a personalised tariff. If it is determined that the person/household is in a situation of social exclusion, they would be requested to contact the social services, which would examine whether the person should benefit from a «lifeline minimum service» of a 100 litres per day and per person. The personal situation of the individual should be re-examined every year in order to establish whether s/he can continue to benefit from that lifeline minimum service.

This system is already being applied by the operator **Medina Global**, which serves the Andalusian town of Medina Sidonia. The system mixes preventive discounts and a mechanism to help families that are not able to pay the bill even after having benefited from a discount. Thus, Medina Global (similarly to the example of Zaragoza above) allows for a 50% discount on the water bill for households of one or two owing 107% of the Spanish minimum income,<sup>26</sup> 115% of the minimum income for families of up to four members and up to 130% for large families. In case the family is still not able to pay their bill even after this 50% discount has been applied, they will benefit from the “minimum lifeline service”, which guarantees 100 litres per person and per day for free.

Of course, this system requires a great involvement on the part of the operator but also a good cooperation between the operator and the social services. Nevertheless, it is a system that allows the operator to cover its costs and ensure that all users benefit from their right to water and contribute to the water bill within their means.

## Disconnections and flow limiters

According to our survey, it appears that Spanish public operators (members of APE) usually do not cut off water even if it is not prohibited legally. Here again, it is nevertheless difficult to obtain data, and estimates vary from an average of 2 400<sup>27</sup> to 300 000<sup>28</sup> water cut-offs per year.

<sup>26</sup> The Spanish minimum income in 2016 is set at 655,20 EUR/month.

<sup>27</sup> “Un total de 600.000 personas dispone de agua con bonificaciones sociales en España y se producen 2.400 cortes”, La Vanguardia, 20/01/2016:  
<http://www.lavanguardia.com/vida/20160120/301546553918/agua-un-total-de-600-000-personas-dispone-de-agua-con-bonificaciones-sociales-en-espana-y-se-producen-2-400-cortes.html>

<sup>28</sup> “El agua es un derecho humano, no una lata de Sardinias”, *Aigua és Vida*, 14/05/2014:  
<http://www.aiguaesvida.org/el-agua-es-un-derecho-humano-no-una-lata-de-sardinas/>

## Operators' view on affordability

By Miguel León, Leader of the Technical Department, PROMEDIO Badajoz



Promedio started operating in 2010. Our operator currently provides drinking water to 28 municipalities in the Badajoz province but this number is set to increase in the coming months. After some years of operation, **Promedio started to develop procedures to increase the payment rate of consumers, as receiving a fair remuneration of its services is essential for the financial sustainability of the operator.**

The activities of our operator are regulated by a provincial law that applies to all the municipalities served by Promedio and which establishes ways to both protect the public water service and its users. This law explicitly authorizes water cuts to enforce the payment of water bills. In general, the user would get a first and then a second warning before water would be cut off.

Nevertheless, **our operator's management and directors quickly decided that families that could justify their inability to pay the water bill, would not be subjected to cut offs** due to their social and/or economic situation. These families are offered alternative mechanisms to pay the water bill, such as deferring or a splitting of the bill. Regardless of the mechanism chosen, their water supply will not be cut, as we are very aware of the need to ensure the fundamental human right of access to water, a right which has been challenged in recent years by the steep increase in unemployment rates due to the economic crisis.

Therefore, we currently manage the lack of payments in an active way, cutting only non-essential supplies such as second homes, ruined buildings, parking lots and other non-inhabited areas as well as defaulting companies, but we never cut the supply to families struggling to pay their bill.

Nevertheless, this decision has, unsurprisingly, caused a decrease in our service revenues, as we continue to deliver a service that is not paid for. This is why we are today working on defining protocols to help us better manage this sensitive situation. Our understanding is that the criteria to define the vulnerability of a family should be established by an independent body, such as the local social services or the regional authorities.

Despite the issues we are facing due to our current approach, including users committing fraud or those just deciding not to pay, we stand by our position not to cut the service to people in need. We are currently still analyzing the different options to best deal with this decision, but we hope that the local and regional authorities will hear our call for action and establish a much needed legal framework.



# ● SWITZERLAND

## General overview of water and wastewater services

In Switzerland, water supply is a competence of the cantons, which is then delegated to the municipalities. Consequently, more than 3 000 water services, endowed with a lot of freedom in their decision-making, are active in the country.

The water tariffs are usually set and also approved by the municipalities if the service has been externalized. The Swiss authority in charge of price control for non-competitive sectors ("surveillance des prix") has an additional control function. It offers an online price comparison tool for water and wastewater services.<sup>29</sup>

## Pricing of water and wastewater services

The Full-cost recovery principle is applied to the pricing scheme in Switzerland.

The typical bill includes price for water as well as for sanitation. It also includes a federal tax for retrieving micro-pollutants from the wastewater.

**In Geneva,**<sup>30</sup> the price of water is composed of a high fixed part which covers the (high) fixed costs for water and for sanitation.

For consumption between 0 and 100 m<sup>3</sup> per year, the fixed part for drinking water provision is 275 CHF and 260 CHF for sanitation. To this, a tax of 44 CHF, for the use of the secondary network, is added. This tax is destined to cover the maintenance costs of the sewage network, it is collected by the operator but then it is transferred to the municipality.

The user only pays for the cubic meters exceeding the threshold applied to them. For example, for consumption above 100m<sup>3</sup>, a rate of 2.32 CHF (DW) + 2.28 CHF (Sanitation) + 0.4 CHF (secondary network) is applied. For consumptions below 100m<sup>3</sup>, the user only pays a fixed rate.

In addition, a federal tax of 0,11 CHF/m<sup>3</sup> is paid by all users for retrieving micro-pollutants from the wastewater.

## Assessment of affordability

We were not able to find any assessment of water affordability for Switzerland. This seems to confirm that the OECD 2002 assessment, ascertaining that there is no account of affordability problems in Switzerland, still holds true.

## Remedial measures

In Switzerland, people at risk of poverty are globally taken care through social aid. Once people in need make themselves known to social institutions (such as the "Hospice Général" for the canton of Geneva) their situation is carefully examined. If the institution determines that the person is indeed in need, they can benefit from social housing; where water, electricity and waste charges are all directly paid by the State. This system is very similar to the German one.

<sup>29</sup> Accessible at: <http://www.preisvergleiche.preisueberwacher.admin.ch/?l=1>

<sup>30</sup> SIG, Les tarifs de l'eau [webpage], accessible at: <http://www.sig-ge.ch/particuliers/l-eau/les-tarifs-de-l-eau>



## Disconnections and flow limiters

Operators are allowed to disconnect the non-payer from the water supply. The procedure is quite straightforward: after some reminders, the user is disconnected. In the case of the operator of Geneva, SIG, the user first gets an initial reminder imposing a penalty. If the user does not pay within 10 days, the operator can request a guarantee or the installment of a prepaid water meter. Should the user not provide any guarantee or refuse the installment of a prepaid meter, the operator can cut the supply.<sup>31</sup>

Flow limiters are not used in Switzerland.

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<sup>31</sup> See the "Règlement de la fourniture" of SIG: <http://www.sig-ge.ch/particuliers/l-eau/les-tarifs-de-l-eau>

# ● CONCLUSIONS

## Common features

In the preceding sections, we have provided an overview of the ongoing debate and existing approaches to ensure water affordability in different European countries, based on the perspective of publicly-owned water utilities.

As mentioned in the introduction, the intention was not to carry out an exhaustive analysis of affordability problems and solutions in Europe. More simply, we have tried to give an account of what tackling this issue may concretely entail for water operators. In doing so, we have aimed to highlight solutions and arrangements that proved to be effective, but also concrete challenges from a theoretical, operational and institutional point of view.

Based on the different reports presented in this publication, we will now try to draw some general observations, although we are aware that these observations do not necessarily apply to contexts beyond the countries and territories included in this publication.

Overall, the national and case-specific reports contained in this document tend to echo the findings of other studies that have assessed the issue of affordability in Europe: in the cases where the cost of the water supply and sanitation services is recovered through water-specific tariffs or charges, **by and large, water bills do not represent an excessive burden on disposable income for households. This “average” picture may however change significantly when considering lower-income social groups**, which is also confirmed by the literature on this subject (Raynaud 2016; OECD 2010). What is more, empirical evidence reported by some of our members in this document seems to suggest that the number of households facing difficulties to pay their water bill (or, in any case, eligible for reductions of the water bill) has been increasing in recent years.

Considering this context, it is not surprising, that in the vast majority of reported cases, **one or more specific mechanisms exist to address possible water affordability problems**. Even where water charges are not based on tariffs—as in Scotland—specific arrangements are in place to support more vulnerable households with regard to water-related disbursements (in addition to the progressive charging system based on the value of household's property as a proxy).

It is also interesting to note that, in several national and regional contexts, a rich ongoing debate and a process of policy-experimentation on new approaches to affordability are being observed.

## Importance of addressing affordability through effective instruments

The need to find a solution to the affordability problem responds primarily, of course, to an ethical imperative: ensuring that everyone has access to safe water and sanitation. **Although the number of people facing difficulties to pay the water bill represents a small proportion of the population, the proportion is still significant enough to call for specific instruments, which enable operators and institutions to tackle the problem in an effective, routine and sustainable way.** Especially where water affordability is not automatically addressed through general redistributive and social support measures (as it is the case in Germany and Switzerland), reports show that a case-by-case and unsystematic response to unpaid water bills (essentially through court proceedings) is socially and economically inefficient, and can negatively affect the overall quality and reliability of the water system. So, apart from ethical and social reasons, there is also a basic economic rationale underpinning the need to implement systematic measures that address affordability in an equitable way; this means, among other things, distinguishing those who cannot pay from those who do not want to.



The combination of ethical principles, social concerns and economic rationales should then help to explain the widespread political interest, and the ongoing experimental measures that are being observed in several contexts. The variety of the concrete solutions being adopted is then probably related to the intrinsic complexity of the matter. This complexity certainly depends on the specific nature of the water resource and its management, that is: i) the fact that it is a limited (and sometimes scarce) resource, essential for life but also for any kind of socio-economic activity, and ii) the fact that water is provided under a monopolistic regime. This means that the price of water cannot be determined through traditional competitive market mechanisms, nor is the market alone able to solve the problem of water resource allocation among competing needs.

This set of characteristics that are specific to water also entails that water resource management must respond to a plurality of political objectives (social, economic, environmental), and that the equitable distribution of water charges among different users is a complicated matter. More precisely, **addressing affordability involves a series of both theoretical and practical challenges**. The former concerns the difficulty of measuring affordability, the latter the complexity of implementing measures that can reconcile the trade-off between social, economic and environmental objectives. Both aspects will be briefly addressed below.

### First challenge: defining and measuring affordability

As pointed out by the UN Rapporteur on the Right to Water, **identifying an operational definition of affordability—i.e. a definition that can be “translated” into a series of parameters to measure and monitor affordability—is an extremely complex task** (United Nations, 2015). A review of the most used affordability indicators has found that, “no one is perfect; each one performs differently against the criteria of validity, relevance, global coverage of reliable data sources, [...]” (Hutton 2012, p. 7).

If we consider one of the most employed indicators, i.e. the ratio between the household’s total expenditure for water consumption and their available income, just by going through the reports in this paper, we observe that the denominator (income) can, in its turn, be measured with different indicators. What is more, even when the same indicator is used, different results can be obtained depending on the data source (as the Spanish chapter seems to suggest). More substantially, the **definition of a threshold to determine when water is deemed affordable and when it is not depends ultimately on a political assessment**.

Even leaving aside theoretical/methodological issues, reports from APE members show that the accessibility to the data needed to implement affordability measures (on income, household composition, etc.) may sometimes be an issue.

The water operator members of APE are persuaded that the definition of eligibility criteria, as well as the identification of the households to be supported, should be the responsibility of public authorities and the social services. At the same time, **a commonly agreed operational definition of affordability would be extremely useful**, first, to assess the extent and gravity of affordability problems and second, to carry out a profiling of the most vulnerable users. This would ultimately lead to a better design of affordability measures.

## Second challenge: finding an approach that responds to multiple trade-offs

Even once methodological/practical difficulties regarding affordability measurement were solved, there would still remain significant challenges regarding the concrete design of the measure to address the problem.

As already pointed out, **water policy in general, and the financing of water services in particular, should respond to several objectives**, namely:

- **Financial sustainability:** ensuring adequate cash-flow to guarantee long-term replacement of physical assets.
- **Environmental sustainability:** minimizing water wasting and ensuring preservation of environmental flows.
- **Social equity:** ensuring access to water and sanitation for all.

As argued by several observers (OECD, 2010; UN, 2015), there can be a **trade-off between these different objectives**, in particular with regards to affordability.<sup>32</sup> An in-depth analysis of these trade-offs would involve a complex discussion relating to the equitable allocation of the cost-recovery burden across different groups of users. That would mean, among other things, addressing the “disputed issue” of the price elasticity of water demand. Consequently, it would entail addressing the resulting redistributive effects of volumetric pricing<sup>33</sup> and the trade-off with other cost-recovery mechanisms. It also would additionally entail addressing the issue of the balance between marginal cost pricing and fixed lump sums related to the fixed costs of infrastructures.

Addressing these issues goes far beyond the scope of this report. Here it suffices to observe that any cost-recovery mechanism that takes into account affordability objectives (be it based on tariffs, on non-tariff instruments, or a mix) will necessarily have to integrate the above mentioned objectives. In fact, such mechanism will have to ensure that:

- The charges must be in any case adequate to ensure long-term financial sustainability (cost-recovery), taking also into account environmental costs, *and*
- Water charges are paid by all, taking into account the financial capacity of different social groups, and
- These charges are significant enough to incentivize efficient water consumption and minimize waste.

The difficulty in designing a mechanism able to simultaneously strike all these different targets is evident.

What is more, empirical observations from reported case-studies seem to suggest that, **in addition to these “policy-related” trade-offs, there are also some more “practical” ones**. In particular, in order to be effective, an affordability approach must be able to target only those really in need, at the same time, the approach should also be easy to manage and understand for the users or beneficiaries. Some of our country reports (in particular from Belgium and France) point out the **potential tension between the simplicity of the instrument and its capacity to really address the most vulnerable**. In fact, for an instrument to reach only people in need, consumption data needs to be crossed with other data (on income, household composition, etc.). This data is often out of the reach of operators or is costly to manage. More generally, the **operational costs of the instrument must always be taken into account**: these costs should never be higher than the benefits they can bring to the consumer.

In the next section we will briefly review the main approaches to affordability, as reported by our members, according to their capacity to address the different challenges here outlined.

<sup>32</sup> Of course, these trade-offs may well also affect environmental and financial sustainability, as pointed out in the OECD report on water pricing (2010): let's think for example of the potential “vicious circle” between increasing costs related to the environmental objective, growing economic problems for the community as a whole to afford these costs, and decreasing capacity to ensure long-term financial sustainability.

<sup>33</sup> Even letting aside the issue of demand elasticity, the affordability problem related to volumetric pricing can be more significant than we normally tend to assume. As suggested in some of our country reports (see for example Belgium), the relation between increasing levels of income and increasing level of water consumption can be in no way taken for granted.

## EFFECTIVENESS OF AFFORDABILITY APPROACHES

Hereafter we will try to briefly assess the different approaches to affordability employed by our members in order to face the challenges, both political and operational, outlined in the previous section. For simplicity's sake, we will organize the different approaches according a categorization already used by UNECE-WHO (2012), distinguishing between tariff-based, and "monetary" measures, which can be further divided into preventive and remedial categories. Of course, many other—equally valid—categorizations could have been used: the advantage of the UNECE-WHO's one is that it enables us to better understand how the same approach can have different results and different implementation challenges, depending on who it is aimed at (for example, a water solidarity fund can be used both as a preventive or a curative approach).

### Tariff-based approaches

Tariff-based approaches and, in particular, **increasing block tariffs (IBT) are a quite widely used method** that we find in different contexts (Belgium and Italy for instance).

With this approach, the price of water varies according to the cubic meters consumed: the more an household consumes, the higher the price of water becomes. The mechanism is normally applied automatically to large categories of domestic consumers (and often there are no categorizations at all), even though the application can integrate other parameters, such as household composition. This approach is based on the principle that the water for essential needs should cost relatively less than for other "more superfluous" uses. It is also based on the assumption that poorer households tend to consume less water than more affluent ones.

The **advantage** of this approach is that it gives a signal on the value of water and is intended to incentivize water savings. In addition, this approach is relatively easy to implement.

However, our reports point to some potential **drawbacks** of IBTs. First, the approach requires all (or at a least a large part of) households to be connected to the water supply through individual meters. This is often far from being the most common situation, especially for historical cities. (The cost of introducing individual meters should also be taken into account for the assessment of the effectiveness of this instrument and, in particular, it should be considered against the value of the economic benefit granted to beneficiaries.)

Second, a part of population, however small, could still find the bill unaffordable, even for essential consumption. More substantially, **the assumption that low-income households consume less may prove not to be correct** in some—or sometimes even a majority—of cases, for a plurality of reasons. Low-income households usually tend to have older, less efficient domestic appliances and are more likely to be tenants (so reducing the possibility to intervene on leakages).

Finally, if not adjusted for the number of household members, the approach clearly favours smaller households. If, on the contrary, the mechanism is adjusted for household composition, we might have the opposite distortion, due to economies of scale (large households are favoured). In both cases, the net distributive effect may remain difficult to assess, as it depends on the profiling of the "small household" category (a category which includes potentially vulnerable groups, such as elderly people living alone and single parent families; but also young professionals spending a significant part of their time out of home). The same applies in an inverted sense for large households.

The same reasoning goes for the approach which offers an initial **quantity of cubic meters for free** (part of the IBT approach). If this method is not adjusted considering precise information on the households' income, it could even produce a paradoxical situation where users, including the most economically vulnerable, end up



subsidizing wealthier households. Thus, let us for example imagine the case of young professionals living on their own in central urban areas and spending much of their time outside, we would expect that their average water consumption would be quite low. In this case, this low consumption could be subsidized by (less well-off) larger consumers. On the other hand, this approach can be employed (like in the case of Besançon) as an incentive to reduce the consumption of bottled water, which is also, albeit indirectly, a water affordability strategy.

Tariff design can also be used for **geographical (rather than strictly social) subsidization purposes**. De facto, simply by applying the same tariff rate for all households within a given territory, a cross-subsidization takes place between the more dense and central areas (where asset management costs tend to be lower) and the more peripheral or rural areas, where water prices tend to be higher. The bigger the area and/or the population density, the greater its effect will be. It goes without saying that this measure can have social subsidization effects only as long as there is a correlation between the level of household income and the households geographical location.

## The monetary approaches: preventive and remedial measures

“Monetary” measures involve subsidization taking place through either direct monetary transfer to households in need or through some sort of discount/rebate on the water bill. They can be further divided into two categories, either “preventive”, if the transfer/discount is granted automatically based on a set of pre-defined criteria, or “remedial”, if the transfer takes place after a specific case of payment difficulty is proven or becomes evident. Thus, compared to a tariff-based approach, this kind of measures applies to limited and clearly defined categories of users.

### Preventive measures

Preventive measures can be of different kinds.

As we have seen, in some countries (Germany, Switzerland), people in need receive **income support**, part of which is specifically dedicated to cover the expense for essential needs, including the water bill.

This approach is normally **highly appreciated by water operators**, as affordability problems are directly addressed by the social security system, leaving operators to just deal with cost-recovery requirements. The effectiveness of this approach (in dealing with unaffordability problems) obviously depends on the “comprehensiveness” and the extension of support schemes and eligibility criteria. The potential drawback of this approach is that, if not corrected through a capping of the bill subsidization, it may not incentivize water savings.

In systems where water charges are not based on volumetric consumption, but rather on income or any other proxy for households’ economic condition, affordability is automatically addressed through this very same charging system (the higher the families’ revenue, the higher the tariff). In spite of that, even in these contexts, ad hoc measures may be introduced to preventively cover or reduce water-related charges for specific categories. This, as we have seen, is the case in Scotland, where additional reductions and exemptions are available on the water component of the council tax for specific groups of people.

**Where water affordability problems are not specifically addressed by the general social security system (like in France, Italy and Spain), the picture gets more complex (and solutions more varied).** In general we can say that, **in the great majority of cases reported** by our members, **vulnerable households benefit**



**from some sort of discount/pre-payment on their water bill.** Normally these mechanisms are financed either through the operator's own budget, or through a type of **"social fund"**, which is often financed through an automatic, fixed levy on all water bills (this is the case for most of the "water fund" established in Italy). Moreover, this fund can then be dedicated exclusively to ensure water affordability, or be combined with other essential needs (traditionally housing and energy).

Normally, eligibility criteria for households to benefit from a discount or support (under the "social funds") are related to indicators that determine their economic condition. In many cases, the concrete identification of beneficiaries (or even the disbursement of the subsidy) is delegated to local social security agencies (which means that additional, non-economic criteria, may be used for the assessment).

The effectiveness of these approaches will depend on how they are concretely implemented as well as other contextual factors. In general we can say that, compared with the Swiss or German systems, these approaches may entail more complex governance arrangements as they require coordination among more actors (operators, social agencies, local authorities, etc.). Despite this, **they could be more effective in addressing specific water-affordability problems, as the measures can be tailored to the water users.** The kind of users facing water affordability problems may indeed be different from those who face economic difficulties in accessing other essential services, such as energy (it should be noted that, normally, general social security measures do not distinguish between beneficiaries with regard to the access to different services).

Finally, it will also be interesting to observe the results of the experimental going on in some contexts (Italy and France in particular) and which, in the case of Italy, entail a **large-scale geographical subsidization** based on a country-wide levy on all water bills, and managed through a national fund. As we have seen, the point of the Italian scheme is to address structural problems in quality and access to the service. Due to the large (national) scale of the levy base, the approach should combine both geographical and social subsidizing approaches: poorer regions should benefit relatively more.

### Curative measures

As mentioned earlier, "water funds" deriving from a levy on everyone's water bill can be used both in a preventive and in a remedial way. In this latter case, the full or partial repayment of the water bill through the fund's resources takes place only after a difficulty of payment occurs (in contrast to the previous case where repayment was automatic and based on pre-defined criteria). The assessment of the causes of non-payment and, consequently, of eligibility for a refund, is normally delegated to social security agencies and municipal administration (see the cases of the Wallonia and Venetian regions).

In general, the use of **"water funds" to address (in a remedial or preventive way) affordability seems to be an increasingly popular option among operators.** This mechanism, especially when it is funded by an automatic levy on water bills, has the advantage of **ensuring cost-recovery and affordability through a specific "water-related solidarity"**, which, at the same time as addressing affordability issues, promotes incentives to avoid wastage. However, as already observed above, this tool requires an effective coordination mechanism between several actors.

A strict limitation on the possibility of disconnecting the water service in case of an unpaid bill can also be considered a peculiar form of remedial approach. It is questionable, though, if this can be considered a very effective measure, especially if used to address a large number of cases and not associated with other tools such as those described above.

In fact, if the disconnection is ultimately decided by the courts (as it is the case in most contexts), this approach may involve significant administrative and transaction costs, which largely exceed the value of the debt being recovered. On the other hand, if there is a general ban on disconnections by law, this could incentivize free-riding behavior.

### Non-monetary measures

Finally, it is worth mentioning what could be termed “non-monetary measures”. This form of preventive measure tries to tackle the problem of overconsumption, which can quite often explain why some households cannot afford the water bill. Actions under this measure include technical improvements of the indoor installation in order to avoid further leakages (one of the main causes of excessive consumption), and communication and education programmes to raise awareness about the importance of saving water whenever possible. This kind of prevention is potentially very effective as it directly addresses the source of the problem and allows users to afford water on a long-term basis. This approach is currently the object of a defined set of measures in some regions and cities such as Flanders, Wallonia, Paris, Strasbourg and Lodi.



## ● KEY MESSAGES

- For the vast majority of households (at least in countries served by APE members), the water bills or water charges do not represent an excessive economic burden. Yet, there is a small part of the population that faces difficulties in paying the bill. This part is significant enough to call for specific measures that support vulnerable people in a systematic and effective way. This means that such measures should be able to correctly identify people in need and support them without excessive transaction and management costs, while ensuring cost-recovery. This is both an ethical imperative and an economic need.
- Unfortunately, designing the right tool is not an easy task. First, addressing affordability problems entails a series of theoretical and methodological challenges. Above all, there are concrete difficulties in designing measures that can reconcile the tension existing between all the different objectives that characterize water policy: efficiency, sustainability, cost-recovery, affordability. Such a tension is intrinsic to the specific characteristics of water resources, and to their management.
- This document has presented a review of concrete instruments employed by the members of Aqua Publica Europea. As we have seen, in almost all reported cases, affordability problems are addressed through ad-hoc measures and, in some cases, through a combination of different approaches.
- To sum up, we can say that in this domain: i) there is no one-size-fits-all approach; ii) the same approach can be implemented differently according to the local institutional context; iii) all approaches have pros and cons as regards their capacity to simultaneously address the different objectives mentioned above. More specifically, each approach can be assessed against three main criteria: effectiveness and comprehensiveness in “reaching the right target” (i.e. helping those who cannot afford their water bill); the capacity to maintain an incentive to reduce wastage; and the transaction/management costs. As we have seen, there are concrete trade-offs among those objectives.
- In general, we are persuaded that addressing the problem of water affordability is not just a matter of price but it requires a “social policy infrastructure” which, in its turn, needs the coordination and contribution of different actors. In this context, concrete solutions will obviously vary, taking into account different institutional set-ups, historical and cultural traditions and the economic context. This is why a well-framed comparison and discussion on the different models could be extremely fruitful, in order to avoid duplication of efforts, to share information on the outcome of some of the ongoing tests and, in general, collectively address some of the challenges outlined above.
- As an association of public water operators we are determined to play our part. As we have seen from this review, water operators are actively contributing to the identification and experimentation of viable solutions. In many reported cases, our members are the real initiators of the dialogue with other local authorities aimed at identifying a collective response to affordability issues. In fact, our members are persuaded that publicly-owned operators have the responsibility to play a proactive role at local level, by making their know-how and human resources available to the whole community.
- More generally, the members of APE try to keep water charges as affordable as possible by improving their efficiency and management methods. What is more, as non-profit-making companies, APE members can easily implement measures aimed at incentivizing water savings in households when necessary. Above all, APE members are strongly engaged to always promote solutions that are the most cost-effective for society as a whole (for example by pushing for pollutants to be controlled at the source and the implementation of the polluter-pays-principle).

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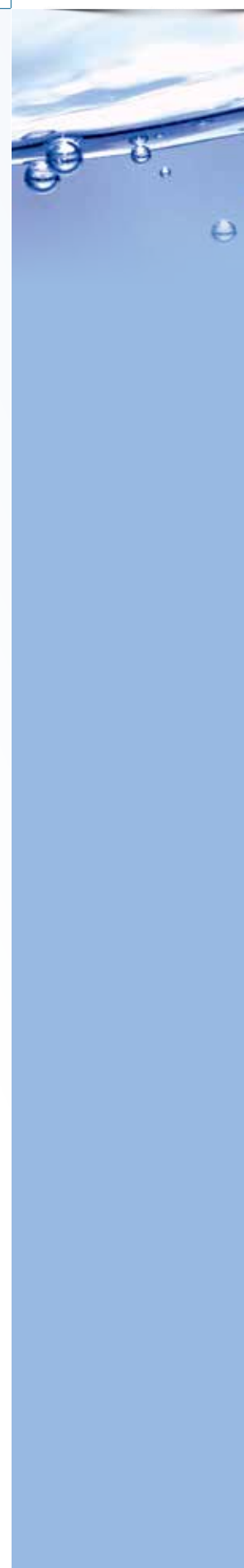
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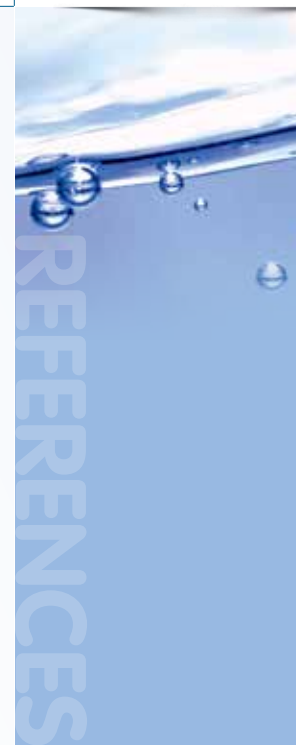
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