

# WORKING PAPER

*Management of water services in Belgium*



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*Management of water services in Belgium*

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**Working paper CIRIEC No. 2009/07**

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## CONTENTS

1. Introduction	5
2. Legal framework	5
3. Provision and regulation of water services	7
3.1. The leading players	7
A. Water policy	8
B. Production and distribution	8
C. Treatment of wastewater	10
D. The associations	12
3.2. The price of water	13
3.3. Production and distribution	17
3.4. Collection and disposal	22
4. Financing	25
5. Income and expenditure accounts of the leading players	25
6. Some financial indicators	27
7. Conclusion	28
Bibliography	29

## 1. Introduction

In Belgium, for reasons both technical and historical (for instance, the influence of the French revolutionary decrees of 1789), responsibility for the supply of drinking water and the disposal of effluent and wastewater was assigned to cities, towns and municipalities. In the course of time, the construction of Europe and the federalisation of the Belgian State have had many and various repercussions on water management. The purpose of this paper is to describe and to analyse the manner in which the water sector is managed in Belgium today, this in the knowledge that all considerations of an historical and a political order are often at the origin of a particularly complicated organisation.

## 2. Legal framework

There is no denying that water is a commodity that is essential for life. Every citizen should in principle have access to that commodity as and when he or she might so require. Furthermore, the water sector is characterised in production, distribution and disposal by situations of natural monopoly. One also notes in the sector the presence of externalities, for instance in public health and the environment. The involvement of the public sector in this area is therefore necessary in order to ensure the best possible allocation of available resources. The Belgian players in the water sector are the regional public companies, intercommunals in various forms or, again, public undertakings or local-authority services, the private being as yet very few and far between.

Following the federalisation of Belgium, water policy devolves to the three regions of the country. These are those that had the task of transposing European Directive 2000/60/EC establishing a framework for a community policy in the water sector. We have thus witnessed, in recent years, a reworking of a system finding expression, for instance, in a series of mergers and takeovers.

In the Brussels Capital Region, the Order of 20 October 2006<sup>1</sup> establishing a framework for water policy created and defined the Société Bruxelloise de Gestion de l'Eau<sup>2</sup> and states in Article 2 that "*le cycle de l'eau est géré*

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<sup>1</sup> MB of 3 November 2006.

<sup>2</sup> SBGE.

*de façon globale et intégrée par le secteur public,...*" ("the water cycle is managed in a general and integrated manner by the public sector, ..."). It is planned that the SBGE and the authorities of the Brussels Capital Region will enter into a management contract implementing the rules of the Order.

In Flanders a major reorganisation of the water sector took place in 2005. Among its consequences, mention might here be made of the integrated water bill<sup>3</sup> presented to consumers by water distribution companies that reflects not only the distribution element, but also collection of spent waters and their treatment.

Regarding purification of water and disposal, it is henceforth in principle the distributors who are responsible for the treatment of water rejected by their subscribers. To do so they may use the equipment installed by the plc Aquafin, to which the Flemish public authorities assigned the task of execution of the disposal infrastructure programme at supracommunal level, and the local-authority disposal networks. The local authorities are competent for wastewater, that is, in practice, for the disposal network and water treatment installations at local level. They have various possibilities at this level: they may undertake the construction and maintenance of their network of drains and sewers and, in this case, assume the obligation of disposal from the distributors, or else work alongside those distributors by sharing the responsibilities or, again, by assigning that task to another intercommunal or to a third party.

In Wallonia the legal reference text in the matter is the *Code de l'eau*<sup>4</sup>, coordinated on 3 March 2005, made up of a decretal section and a regulatory section. This Code includes all the legal texts relating to the sector and defines, *inter alia*, the Société Wallonne des Eaux (SWDE)<sup>5</sup> and the Société publique de Gestion de l'Eau (SPGE)<sup>6</sup>. It also integrates the Order of the Walloon Government of 14 July 2005, establishing a uniform accountancy plan for the water sector in Wallonia and the rules for price-setting and integrated management of the water cycle.

It should be added that in Wallonia, regarding the treatment of wastewater, the SPGE concludes *purification contracts* with intercommunals

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<sup>3</sup> Integrale waterfactuur.

<sup>4</sup> Available for consultation on <http://environnement.wallonie.be/aerw/dgrne/index.htm>

<sup>5</sup> The SWDE combines, according to the conditions provided in its statutes, the Région wallonne, the SPGE, provinces, communes, intercommunals and persons under public law.

<sup>6</sup> Limited liability company under public law, created in 1999.

recognised as Accredited Purification Agencies (Organismes d'épuration agréés - OEAs, currently 7 in number), by which they entrust to them the execution of the planned investments, such as purification stations and collectors. These APAs thus guarantee the implementation and utilisation of infrastructures.

Concerning the most practical strand - the production, distribution and treatment of wastewater - it is, as we have briefly explained, the local authorities that are at the basis of the action. The majority of them are grouped within intercommunals or address themselves to companies having a management contract with their region. Certain other local authorities still have their own municipal public corporation or their own municipal service. The APAs, for example, are all intercommunals.

We shall return to this in more detail in the sections that follow. Certain aspects hardly touched upon in the present chapter will also be the subject of later discussion; we are thinking here more particularly of the setting of water prices.

### **3. Provision and regulation of water services**

#### *3.1. The leading players*

Various stages may be identified in the cycle of the water market. Classically we can identify production, distribution and treatment of wastewaters, including collection and purification. Each region will have its own players for each of those stages. Furthermore, we will have the occasion to affirm that certain companies integrate several activities. Thus, for example, in Wallonia and Flanders, many producers are also distributors. We will also mention the public enterprises charged by their Region with application of the water policy. Finally, there are associations bringing together different players for specific purposes. We shall return to this in the present section.

## **A. Water policy**

The water policy in Belgium has been entrusted to the regions. These regions have assigned a series of missions to public enterprises created and adapted to that effect.

In the Brussels Region the Institut bruxellois pour la gestion de l'environnement (IBGE) is the sole administration in charge of water, a sector that represents only one facet of its activities. It is active, for instance, in *maillage bleu*, which is a programme for the purification of rivers and streams in Brussels, of strategy for water and surface water.

Concerning Flanders, responsibility for water policy lies with the Vlaamse Milieumaatschappij (VMM). The tasks of the VMM include measurement of the quality of surface waters and reporting on the situation of the environment. We might also mention the Coördinatiecommissie Integraal Waterbeleid (CIW), created by a decree by the Flemish Region, which is a coordination commission in the framework of the integrated water policy desired by the European outline directive on water.

In Wallonia we find the Société publique de gestion de l'eau (SPGE), limited liability company under public law, created by the Région wallonne in 1999. The SPGE is charged with the task of ensuring the coordination and financing of the water sector and has a management contract with the Region for the protection of catchment of water and its purification, including drainage, purification, collection and evacuation of floodwater.

## **B. Production and distribution**

As we have already said, production and distribution are in the hands of the same players in Wallonia and Flanders. We shall therefore group these two stages in this section.

In the Brussels Capital Region, however, distribution and production are shared between two intercommunals. One, the Intercommunale bruxelloise de distribution d'eau (IBDE), charged since 1989 with the *responsibility* for the distribution of water and, two, Vivaqua, public enterprise with an industrial character, active in the production, treatment and transport of water and the control of its quality and the provision of services concerning water distribution on behalf of the intercommunals (mainly IBDE) and the

local authorities. Both enterprises are also active in the purification and management of drainage networks, Vivaqua executing several such missions on behalf of the IBDE<sup>7</sup>.

Generally speaking, Vivaqua must be considered as the real strong arm of the local authorities and the Brussels Region in the water sector<sup>8</sup>, the IBDE limiting itself essentially to an intermediate role between the Brussels local authorities and Vivaqua.

Flanders currently has 13 enterprises active in the distribution and production of drinking water, all entirely held by the public sector<sup>9</sup>. It should be noted that Vivaqua distributes water from catchments situated in Wallonia, not only in the Brussels Region, but also (totally or partially) in the 4 communes of Flanders.

In Wallonia, even if we count some 46 local-authority services or local corporations plus a further ten intercommunals, a majority of cities, towns and municipalities have assigned their supply of water to the SWDE which is, by that fact, the foremost producer and distributor of water in Wallonia. However, a process of mergers is still under way in order to reduce the numbers of players active in this sector.

The table below gives a list of producers and distributors of water in Wallonia and in Flanders.

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<sup>7</sup> The IBDE associates the 19 *communes* of the Brussels Capital Region. It has the task of the distribution of water to the inhabitants and enterprises of the Region and the management of drainage works for the 19 *communes* of Brussels and measures against floods in those *communes*.

<sup>8</sup> Vivaqua has three main functions: it produces water (which it supplies mainly to the intercommunals and *communes*), is provider of services (to those intercommunals and *communes* having assigned to it the operation of their distribution network and the management of the service to clients and the management of their sewage networks, collectors and storm basins) and operating the South purification plant of the Brussels Capital Region.

<sup>9</sup> See SERV, Sociaal-Economische Raad van Vlanderen, *De prijs van water 2008: analyse en aanbevelingen*.

<b>Water producers and distributors in Belgium</b>	
<b>Full name</b>	<b>Abbreviation</b>
<b>Brussels</b>	
Intercommunale Bruxelloise de Distribution d'Eau	IBDE
Vivaqua	
<b>Flanders</b>	
Vlaamse Maatschappij voor Watervoorziening	VMW
Tussengemeetelijke Maatschappij der Vlaanderen voor Watervoorziening	TMVW
Provinciale Intercommunale voor Drinkwater in de Provincie Antwerpen	PIDPA
Antwerpse Waterwerken	AWW
Intercommunale voor Waterbedeling in Vlaams-Brabant	IWVB
Intercommunale Watermaatschappij	IWM
Intercommunale Waterleidingsmaatschappij van Veurne-Ambacht	IWVA
Gemeentelijk Waterbedrijf Knokke-Heist	
Stedelijk Waterbedrijf Sint-Niklaas	
Vivaqua	
Regie Stedelijke Waterdienst Ieper	
Waterregie Tongeren	
Waterdienst Hoeilaart	
<b>Wallonia</b>	
Association Intercommunale des Eaux du Condroz	AIEC
Association Intercommunale des Eaux de la Molinee	AIEM
Compagnie de Distribution d'Eau de Salles et Robechies	CIDESER
Compagnie Intercommunale des Eaux de la Source les Avins-Clavier	CIESAC
Compagnie Intercommunale Liégeoise des Eaux	CILE
Intercommunale Des Eaux de Nandrin-Tinlot et environs	IDEN
Intercommunale Des Eaux du Centre du Brabant Wallon	IECBW
Intercommunale d'Etude et de Gestion	IEG
Intercommunale Namuroise de Services Publics	INASEP
Services ou Régies communaux	
Société Wallone Des Eaux	SWDE

Source: SERV and SWDE

### **C. Treatment of wastewater**

The treatment of spent water includes not only actual purification but also the collection and conveyance of that water to the purification plant. It is therefore also a matter here of the setting up, management and maintenance of a sewage disposal network.

We have already had the occasion to present the system when we discussed the legal framework. In the Brussels Capital Region, the Order of 20 October 2006 created the Société Bruxelloise de Gestion de l'Eau (SBGE). This pararegional company, given a management contract with

the Region, has the primary task of purification of urban spent waters. It is also active in the context of the coordination and in the execution of sewage works, collection and purification of residual urban waters. Vivaqua also plays a part in assuming, on behalf of the IBDE, missions relatives to the design, construction and operation of sewage disposal networks.

In Flanders we may summarise the situation in the table below.

Infrastructure elements	Planning	Execution	Operation
Sewage water purification plant	Flemish Region (VMM)	Aquafin	Aquafin
Collectors and priority sewers and drains	Flemish Region (VMM)	Aquafin	Aquafin
Small-scale purification plant	Flemish Region (VMM) or communes (+VMM)	Aquafin or communes or appointed managers	Aquafin or communes or appointed managers
Sewers, drains	Communes (+VMM)	Communes or providers	Communes or providers

Source: SERV

Since the water distributors have been obliged since 2005 to guarantee the purification of wastewater, it is logical that they should offer their services to the local authorities through the good offices of subsidiaries specially created by them for that purpose. It should be noted that two intercommunals in the (public) energy sector - Interelectra and the Provinciale Brabantse Energiemaatschappij (PBE) - also offer such services for sewage disposal, as can be seen in the table below.

Provider	Operator
Aquario	TMVW
Hidrorio	PIDPA
Hidrosan	PIDPA
Vivaqua	Vivaqua
IWVA	IWVA
Ri-ant	AWW + Aquafin
Rio-act	VMW + Aquafin
Aquafin	Aquafin
Infrax	Interelectra
Riobra	PBE

Source: SERV

In Wallonia the situation is slightly different. The SPGE, which has a management contract with the Walloon Region, has the task of financing and coordination of the collective purification of wastewater. For the creation and operation of infrastructures, the SPGE has concluded contracts for the provision of services with intercommunals recognised as Accredited Purification Agencies (Organismes d’Euration Agréés - OEA), currently 7 in number.

**Accredited Purification Agencies (APAs) - Wallonia**

Full name	Abbreviation
Association Intercommunale pour le Démergement et l'Euration	AIDE
Association Intercommunale pour la Valorisation de l'Eau	AIVE
Intercommunale du Brabant Wallon	IBW
Intercommunale de Développement Economique et d'Aménagement	IDEA
Intercommunale pour la Gestion et la Réalisation d'Etudes Techniques et Economiques	IGRETEC
Intercommunale Namuroise de Services Publics	INASEP
Intercommunale de propreté publique du Hainaut occidental	IPALLE

Source: AquaWal

It should be noted that certain of these intercommunals are not engaged solely in the treatment of wastewater. IPALLE, for example, is also active in its assignments in waste management.

#### **D. The associations**

Certain of the players that we have just seen are grouped into associations (regardless of their legal statuses). We shall mention some of them here.

In Wallonia, the company Protectis was created by the main producers and SPGE in order to undertake catchment protection works.

In Flanders, a certain number of local-authority corporations and the Intercommunale Watermaatschappij (IWM) set up the Intercommuniaal Samenwerkingscomité voor Waterbedrijven (ISWa).

Finally there is AquaWal, which is the professional union of public operators of the water cycle in Wallonia uniting the main producers and distributors and the APAs. We may also mention the Flemish counterpart of AquaWal - the Samenwerking Vlaams Water (SMW) - that coordinates,

for instance the main players in the water sector in Flanders, and AquaBru in the Brussels Region. At national level, these three associations and the main players in the sector form Belgaqua.

### 3.2. The price of water

Once again, the rules for the setting of the price of water depend on the region in which we are situated.

In the Brussels Capital Region the IBDE is the sole distributor. The total price consists of several parts: consumption of water as such; purification, responsibility for which has been entrusted to the IBDE by the *communes* (between 0.086 and 0.43 euros/m<sup>3</sup> until 1 January 2009); the regional public purification that the SBGE executed on behalf of the IBDE (0.3602 euros/m<sup>3</sup> since April 2008 until 1 January 2009) and an annual subscription charge (between 11.8 and 23.8 euros *per annum*). For households the price of water consumption is calculated on the basis of a system of charging known as interdependent (*solidaire*). The table below shows the quantities expressed in m<sup>3</sup> p/a (and *per capita* for households) and the price expressed in euros per m<sup>3</sup>.

IBDE charges for water consumption excl. VAT - 2009

Charges	Tranche	Quantity	Price of water	LPurC	PRPurC
Households	Vital	0 - 15	0.8	0.25	0.2
	Social	15 - 30	1.46	0.43	0.35
	Normal	30 - 60	2.17	0.64	0.52
	Comfort	60 and +	3.22	0.91	0.74
Non-domestic linear			1.6	0.45	0.37
Industrial		0 - 5000	1.6		
		5000 and +	1.2		

Source: IBDE

LPurC: Local Purification Charge (5 services)

PRPurC: Public Regional Purification Charge

We can see from the table the principle of the system of charges known as interdependent. The lowest consumption tranches are considered as necessary for all citizens, and therefore benefit from a more advantageous price. By the same token a higher than normal consumption would be considered a luxury and would therefore cost more. Since 1 January 2009, the purification assigned to the IBDE and a public regional purification likewise follow the principle of the interdependent charging system. The

amount of the purification assigned to the further depends IBDE on the number of services offered by the IBDE in the matter to which each local authority has or has not subscribed<sup>10</sup>.

In Flanders a distinction is made - based on, among other things, annual consumption, main residence and domestic use - between small users and large users. For the small users, mainly households, there has been a unified bill since 2005 that contains the integral price of water where the consumer previously had to pay separately for the water itself, then a tax on spent water and, sometimes, for the collection of spent water to the local authority. Given their new obligation to purification, it is now the distributors who pay the supracommunal purification charge to Aquafin, an amount that is passed on to the consumer. The same applies for collection via the local sewage disposal network and small purification plant for the benefit of the local authorities or of the managers appointed by the latter. To recapitulate, the integral price of water consists of the price of actual water consumption, a contribution for purification at supracommunal level and the price for collection and the purification system at local-authority level. SERV recently conducted a survey on the price of water in Flanders in 2008<sup>11</sup>. The following table shows the average prices (excluding VAT) and bills (the average being based on the number of local authorities) for a typical family (of 2.38 persons and an average daily consumption of 104 litres per person or a family consumption of 90.44 m<sup>3</sup>).

Average charges and bills for a model family - Flanders 2008 - Euros

Variable	Total price	Price of water	Supracommunal contribution	Contribution to local authority
Price per m <sup>3</sup>	3.23	1.48	0.85	0.9
Percentage of price	100%	46%	26%	28%
Price range	2.12 to 3.76	1.21 to 1.85	0.85	0 to 1.1851
Total bill	292	134	77	81
Total bill range	192 to 340	109 to 167	77	0 to 107
Increase since 2006	31%	3.5%	25%	157%
Increase range	5 to 69%	0 to 24%	25%	0 to max

Source: SERV

The prices may vary wildly from one local authority to the next, and this even in municipalities availing themselves of the services of one and the

<sup>10</sup> See section 3.4. below, dedicated to collection and purification.

<sup>11</sup> SERV: *De prijs van water 2008: analyse en aanbevelingen*.

same distributor. Bear in mind that the price of water consists of a fixed component (subscription, hire of meter, any combination of the two) and a variable component based on actual consumption. We further note that three distributors - the *gemeente* of Knokke-Heist, PIDPA and TMVW - have made provision for social corrections in their scheduled charges with regard either to the flat-rate amount or lump sum (PIDPA, TMVW), or to the variable component variable (Knokke-Heist).

In Wallonia, since the decree of 2004 on water prices, the new system is based on the notion of price truth (*coût-vérité*). Each consumer pays for what he or she actually consumes and for any pollution that he or she may create in the process. The bill is now calculated in one and the same way for the whole of Wallonia, on the clear understanding that prices may vary markedly from one township to the next. The calculation is rooted in two new concepts: *Coût-Vérité à la Distribution* (CVD) and *Coût-Vérité à l'Assainissement* (CVA) (or cost-truth of distribution and purification).

The CVD covers all costs in connection with the production and distribution of water (pumping, conveyance, maintenance of the network, protection of water catchments, ...). This amount is identical for any one distributor in any given subbasin and is set once a year by the distributors. Thus, by way of example, on 1 January 2009, the SWDE applied a CVD of 2 €/m<sup>3</sup>, the CILE 2.12 €/m<sup>3</sup> and the IECBW 1.82 €/m<sup>3</sup>. Each distributor, whether it happens to be an intercommunal or a local authority, sets its CVD starting out from a water accountancy plan<sup>12</sup>, even if the rules do happen to differ somewhat for local-authority services.

The CVA, on the other hand, represents all costs incurred in connection with the purification of spent domestic water; it is uniform throughout the whole of Wallonia and is fixed by the SPGE. This is a case of allowing the financing of investment in collectors and purification plant, guaranteed by the SPGE. In 2008 this amounted to 1.055 €/m<sup>3</sup> for 1.3080 €/m<sup>3</sup> in 2009 as against 0.625 €/m<sup>3</sup> in 2006.

The pricing structure is now as specified in the table below, this including the social fund for water (created by the decree of 20 February 2003; it is activated for persons experiencing difficulty in payment, in an amount of 0.0125 €/m<sup>3</sup>) and VAT at 6%.

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<sup>12</sup> Decree of the Walloon Government amending the decree of the Walloon Government of 3 March 2005 relating to the Water Code, establishing a uniform accountancy plan for the water sector throughout the Walloon Region, 14 July 2005, MB of 26/08/2005.

The water bill in Wallonia

Parameters	Formulas
Meter charge	$(20 * CVD) + (30 * CVA)$
0 to 30 m <sup>3</sup>	$0.5 * CVD$
30 to 5000 m <sup>3</sup>	$CVD + CVA$
5000 m <sup>3</sup> and above	$(0.9 * CVD) + CVA$
Social fund	0.0125 €/m <sup>3</sup>
VAT	6%

Source: Code de l'eau coordonné, art D. 228

By way of illustration we shall now use this formula to make out the bill for a household consuming 100 m<sup>3</sup> each year, using (i) the CVD and CVA for 2006 and, (ii), those for 2009, and this for the four major distributors in Wallonia, *id est* SWDE, CILE, IECBW and INASEP.

Water bill in 2006 - Wallonia - Euros

Companies	CVD 2006	CVA 2006	Contribution 2006	Conso price 2006	Social fund	VAT2006	Total 2006
SWDE	1,8622	0.625	55.99	202.04	1.25	15.56	274.84
CILE	1.8	0.625	54.75	196.75	1.25	15.17	267.92
IECBW	1.67	0.625	52.15	185.70	1.25	14.35	253.45
INASEP	1.84	0.625	55.55	200.15	1.25	15.42	272.37

Sources: Sociétés de distribution, décret et calculs

Water bill in 2009 and comparison with 2006 - Wallonia - Euros

Companies	CVD 2009	CVA 2009	Contribution 2009	Conso price 2009	Social fund	VAT 2009	Total 2009	Total 2006	Variation
SWDE	2	1.308	79.24	261.56	1.25	20.52	362.57	274.84	31.92%
CILE	2.12	1.308	81.64	271.76	1.25	21.28	375.93	267.92	40.32%
IECBW	1.82	1.308	75.64	246.26	1.25	19.39	342.54	253.45	35.15%
INASEP	1.84	1.308	76.04	247.96	1.25	19.52	344.47	272.37	26.58%

Sources: Sociétés de distribution, décret et calculs

We find that, for the four leading distributors in Wallonia, the average price per cubic metre of water for a consumption of 100 m<sup>3</sup> moved from a range of € 2.53 to € 2.75 in 2006 to a range of € 3.43 to € 3.76 in 2009. The CVA has more than doubled over this span of time, whereas the increase of the CVD has been rather more contained.

On the whole it may be said that water prices are quite variable according to place of distribution. Such variability is not exclusive to Belgium and

will also be encountered in other countries. It may be explained by various factors, such as proximity of catchments, the quality of the untreated water, the type of treatment, the local and regional topography and the nature of the soil, the difficulty of purification, the amortisation of installations (channels, stations, ...) and, or course, efficiency of management.

### 3.3. Production and distribution

As we have already had occasion to affirm, production and distribution in Belgium are generally in the hands of the same public players, needless to say with certain exceptions such as, for example, in the Brussels Capital Region. These different players may incidentally maintain technical or commercial relations, sometimes with - for example - purchases and sales of water.

In this section we shall start by identifying the main producer-distributors on the basis of size of clientele. We will then analyse only those producer-distributors. Indeed, the persistence at the present moment of many local authorities making their own arrangements for provision of water services would render an exhaustive study tiresome, while offering very little in the way of additional information.

As for the Brussels Capital Region, the IBDE is in charge of distribution in the 19 *communes*, Vivaqua providing contractual services in the capacity of partner (likewise for the IECBW and the IWVB), consisting in particular of the management of client files, meter readings and collection of bills, and the extension, maintenance and surveillance of the networks. The IBDE counted 290 161 clients for the year 2007.

Turning to Flanders, the main distributors are VMW, TMVW, PIDPA, AWW and IWVB. These five companies alone represent 93% of clients in the Region. It should also be pointed out in this connection that the TMVW has a holding in the IWVB.

#### Relative size of drinking water companies - Flanders

Companies	Number of clients	Communes
Vlaamse Maatschappij voor Watervoorziening	1 089 752	171
Tussengemeetelijke Maatschappij der Vlaanderen voor Watervoorziening	529 707	57
Provinciale Intercommunale voor Drinkwater in de Provincie Antwerpen	477 287	65
Antwerpse Waterwerken	157 955	8
Intercommunale voor Waterbedeling in Vlaams-Brabant	90 167	13
Intercommunale Watermaatschappij	47 842	8
Intercommunale Waterleidingsmaatschappij van Veurne-Ambacht	46 862	6
Gemeentelijk Waterbedrijf Knokke-Heist	22 119	1
Stedelijk Waterbedrijf Sint-Niklaas	21 656	1
Vivaqua	13 907	4
Regie Stedelijke Waterdienst Ieper	10 815	1
Waterregie Tongeren	9 143	1
Waterdienst Hoeilaart	4 322	1
Total	2 521 534	

Source: SERV, June 2008

It should be stressed that the legislation demands a single water meter per accommodation unit in apartment blocks. It thus follows that we will see a difference between the number of connections and the number of clients or meters. It should also be noted that any given local authority might use the services of more than one distributor.

#### Relative size of water distributors - Wallonia

Companies	Meters	Communes
Société Wallone Des Eaux	964 293	200
Compagnie Intercommunale Liégeoise des Eaux	233 032	23
Services ou Régies communaux (1)	85 310	46
Intercommunale Des Eaux du Centre du Brabant Wallon	73 451	13
Intercommunale Namuroise de Services Publics	34 052	12
Intercommunale d'Etude et de Gestion (Mouscron) (1)	17 406	3
Association Intercommunale des Eaux de la Molinee	10 736	4
Association Intercommunale des Eaux du Condroz	11 829	5
Intercommunale Des Eaux de Nandrin-Tinlot et environs	2 908	3
Compagnie Intercommunale des Eaux de la Source les Avins-Clavier (1)	2 055	4
Compagnie de Distribution d'Eau de Salles et Robechies (1)	539	2
Total	1 435 611	

Source: SWDE and AquaWal, 2007

(1) Number of connections 2006

In Wallonia the leading players in distribution are SWDE, CILE, IECBW and INASEP. They share nearly 91% of the meters in the Region, slightly more than 67% belonging to SWDE alone. To this we may also add IDEA

(Intercommunale de Développement Economique et d'Aménagement du territoire, Mons) - a producer and distributor, but also exclusively for industry or for selling on to the other players in the sector.

In terms of population supplied, we obtain the following table for the main distributors.

Population supplied	
Companies	Population
IBDE	1 034 475
VMW	2 662 441
TMVW	
PIDPA	1 148 072
AWW	532 379
IWVB	
SWDE	2 400 000
CILE	537 734
IECBW	195 770
INASEP	

Sources: Entreprises de distribution

We may also examine the length of the distribution networks of the main companies and derive, via the number of meters or clients, the density of those networks.

Main distribution networks - Belgium - 2006			
Companies	Meters	Network(km)	Density (mt/km)
IBDE	290 161	2 212	131.16
VMW	1 089 752	30 267	36.00
TMVW	529 707	10 415	50.86
PIPDA	477 287	12 000	39.77
AWW	157 955	2 425	65.14
IWVB	90 167		
SWDE	964 293	27 868	34.60
CILE	233 032	3 525	66.11
IECBW	73 451	1 694	43.36
INASEP	340 52	1 250	27.24

Sources: Sociétés de distribution, SERV, Aquawal

The density is obviously higher for the IBDE, which is active in the Brussels Capital Region, an essentially urban zone.

We shall now examine in more detail the production and distribution of these main players, whilst bearing in mind the existence of other smaller intercommunals and services or local water corporations. The table below shows the available data for the Flemish producers and distributors, the IBDE and SWDE for 2007, and for 2006 in the case of the other Walloons and Vivaqua. We can see the volumes produced, purchased or sold to other players in the sector, the volume distributed to clients, industrial or domestic, and the non-registered volumes (leaks, firefighting, production wash water, ...).

**Volume of main water producers and distributors - Cubic metres**

<b>Companies</b>	<b>Production</b>	<b>Distribution</b>	<b>Purchases</b>	<b>Sales</b>	<b>Not registered</b>
IBDE (1)	67 436 015	59 223 392			8 212 623
Vivaqua	138 443 000	676 000	0	136 788 000	979 000
VMW	133 350 000	116 460 000	21 820 000	9 440 000	29 270 000
TMVW	9 503 042	77 545 880	76 672 912	7 269 482	1 360 592
PIDPA	67 787 289	58 607 761	4 215 029	5 210 988	8 183 569
AWW (1)	147 810 729	115 715 557		42 095 172	
IWVB (2)		10 927 927			
SWDE	153 820 743	104 376 655	20 060 189	22 472 208	47 032 069
CILE	25 779 000	27 420 000	11 163 000	2 260 000	7 262 000
IECBW	7 308 000	9 834 000	6 212 000	1 493 000	2 192 000
INASEP	2 803 000	3 099 000	1 585 000	38 000	1 250 000

Sources: entreprises de distribution (2007), Aquawal (2006), SERV (2007)

(1) Production here represents total supply

(2) Distribution represents water turnover ("*Omzet water*")

Vivaqua draws the bulk of its production from the Walloon Region. Most of that production, however, is run off to other distributors in other regions. We should also point out that, in the case of the IBDE and AWW, the amount given in the production column in fact represents the volume available for distribution, this including purchases, the available data not allowing any distinction between the two.

We may also derive from this table estimates of network outputs by dividing the non-registered volume by the available quantity, which corresponds to the sum of the quantities produced and purchased from third parties active in the sector. However, we insist on the fact that the non-registered volume includes elements other than mere network losses.

**Network outputs - Volumes in cubic metres**

<b>Companies</b>	<b>Not registered</b>	<b>Available</b>	<b>Outputs</b>
IBDE	8.212.623	67.436.015	87,82%
Vivaqua	979.000	138.443.000	99,29%
VMW	29.270.000	155.170.000	81,14%
TMVW	1.360.592	86.175.954	98,42%
PIDPA	8.183.569	72.002.318	88,63%
AWW	not available	147.810.729	-
IWVB	not available	10.927.927	-
SWDE	47.032.069	173.880.932	72,95%
CILE	7.262.000	36.942.000	80,34%
IECBW	2.192.000	13.520.000	83,79%
INASEP	1.250.000	4.388.000	71,51%

Sources: Entreprises de distribution, Aquawal, SERV

We can also break down the distributed volume according to the type of consumer. The available statistics mostly bring out the distinction between domestic and non-domestic clientele, or are based on consumed volumes. Certain difficulties may nonetheless arise. For TMVW, the volume given in domestic consumption in the table below represents the quantity delivered to partner local authorities, without distinction of subsequent destination. The non-domestic quantity represents what TMVW has delivered itself to the industrial sector. Furthermore the date for CILE and IECBW in the table below are for 2007 instead of for 2006 previously. This is due to the availability of different statistics.

**Allocation by type of consumer - Cubic metres**

<b>Companies</b>	<b>Distribution</b>	<b>Domestic</b>	<b>Non-domestic</b>
IBDE	59 223 392		
Vivaqua	-	-	-
VMW	116 460 000	88 330 000	28 130 000
TMVW(1)	77 545 880	77 433 651	112 229
PIDPA	58 607 761	42 828 679	15 779 082
AWW	105 715 557	40 706 512	65 009 045
IWVB			
SWDE	103 340 383	62 112 991	41 227 392
CILE	25 929 157	20 668 967	5 260 190
IECBW	10 284 706	7 405 961	2 878 745
INASEP	3 099 000		

For TMVW the domestic volume is that delivered to the partner local authorities

Sources: Entreprises de distribution

### 3.4. Collection and purification

In the Brussels Capital Region Vivaqua carries out, on behalf of the l'Intercommunale Bruxelloise de Distribution d'Eau (IBDE), missions relating to the design, construction and operation of sewage disposal networks. The IBDE thus identifies five purification services; the Brussels *communes* may join these services. This concerns the management of storm basins and collectors, gathering and updating various data concerning the municipal sewers and drains (plans, obsolescence, ...), the hydraulic management of the disposal network for sewage, rainwater and runoff, repair, adaptation, renewal and extension of the sewage disposal network and its equipment and, finally, the integrated management of the sewage disposal network. In 2007 the IBDE measured the total length of the sewage network as 1 334.89 kilometres for all the *communes* covered by its purification services. Regarding purification plant, Vivaqua operates the STEP Sud in the Brussels Capital Region (360 000 EH). The Brussels North station (1 100 000 EH) was the object of a call for tenders, and it was Aquiris, a group of enterprises steered by the French private enterprise Veolia, that obtained the design, construction and operation for a duration of 20 years in the framework of a BOOT-type public-private partnership<sup>13</sup>.

In Flanders the citizen bears the responsibility for being connected to the sewage network or, where that is not possible, to make own arrangements

<sup>13</sup> Build, owner, operate and transfer.

for purifying wastewater. In principle the local authority will attend to the management of the sewage disposal network on its territory, either itself, or in collaboration with water distributors, or in collaboration with third a party. Regarding priority sewage disposal, collectors and purification, Aquafin has the task of execution and operation, while the Flemish Region attends to planning. According to its annual report for 2007, Aquafin has nearly 4 250 kilometres of collectors. Also, for 2007, of the 216 evaluated purification plants, 192 satisfied all the standards currently in force, as against 4 that did not meet the European standards. The value of the project portfolio was further made up as follows:

**Aquafin projects - Million euros - 2007**

<b>Projects</b>	<b>Number</b>	<b>Value</b>
Delivered	1 843	2 298.78
Awarded and tendered for	251	420.22
In development	605	695.34
Total	2 699	1 115.56

Source: Aquafin

To recall, the managers of the sewage disposal network at local level are the following:

**Sewage disposal managers - Flanders**

<b>Provider</b>	<b>Operator</b>	<b>Communes</b>
Aquario	TMVW	48
Hidrorio	PIDPA	14
Hidrosan	PIDPA	3
Vivaqua	Vivaqua	6
IWVA	IWVA	3
Ri-ant	AWW + Aquafin	12
Rio-act	VMW + Aquafin	4
Aquafin	Aquafin	9
Infrac	Interelectra	35
Riobra	PBE	24
Own management		147
Undecided		3

Source: SERV

In Wallonia the SPGE ensures the financing and coordination of the local-authority purification of wastewater, the protection of water catchment and the financing of certain sewage works in collaboration with the local

authorities. The creation and operation of purification infrastructures falls to seven accredited purification agencies. The financing is arranged via the *Coût-Vérité de l'assainissement* (CVA), which is a component of the water bill presented to the consumer.

Turning to the technical estate of these APAs in terms of collectors and purification plant, we obtain the following table.

**Accredited Purification Agencies - Technical Estate - Wallonia - 2007**

Companies	Communes	Collectors (kms)	Purification plant	Rated capacity WPP (EH)
AIDE	84	254.97	63	1 048 601
AIVE	44	160.41	69	235 925
IBW	27	158.47	31	456 750
IDEA	24	235.44	23	500 200
IGRETEC	22	259.46	43	534 150
INASEP	38	234.78	89	186 955
IPALLE	23	132.87	32	337 005

Source: Aquawal

According to the SPGE, the total rated capacity for these purification plants to achieve for the whole of Wallonia is 4 706 051 EH. On 31 December 2007 the SPGE presented the following progress balance sheet.

**Equipment rates for purification plant - Wallonia - 2007**

Purification plant	All	2000 EH or more	Percentage
WPP, existing	3 299 136	446 250	70.10%
WPP, running	698 200	692 150	14.84%
WPP, to realise	708 715	3 140 786	15.06%
Total	4 706 051	4 279 186	100.00%

Source: SPGE

The rate of equipment of water purification plant in Wallonia was therefore around 70.1% at the end of 2007.

We can also examine the situation of the purification system in Wallonia at the end of 2006 for sewers and collectors. We can see in the table below 83.02% of sewers at the time for only 43.3% of collectors.

**Networks situation - Wallonia - 2006**

<b>Network</b>	<b>Kilometres</b>	<b>Percentage</b>
<u>Sewers</u>		
existing	16 388.45	83.02%
running	203.04	1.03%
to realise	3 149.85	15.96%
<b>Total</b>	<b>19 741.34</b>	<b>100.00%</b>
<u>Collectors</u>		
existing	1 402.12	43.30%
running	363.68	11.23%
to realise	1 472.48	45.47%
<b>Total</b>	<b>3 238.28</b>	<b>100.00%</b>

Source: Aquawal

#### **4. Financing**

Since the different reforms in the sector over the past ten years, the financing of the players in the water chain must be ensured by passing on the real cost of water in the consumer's bill. This principle is valid for the three Regions of the country. The price of water should therefore include all the costs of production, distribution of drinking water and depollution of spent waters. We shall return to this subject in section 3.2, dedicated to the price of water. In principle, therefore, the cost of the water cycle should no longer be financed by taxation, except for the cost of local sewage disposal which is not currently integrated in the price of water outside Flanders and certain *communes* of Brussels.

#### **5. Income and expenditure accounts of the leading players**

In this section we shall briefly present the income and expenditure accounts of the leading players in distribution for 2007. Certain remarks must be made beforehand. First of all, the accounts that we have obtained are the consolidated accounts, grouping all the activities of the intercommunals and companies considered. Thus, for example, INASEP, besides its activities in water, is also active in buildings and road constructions. The first line of the table below presenting the costs of sales and contractual services recapitulates the activities of companies in production (Pr), distribution (D) and purification (Pu), including collection and disposal.

Income and expenditure accounts - Structure of costs, costs per m3 distributed and cost per employee - Main distributors - thousand euros - 2007

Variables	IBDE	Vivaqua	VMW	TMW	PIPA	AWW	SWDE	CILE	IECBW	INASEP
Activities	D+Pu	P(+services)	Pr+D+Pu	Pr+D+Pu	Pr+D+Pu	Pr+D+Pu	Pr+D	Pr+D	Pr+D	Pr+D+Pu
Cost of sales and services	122.074	231.504	524.618	276.006	249.507	229.350	357.029	80.479	27.349	29.957
Supplies/goods	46.532	15.938	8.683	192.478	162.897	118.461	41.641	31.027	5.975	796
Various goods and services	56.303	60.985	357.664	21.133	21.539	33.420	146.444	14.703	13.143	11.133
Remunerations, pensions, social charges		108.178	78.269	35.298	37.870	56.153	89.765	20.840	4.402	11.161
Amortisations	13.796	15.333	39.403	16.594	21.173	17.887	65.114	12.735	3.816	3.600
Value reductions	315	53	11.345	1.517	731	184	9.652	342	24	-9
Provisions for risks and charges	-1.372	5.053	17.125	277	5.260	-1.310	1.431	439	-114	38
Other operating charges	6.500	25.964	12.129	8.709	37	4.555	2.982	393	103	3.238
Net financial charges	4.034	-1.996	2.218	2.633	-3.205	-649	1.727	-2.936	279	-14
Financial products	800	3.788	7.063	2.925	3.973	2.861	1.360	2.286	497	1.427
Financial charges	4.834	1.792	9.281	5.558	768	2.212	3.087	-650	776	1.413
Cost of sales and net financial charges	126.108	229.508	526.836	278.639	246.302	228.701	358.756	77.543	27.628	29.943
Distribution (thousand m3)	59.223		116.460	77.546	58.608	115.716	104.377	27.420	9.834	3.099
Cost/m3 distributed	2,13		4,52	3,59	4,20	1,98	3,44	2,83	2,81	9,66
Staff (employees or full-time equivalent)		1.569	1.489	612	650	484	1.671	363	82	214
Cost / employee		146	354	455	379	473	215	213	337	140

Sources: income and expenditure accounts

The big companies having a management contract with their Region (VMW and SWDE, IBDE to a lesser extent since not active in production) have as principal source of costs various goods and services, followed by remunerations and amortisations. It should be noted in this connection that no staff costs appear in the statement of income and expenditure for the IBDE, Vivaqua attending to practical matters on behalf of IBDE in the missions assigned to it. For most off the intercommunals, the highest cost centre concerns supply and goods, an item that includes, among other things, purchases of water from other players. Then there are staff costs and the various goods and services.

We have also included in this table a cost per distributed cubic metre. This variable, in the present case, must be taken with reserves. In fact, as already mentioned, the figures given above are taken from consolidated accounts and consequently include other activities than simple distribution. This is especially true for INASEP. The Flemish companies are also active the whole length of the water chain, the Walloons concentrating on production and distribution, purification being the work of accredited purification agencies, and INASEP being distributor and APA in one.

Finally, the bottom line of the table includes a cost per employee or full-time equivalent.

In the same way, and with the same reserves, we can examine the turnover and profit of the financial year for the leading players.

Income and expenditure account - Turnover, profit and tax on profit or loss - Thousand euros - 2007

Variable	IBDE	Vivaqua	VMW	TMWV	PIPDA	AWW	SWDE	CILE	IECBW	INASEP
Turnover	125.514	209.055	335.775	210.167	157.786	144.445	315.841	76.649	26.005	27.074
Pre-tax profit for the financial year	2.105	28	-249	18.535	6.439	2.904	-14.563	3.195	2.221	338
Tax on profit or loss	0	0	0	26	0	70	106	74	18	1
Profit for the financial year to be allocated	2.105	28	-249	18.509	6.439	2.834	-14.669	3.121	2.203	337

Sources: income and expenditure accounts

Only the large Flemish and Walloon regional companies present a loss for 2007.

## 6. Some financial indicators

In this section we present certain financial data taken from a study by Dexia<sup>14</sup> including data for 2006. Not all players in the sector are included in the analysis. The types of enterprises considered are the intercommunals in production and distribution of water, the intercommunals in purification of water, the local-authority water corporations and other leading players in the sector.

Financial ratios in the water sector - 2006

Region	Type of enterprise	Number	Liquidity ratio	Financial independence	Long-term debt	Degree of self-financing	Operational cost-effectiveness
Flanders	Intercommunals in production and distribution	8	1,2	47,9%	51,5%	14,5%	3,7%
	Intercommunals in water purification	2	1,8	76,3%	25,7%	0,3%	28,1%
	Local-authority corporations	2	1,1	47,1%	68,6%	26,1%	5,4%
	Other leading players in the sector	2	0,4	40,7%	99,2%	2,9%	10,4%
Wallonia	Intercommunals in production and distribution	8	2	83,1%	10,5%	18,2%	4,2%
	Intercommunals in water purification	4	1,1	50,5%	61,5%	5,2%	-13,1%
	Local-authority corporations	1	2,6	71,6%	24,2%	14,5%	-4,1%
	Other leading players in the sector	2	2,1	65,4%	55,1%	2,1%	3,9%
Brussels	Intercommunals	2	1	40,4%	117,6%	1,8%	1,0%
Total		31	1,1	53,3%	57,7%	4,8%	5,0%
Segment	Production and distribution	22	1,1	63,2%	28,0%	9,6%	2,0%
	Purification	9	1	45,5%	90,3%	1,0%	11,4%

Source: Dexia

<sup>14</sup> Dexia, « Finances locales - Les entreprises publiques locales », May 2008, pp. 30 - 38.

The study likewise counts the contribution of subsidies to the result for the financial year in intercommunals active in the water sector, again for the year 2006.

**Subsidies - Intercommunals active in the water sector - Thousand euros - 2006**

<b>Region</b>	<b>Operating subsidies</b>	<b>Capital subsidies</b>	<b>Subsidies in interests</b>
Flanders	70 506	3.2	0
Wallonia	16 584	15 461.6	0
Brussels	0	3.5	0
<b>Total</b>	<b>16 584</b>	<b>15 468.3</b>	<b>0</b>

Source: Dexia

The amount of operating subsidies in Flanders is an estimate based on other operating products. This concerns operating allocations paid by Minafonds, intended to cover the difference between Aquafin invoices and the income of the local-authority or supracommunal purification contribution following the reorganisation of the sector in 2005. The objective of this subsidy is therefore to finance the purification invoice so that it does not have an impact on the result for the accountancy year.

## **7. Conclusion**

As we have seen, the organisation of the water sector in Belgium, for financial, technical, historical and political reasons, is particularly complicated. Initially within the competence of the local authority, the supply of drinking water and disposal of wastewater have necessitated groupings or local authorities and increasingly intense cooperations between them and with regional authorities. The water sector now has very variable forms of management but, apart from a few rare exceptions, these are characterised by the sole presence of the public sector. The price of water is also very variable, but the principle of defraying the integrality of the cost of the water cycle by the consumer is gradually asserting itself.

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