Water and Waste Utilities of the World

Ed 7 – 2006

ABS Energy Research

The Water & Waste Utilities of World
Report & Database
Ed 7 2006

Introduction

- The need for investment in the water and waste industry are escalating as environmental directives multiply, especially in the USA and the EU
- Privatisation in the water sector continues, but a growing number of concessions have being revoked by dissatisfied governments, encouraged by activists
- The devolution of water and waste utilities from state ownership to municipalities has continued worldwide, placing an enormous investment burden on these local institutions
- In many countries, especially in the CIS, the EU accession states, and countries in South America, governments are short of cash and are unable to subsidise municipalities to improve their water and waste infrastructure
- Much of the investment has already taken place in the original EU countries, but it is a problem in the EU accession countries, which now have to meet the many environmental directives pouring out of Brussels
- This can only mean a continued need for PSP
- Foreign investors have been slow to invest in water and waste in Russia but a new bred of infrastructural investor has arisen in Russia in the last two years, investing in Vodokanals throughout the CIS
- The largest of these is a partnership between the electricity and gas giants, RAO UES and Gazprom.
- Others are being formed by the oligarchs

The Report & Database

- This product consists of a report & database
- The hard copy report contains an introduction to the global water and waste industry, profiles of the largest water companies in the world, and a section for each of 184 countries in the world, outlining the water and waste sector.
- The country sections contain water and waste statistics, an outline of the infrastructure, details of the composition of the water and waste services utility industry, descriptions of the major utilities

***NEW**

- *For the first time ABS is publishing a separate Excel database of water and waste utilities, government environmental and water ministries and departments and trade associations*
- *This database has over 5,100 water and waste utilities listed with addresses, telephone and fax, nearly 400 government entities and over two hundred associations and other relevant organisations*

Key Findings

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- Some of the multi utility giants have announced withdrawal from the water sector to return to their core energy business
- This is a commentary on the difficulties of operating privately in this sector and on the vibrancy of the energy sector

- China is facing a water crisis which has been recognised at State Council level and which could threaten not only social problems but the economic growth which has been astonishing the world
- There is increased need for investment and management expertise in this huge market

Reasons to buy

- The water sector is an increasingly interesting sector for investors as the pressure of water scarcity grows and environmental pressures increase
- The database of water utilities is unrivalled for its extent and comprehensiveness
- Look at opportunities for acquisition and management concessions

Price of report (volumes 1- 4) - £975 Price of excel database - £1,050 Package price for reports and excel database - £1,700

For US Dollar and Euro prices please refer to www.absenergyresearch.com

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ASSOCIATIONS

OVGW - Osterreichische Vereinigung fur Gas und Wasserfach.

The organisation has over 400 personal members, 27 gas supply companies, some 190 water supply companies, and 255 other companies on their membership list. By and large these are all Stadtwerke organisations supplying utility services within given municipalities. The full list is available from OVGW.

OWAV - Austrian Wastewater and Waste Association

Belgium

ECONOMIC STATISTICS

Population mn mid-2005	10 mn
Labour force mn 2005	4.7 mn
Unemployment % 2005	7,6%
Capital	Brussels
GDP per capita $ PPP 2005	$31.800
Reserves of foreign exchange and gold $ bn 2004	$13.9 bn
Inflation % 2005	2,7%
GDP $ bn 2005	$329.3 bn
GDP $ bn 2005 Official exchange rate	$361.4 bn
GDP growth % 2005	1,5%
Composition of GDP %	
Agriculture	1,3%
Industry	25,7%
Services	73%
Exports $ bn 2005	$269.6 bn
Imports $ bn 2005	$264.5 bn

This modern private enterprise economy has capitalised on its central geographic location, highly developed transport network, and diversified industrial and commercial base. Industry is concentrated mainly in the populous Flemish area in the north and the main manufacturing activities, which contribute 22% to GDP are metal working, chemicals, food processing textiles, glass and motor vehicle assembly. Belgium is also the EC's main producer of non-ferrous metals. However, with few natural resources, Belgium must import substantial quantities of raw materials and export a large volume of manufactures, making its economy unusually dependent on the state of world markets. Roughly three-quarters of its trade is with other EU countries. Public debt is nearly 100% of GDP. On the positive side, the government has succeeded in balancing its budget, and income distribution is relatively equal.

UTILITY COMPANIES

Company	Owner Type	Owners
IGRETEC	Inter-municipals	
VMW Vlaamse Maatschappij voor Watervoorziening S.C.R.L	Inter-municipals	
AWW Antwerpe Waterwerten NV	Inter-municipals	
SWDE Societe Wallone de Distributions d’Eau	Inter-municipals	
PIDPA Provinciale en Inter-communale Drinkwatermaatschaappij der Provincie Antwerpen	Inter-municipals	
IBDE/BWD	Inter-municipals	
CIBE Compagnie Inntercommuniale Bruxelloise des Eaux	Inter-municipals	
TMVW Tussengemeentelijke Maatschaapij de Vlaanderen	Inter-municipals	

Voorwaterbedeling		
Wastewater Services Aquafin NV	Private	Gov't of Flanders, Severn Trent
9 Municipal sewage companies	Municipal	
6 small utilties	Inter-municipals	

WATER STATISTICS

Access to drinking water	
urban	100%
rural	100%
Sanitation	
urban	100%
rural	100%
sewerage and public WWT	78%
Freshwater annual resources	
internal	12.0 cu km
river flows in	4.0 cu km
river flows out	ni
total	ni
per capita	1,228 cu m
Freshwater annual withdrawals	
total	9.0 cu km
per capita	917 cu m
% of all water resources	72.2%
Sectoral withdrawals	
domestic	ni
industrial	ni
agricultural	ni
Average annual rainfall	
Brussels	825mm
Ostend	775mm
Area	30,528 km^2
Major rivers	Meuse

Belgium is bounded in the north by the Netherlands, in the north-west by the North Sea, in the west and south by France and in the east by Germany and Luxembourg. Belgium is a country created from the amalgamation of three communities, French, Flemish and German under a federal system. With all the difficulties of integrating 3 separate ethnic groups there is always considerable tension between the communities.

The climate in Belgium is influenced by the sea and has a cool temperature with mild winters and cool summers.

Belgium has 9 provinces within which there are 600 municipalities. These municipalities are responsible for the supply and distribution of potable water. Many municipalities have set up inter-municipal companies, six of which supply 90% of the country's needs. All water companies are publicly owned.

Production of surface water (m3):	253,667,000	35%
Production of groundwater (m3):	466,299,000	65%
Total Production (m3):	719,966,000	100%
Billed Water Consumption (m3):	570,849,000	
Domestic Water Consumption (liter/pers./day):	107	
Number of Water Supply Companies/services	101	
Number of Employees of Water supply:	7,018	
Number of connections:	3,916,800	
Length of the networks (km)	98,351	

Source: Belgaqua

PSP in water

The impact of EU environmental legislation in Belgium has led to the development of concession management and outsourcing in the water sector.

GOVERNMENT MINISTRY

Secretariat for Social Affairs, Health & Environment

WATER UTILITIES

The six most important drinking water companies in Belgium are; AWW, VWV, TMVW, PIDPA, SWDE, and CIBE. There are also some small municipal networks and a few small inter-urbans.

AWW - Antwerpse Waterwerten NV

Mechelsesteenweg 64AWW supplies up to 1 million people in the town of Antwerp and its surrounding area with 140 million cubic metres per annum from surface water.

VMW -Valaamse Maatschappij voor Watervoorziening

VMW is the largest water utility in Belgium and operates approximately 28,800 km of pipeline, supplying more than 136 million cubic meters of water annually to 2.5 million customers in 174 municipalities. The company provides services principally in the Limburg, East-Flanders, West-Flanders and Flemish-Brabant areas.

The water is predominantly ground water with a small amount of surface water. In addition there are small exchanges with neighbouring utilities such as SWDE, AWW, and TMVW although these amount to no more than 10% of production.

VMW is organised into four regional operating divisions; West Vlaanderen, Oost Vlanderen, Vlaams-Brabant, and Limburg.

Tussengemeentelijke Maatschappij der Vlaanderen Voorwaterbedeling (TMVW)

TMVW's service area is principally East and West-Flanders. It operates 25 reservoirs supplying 80 million m^3 of potable water per year to a population of 1.4 million.

PIDPA - Provinciale en Inter-communale Drinkwatermaatschappij der Provincie Antwerpen (Provincial and Interurban Drinking Water Company of the Antwerp Province)

PIDPA was established in 1913 by the provincial government to supply fresh water to the Antwerp province (excluding the cities of Antwerp and Turnhout). Initially PIDPA included the Antwerp province and 35 municipalities.

The management of PIDPA is the responsibility of several public councils, the province and the municipalities. Today the company has 68 associates in the Antwerp province and 67 cities and villages, with the province of Antwerp being the most important share-holder. The city of Mechelen rejoined the company´s supply network in 1980 and in 1995 PIDPA took over the network of Turnhout.

PIDPA meets all its water requirements from groundwater sources and owns 25 production plants with a total capacity of 63,000,000 m^3.

No. of associates	
the Antwerp province and 67 municipalities	68
-municipalities entirely provisioned by PIDPA	60
-municipalities partly provisioned by PIDPA	5
-municipalities not provisioned by PIDPA	2
Water production plants	26
Pipeline network (km)	11,000
Employees	579

SWDE - Societe Wallonne de Distributions d'Eau

SWDE supplies a population of 1.7 million people with a total of 90.8 million cubic metres per annum from ground and surface water. Total available resources are 132.3 mcm, of which 18.5 mcm are bulk sales to others and 78.1 mcm are direct sales. The four regions together with consumption figures are; Liege 19.1 mcm, Namur 19.6 mcm, Charleroi 12.8 mcm, and Mons 18.8 mcm.

SWDE is a public body owned 77% by the Communes and Inter-communales, 20% by the Region Wallonne and 3% by the provinces of Brabant, Hainaut, Liege, Luxembourg and Namur. The partners which comprise SWDE are; Service de la Gileppe (Veriers), IDEML (Mons La Louviere), ERPE (Region Wallonne), CILE (Liege) and GIE.

CIBE - Compagnie Inter-communale Bruxelloise des Eaux

The water supply network in Brussels began in 1854 and the first municipal networks and the first CIBE mains were laid in 1898.

CIBE supplies water to its 38 member cities and municipalities, and supplies services to associations of municipalities and individual municipalities (40 municipal territories) that entrust it with the operation of their water supply network and service of their consumers.

In 1988 the Inter-communale voor Waterbedeling in Vlaams-Brabant (IWVB) was established; CIBE now runs its water supply service through a partnership concluded with the private company that manages this association of municipalities. In 1989 the Inter-communale Bruxelloise de Distribution d'Eau (IBDE) was established and an administration contract entrusted CIBE with the management of the water supply service. In 1993 contracts were signed with Inter-communale des Eaux du Centre du Brabant Wallon (IECBW).

Water Supply

CIBE supplies water to the areas of 38 municipalities in the hilly part of the province of Brabant with a varied relief between 15 and 35 m above sea-level. To avoid pressure variation, CIBE created several supply zones (low, middle, high, and super high) each of which is supplied by one or more of CIBE's principal reservoirs.

CIBE collects water from the river Meuse with underground facilities at the abandoned pyrites mine at Vedrin; and underground galleries of the sources of the Hoyoux, a small tributary of the river Meuse at Modave.

Water from the river Meuse is treated at its Tailfer plant before it is distributed. CIBE operates 7 principal reservoirs from which water is supplied through a distribution network (main pipes) to the supply networks belonging to the municipalities or associations of municipalities. The supply networks are the property of the municipalities in whose area they are laid.

CIBE supplies approximately 2.1 million people in and around the Brussels area with 139 million cubic metres per annum, 74% of which comes from subterranean sources and 26% from surface water.

CIBE operates 12 reservoirs.

Bredene (Ostend)
48 drinking water supply companies deliver more than 98% of the water supply and cover the whole urban waste water collection and treatment in Belgium.

Private water company

Electrabel (part of the Tractebel Group) is Belgium's leading electricity generator and distributor. Together with 31 mixed inter-municipal distribution companies, Electrabel distributes nearly 90% of Belgium's gas and electricity, more than 50% of its cable TV and 5% of its water.

Electrabel collaborates with the TMVW inter-municipal water company for distribution of drinking water to parts of Flanders.

Electrabel also collaborates with the IMWV inter-municipal water company.

Private waste and sanitation companies

Wastewater Services Aquafin NV

Aquafin is a joint venture company between Severn Trent Water International and the government of Flanders, established in 1990 at the initiative of the Belgian government. The company currently provides services to 5.8 million people in the region and manages 167 sewage treatment works and some 3, 140 km of mains sewers. After 9 years of activity, 936 projects have been implemented on behalf of the Flemish community involving a capital investment of €932 million, actual spending on which to date runs to €220 million. Aquafin is financing the balance of €712 million, primarily through long-term credit.

Today, more than 45% of the Region's wastewater is treated before disposal, compared to 33% before Aquafin was set up.

Aquaplus

Aquafin's commercial sister company can offer consultancy, services and products with regard to the technical and financial organisation of sewerage and wastewater treatment systems all over the world.

Aquaplus, an initiative of the Flemish Environmental Holding, is carrying out projects in Chile, Hungary, Poland and Senegal.

Inter-municipal companies

There are 9 intermunicipal sewage companies.

Associations

BELGAQUA

Belgaqua is a professional association, grouping the 3 regional associations representing the Water Sector in Belgium.

AQUABRU for the Region of Brussels-Capital

AQUAWAL for the Walloon Region

SVW for the Flemish Region

Together, these 3 regional associations represent 48 drinking water production and supply companies and/or services as well as the urban waste water treatment services of the Flemish, Walloon and Brussels-Capital Regions.

SA SOWE
La Societé des Operateurs Wallons de l'Eau

SPGE
Societé Publique de Gestion de l'Eau

Union of European Association of Water Suppliers (EUREAU

Bosnia Herzegovina

ECONOMIC STATISTICS

Population mn mid-2005	4 mn
Labour force mn 2001	1.0 mn
Unemployment % 2004	45.5%
Capital	Sarajevo
GDP per capita $ PPP 2005	$6.800
Reserves of foreign exchange and gold $ bn 2005	$3 bn
Inflation % 2005	14%
GDP $ bn 2005	$28.3 bn
GDP $ bn 2005 Official exchange rate	$8.9 bn
GDP growth % 2005	5.2%
Composition of GDP %	
Agriculture	14.2%
Industry	30.8%
Services	55%
Exports $ bn 2005	$2.7 bn
Imports $ bn 2005	$6.8 bn

Bosnia and Herzegovina is ranked next to Macedonia as the poorest republic in the old Yugoslav federation. Although agriculture is almost all in private hands, farms are small and inefficient, and the republic is traditionally a net importer of food. Industry has been greatly overstaffed, a reflection of the socialist economic structure of Yugoslavia. Tito had pushed the development of military industries in the republic with the result that Bosnia was saddled with a host of industrial firms with little commercial potential. The interethnic warfare in Bosnia caused production to plummet by 80% from 1992 to 1995 and unemployment to soar. With an uneasy peace in place, output recovered in 1996-99 at high percentage rates from a low base; but output growth slowed in 2000-02. Part of the lag in output was made up in 2003-05. National-level statistics are limited and do not capture the large share of black market activity. The konvertibilna marka (convertible mark or BAM)- the national currency introduced in 1998 - is pegged to the euro, and confidence in the currency and the banking sector has increased. Implementation of privatisation, however, has been slow, and local entities only reluctantly support national-level institutions. Banking reform accelerated in 2001 as all the Communist-era payments bureaus were shut down; foreign banks, primarily from Western Europe, now control most of the banking sector. A sizeable current account deficit and high unemployment rate remain the two most serious economic problems. The country receives substantial amounts of reconstruction assistance and humanitarian aid from the international community but will have to prepare for an era of declining assistance.

UTILITY COMPANIES

Company	Owner Type
Vodoprivreda	State

WATER STATISTICS

Access to drinking water	
urban	ni
rural	ni
Sanitation	
urban	71%
rural	12%
Freshwater annual resources	
internal	35.5 cu km
river flows in	2.0 cu km
river flows out	ni
per capita	ni
Freshwater annual withdrawals	
total	ni
per capita	ni

At the federal level, the responsibility for the water and sanitation sector is with the Ministry of Agriculture, Water Resources and Forestry (MAWRF), which sets policies and standards and recommends legislation for all water management functions. Implementation of policy and legislation is the responsibility of Vodoprivreda (VBH), headquartered in Sarajevo with three regional offices.

A recent World Health Organisation (WHO) assessment of water and sanitation conditions in Bosnia-Herzegovina found that there are still countrywide problems. In assessing water supplies, WHO found that, in most regions, the main towns are usually supplied with potable municipal water. Villages, however, continue to rely on collected rainwater, wells or capped springs which are not quality-controlled. Leaking pipelines and insufficient capacity restrict water supplies in most areas.

Sanitation is also a problem because municipalities lack vehicles and proper disposal sites for solid waste collection. For example, in Banja Luka, the sewage system drains directly into the Vrbas River.

Institutional framework - results of the war

During the war, Bosnia's water and waste management systems suffered extensive damage. At the war's end, the resulting water supply and waste management problems were further exacerbated by the division of the country and the massive population movements that strained basic services beyond their limits. Moreover, some municipalities were denied access to water resources from municipalities that had serviced them before the war but were now located across newly drawn borders.

Compounded by years of neglect prior to the war, the repair of the Bosnian infrastructure has been difficult to manage. There is little regard for sound environmental management and raw sewage is often dumped untreated into the nearest river.

In addition to serious environmental concerns, the country’s utilities have to be overhauled. For example, rate structuring common in many Western countries does not exist in Bosnia-Herzegovina. While rates are recommended by VDH, the final decision of setting prices for collecting and distributing water, for example, lies with the regional government.

Water supply

The situation in the water supply sector is now improving, due largely to international funding and efforts of local institutions. Most local water companies in the federation are now fully staffed and in operation. Water supply services are available throughout the country, but the quality of services still varies considerably. It is estimated that the service level has reached about 90% of the pre-war level. But the World Bank project assesment report shows that although significant improvements were made the results vary widely between municipalities.

The report stated that the collection ratio was 93% in Sarajevo and even in six other municipalities the ratio was 80% or higher. However, eight municipalities collected only 60% or much less of their potential water revenues. Thus it was found that many municipalities could reasonably quickly improve their financial situation just by improving the efficiency of their water bill collection process.

Water pollution

Before the war, most of the rivers were very polluted (47% of monitored parameters exceeded the limits of the lowest Class IV). The Bosna and Vrbas rivers were especially polluted. After the war there was some improvement in surface water quality, due to the temporary cessation of industrial operations; yet at the same time, the war has caused a considerable local worsening of the situation, particularly with regard to domestic wastes following the destruction or disrepair of many municipal water facilities. The results of a survey done by the Hydro-Engineering Institute (on 2,200 km of major rivers) show that only some 3% of all rivers are totally free of pollution and almost 30% of rivers fall into the category of eutrophied or severely eutrophied.

One of the most critical environmental issues in BiH is water cycle management. In terms of pollution of surface and subsurface waters, BiH was the most polluted country from those established after the dissolution of former Yugoslavia. Pollution was particularly bad in several areas along the valley of the river Bosna where most industrial production was located, as well as in the Tuzla Canton (where chemical processes discharged waste directly into watercourses).

Continuing and regular laboratory testing of water is carried out for only 55% of the population in BiH. 42% of laboratory tested water samples are unsafe and microbiological analyses show that 32.5% of all water samples are unsafe. Estimates are that the percentage of the rural population which is supplied with safe drinking water is significantly less than 32%. The assessment of water quality and safety is made in accordance with the adopted Act on water quality and WHO recommendations.

Sewage

Proper sewage and water disposal systems either do not exist or are not operational.

Municipal water and waste services

Municipalities have the primary responsibility for the provision of water supply, sanitation, and solid waste services in Bosnia Herezgovina through komunalcos (municipal service companies) that function like municipally owned joint stock companies. The municipalities served must approve tariffs but finances are kept separate from municipal revenues. In the past, project proposals for investments were generally initiated by the komunalcos. If the projects were local and did not require federal funding, they were planned and implemented by the komunalcos. If they were regional, they were implemented by VBH.

Solid waste collection coverage is relatively high but disposal proves a continuous problem in most municipalities. The reliability and quality of the services is unsatisfactory. Environmentally dangerous solid waste disposal and illegal disposal are widespread throughout the country.

Thousands of tons of waste and garbage have not been handled for years even in some urban areas (only recently has the EU addressed this issue through the PHARE Program).

BiH has accumulated tons of humanitarian aid in pharmaceuticals past their expiration dates. These are quite simply waste materials, for which there are still no adequate disposal facilities.

Solid waste disposal (municipal, medical, toxic, and hazardous waste) sites are limited and all wastes are combined.

Except in the Sarajevo canton, there is no inventory of hazardous waste

GOVERNMENT MINISTRIES AND WATER UTILITIES

Ministry of Agriculture, Water Resources and Forestry (MAWRF)

Vodoprivreda (VBH)

Bulgaria

ECONOMIC STATISTICS

Population mn mid-2005	7 mn
Labour force mn 2005	3.3 bn
Unemployment % 2005	11,5%
Capital	Sofia
GDP per capita $ PPP 2005	$9.000
Reserves of foreign exchange and gold $ bn 2005	$9.7 bn
Inflation % 2005	4,5%
GDP $ bn 2005	$66.9 bn
GDP $ bn 2005 Official exchange rate	$26.3 bn
GDP growth % 2005	5,4%
Composition of GDP %	
Agriculture	11,5%
Industry	30,1%
Services	58,4%
Exports $ bn 2005	$11.7 bn
Imports $ bn 2005	$15.9 bn

Bulgaria, a former communist country striving to enter the European Union, has experienced macroeconomic stability and strong growth since a major economic downturn in 1996 led to the fall of the then socialist government. As a result, the government became committed to economic reform and responsible fiscal planning. Minerals, including coal, copper, and zinc play an important role in industry. In 1997, macroeconomic stability was reinforced by the imposition of a fixed exchange rate of the lev against the German D-mark and the negotiation of an IMF standby agreement. Low inflation and steady progress on structural reforms improved the business environment; Bulgaria has averaged 4% growth since 2000 and has begun to attract significant amounts of foreign direct investment. Corruption in the public administration, a weak judiciary, and the presence of organised crime remain the largest challenges for Bulgaria.

UTILITY COMPANIES

Company	Owner Type	Owners
Vodosnabdiavane I Kanalizatsia – Sofia Grad (Sofia asset owner)	State	
Sofiyska Voda AD (SV)	JSC concession	United Utilities Sofia 77%, Water-Supply and Canalisation EAD of Sofia 23%
13 small utilties	State	
19 small municipal water companies	Municipal	
16 small utilities	Mixed	State 51%, municipal 49%

WATER STATISTICS

Access to drinking water	
urban	100%
rural	100%