The Water and Wastewater Markets in Belgium -- 2008

SUMMARY

The Kingdom of Belgium is one of the most densely populated and heavily industrialized nations in the world. Roughly the size of Maryland, Belgium has a population of 10.5 million. Belgium's small area and dense population has created an acute environmental awareness, consistently ranking this smaller European nation as one of the top 20 destinations for U.S. environmental exports.

Since 2002, U.S. exports of environmental technology to its Top 20 destinations have grown over 50%, keeping pace with the overall growth of the global market. Exports to Belgium have likewise kept pace with this global growth rate. By year-end 2007, U.S. environmental exports to Belgium stood at over $500 million, generally following this breakdown: 40% water/wastewater, 30% air pollution control, and 24% solid waste and recycling. Exports included products, chemicals and supplies. Opportunities were also realized with services, primarily consulting and engineering. Predominant product exports to Belgium from the U.S. in the water sector generally fall into HST numbers 8413 (pumps, submersible pumps, centrifugal pumps), 8421 (water filtering apparatus and parts), and 8481 (all types of taps, cocks and values).

MARKET OVERVIEW

The Belgian water treatment market is comprised of industrial and residential wastewater and drinking water treatment, and includes both equipment and services. Recently, the three regions of Belgium-- Flanders, Wallonia, and Brussels--implemented major infrastructure projects and made considerable investments aimed at the treatment of virtually all wastewater by 2010. While the Belgian water treatment market is very developed with limited opportunities expansion, water and wastewater treatment equipment and supplies dominated the nearly $500 million of U.S. environmental exports to Belgium in 2007. The best prospects for American companies are in equipment and supplies. It is recommended to approach the Belgian market through partnerships, strategic alliances and joint ventures with local firms.

The EU implemented the European Water Framework Directive in December of 2000 to protect public health and water sources. The general objective of the directive is to have surface and groundwater in a "good state" by the end of 2015. All member countries must comply with this directive. For more information visit: http://europa.eu.int/scadplus/leg/en/s15005.htm.

Wastewater. The overall approach and goals of wastewater treatment are undergoing a major shift of focus. The EU has recently invested over €4.3 million in "EU Project Neptune" (http://www.eu-neptune.org/index_EN), leading this potential paradigm shift. To date, wastewater treatment plants (WWTP) have been seen simply as end-of-pipe treatment systems just prior to eventual discharge. Now, WWTPs are seen as resource rich, able to deliver resources back to the environment for human use. Project Neptune characterizes the existing focus of WWTPs as water treatment, nutrient removal, pathogens removal, energy optimization,

and sludge disposal. The *new model* sees a shift of focus to water reuse, nutrient recycling, micropollutant and ecotoxicity removal, energy production and sludge reuse.

The project summary for Neptune states:

> NEPTUNE will approach these tasks by focusing on **technology solutions** allowing to meet present and future standards via **upgrading of existing municipal infrastructure** (new control strategies with online sensors; effluent upgrading with oxidation, activated carbon or wetland treatment; safe sludge processing and reuse) as well as via **new techniques** (fuel cell applications; new oxidation processes; production of polymer and phosphate from sludge)....

Suppliers that can pre-position via partnership with local firms and organizations may be able to take advantage of commercial opportunities resulting from this shift in approach.

In Belgium, Wastewater treatment is a public/private market. It is the responsibility of each of the three regions of Belgium to implement EU water treatment directives in a timely manner. Currently, Belgium has infrastructure to treat the wastewater of approximately 66 percent of the total population.

Brussels invested $162 million in Brussels-South in 2000, the first sewage treatment plant built in the city. It became operational in 2001 with a capacity of 360,000 PE, approximately one-third of Brussels' population. Brussels also invested $350 million in Brussels-North, a mega-station of 1.1 million PE became operational in 2006-07. Brussels-North will treat the wastewater of approximately two-thirds of the Brussels region as well as several nearby Flanders municipalities. This plant is the largest and most advanced water treatment plant in Europe. The plant is operated by the Aquiris consortium, headed by the French water giant Veolia Water. Brussels is now in compliance with EU water treatment directives with the operation of the Brussels-North plant.

In **Wallonia**, approximately 60 percent of households and industries treat their wastewater (up from just 50% in 2005), but 76 projects are now underway for 2,000 PE (person equivalents) and greater. As Wallonia struggled with a considerable delay in implementing EU water treatment directives, it led to the creation of a public agency, the Société de Production et de Gestion de l'Eau (SPGE). SPGE handles the coordination of water planning and policy, and centralizes the financial resources that the region allocates for all wastewater treatment. Older water treatment plants in this region still need renovations and/or extensions to comply with EU directives. In smaller municipalities, individual or collective stations received public subsidies. However, several small and medium sized towns still need additional investment to comply with EU directives. SPGE have identified some 504 such projects still to be undertaken in the less than 2,000 PE categories.

In **Flanders**, all large-scale water treatment projects are complete. Only small projects remain. Approximately 80 percent of industries and households are connected to public sewers. Half of the remaining 20 percent will be connected in the near future. The remaining unconnected households are mainly in rural areas and will have to install private water treatment systems due

to the large costs associated with connecting to public sewers. Aquafin and Vlaamse Milieu Maatschappij (VMM) play a significant role with the intermunicipal public utilities in implementing the water policy defined by the Flemish government. Aquafin is a semi-public company that is in the process of being privatized. It handles the construction and operation of the sewage treatment infrastructure, while VMM is responsible for monitoring water quality through permanent checks.

Drinking Water. The drinking water treatment market in Belgium is strictly public, though pressures are growing from notable French water companies to privatize this segment. Approximately 736 million cubic meters of drinking water are produced annually in Belgium, predominantly from groundwater sources. The EU Drinking Water Directive aims to ensure that water intended for human consumption is safe. Water must be free of any microorganism, parasite or substance that could potentially endanger human health. This directive sets minimum requirements for certain parameters and member countries are responsible for monitoring drinking water quality. A revision of this directive came into force on 25 December 2003 and member states had five years to achieve compliance with the Directive, and it will again be considered for revision in December 2008. While all producers of drinking water regularly monitor their output to ensure consumer safety, there does not exist at this time in Belgian law a standardized monitoring technique required for use. For more information on EU water directives, please visit: http://europa.eu.int/scadplus/leg/en/lvb/l28079.htm.

Point-of-Use Purification Systems. The drinking water in Belgium meets all standards and is safe to drink. None-the-less, there is a growing market in Belgium for additional filtering at home and small commercial (like restaurants) points of use, whether for perceived water safety, actual water safety due to the numerous older structures at the end of the distribution system, or simply for taste and aesthetic considerations. This is in spite of the fact that drinking water providers insist there is no need for such systems. Today, it is estimated that 10% of Belgium's 3.8 million households now use additional point of use treatment—everything from simple pitchers with activated carbon filters to more elaborate in-house reverse osmosis and membrane systems. This rate of use will continue to grow, though projections for this segment are not now available.

Though Europeans have had a historical distaste for tap water, preferring bottled water instead, the scene is now shifting. Particularly among young ecologically sensitive consumers, there is concern about bottled water, now packaged nearly exclusively in plastic thus presenting additional environmental concerns related to waste and recycling. Further, today, the initial cost of installing home point of use systems is more competitive as both the price of bottled water continues to rise, and as residential systems becomes more competitive. The growing number of U.S. and foreign competitors exhibiting such systems at major European trade shows like the biannual Aquatech Amsterdam is testament to this growing market.

Such home systems are readily available at home supply stores, hypermarkets, plumbing shops and elsewhere throughout the country. Prices for new systems range from as little as €20 for simple pitcher and filter combinations, to over €1,700 or more for elaborate reverse osmosis systems. Systems for commercial and light industrial establishments are best accomplished through direct sales to end-users through a company's local distributor or sales subsidiary.

Filters are typically of activated carbon, anionic resins and/or RO membranes. No breakdown exists for sales by type of system. Replacement filters, depending on system, can range from €10 to near €50. The most popular filters on the market are those of ionic resins.

These filtration systems are not regulated via EU norms or directives. Instead, to date industry standards and certifications are relied on. Typical certifications come from the German organization TüV, the National Science Foundation (NSF) and the Water Quality Association (WQA).

All in all, U.S. companies in this industry enjoy a good reputation and are active in the European market. American producers and suppliers of competitively priced home and small commercial systems, particularly for the restaurant and food processing markets, will find growing opportunities throughout Europe, including Belgium.

MARKET TRENDS

Currently, there is a growing market for small-scale WWTP facilities with a capacity of under 2,000 PE (population equivalent), particularly in Wallonia. EU legislation requires all household communities to have their sewers connected to a water treatment system by 2005, but this has not been achieved. At present, the majority of households have met this requirement. However, a number of rural communities will have to install small-scale private water treatment systems. There are several water treatment projects ranging from $61 – 122 million underway in small and medium sized towns in Wallonia. Industries are responsible for their own wastewater treatment and thus must find cost effective solutions to meet government standards. Companies in Belgium have made considerable investments to recycle their wastewater to avoid penalties. There is an increasing demand for components for tailor-made water treatment systems as well as technologies that reduce water use. This demand has lead to the growth of local companies in industrial wastewater treatment. Many of these companies specialize in the design, engineering, and construction of water treatment systems, known as “start to finish” firms. They specialize in tailor-made systems, usually implementing membrane-filtering technology.

Belgium currently faces the problem of safe sludge disposal due to the more stringent requirements for wastewater treatment. As mentioned earlier, Project Neptune has a primary focus on sludge as a resource, rich in reusable materials. But today, though sludge is a valuable fertilizer in agriculture, it is contaminated with heavy metals. Many farmers are concerned about the hazard involved in spreading it over their fields. Seghers Keppel Technology Group, a wastewater treatment company, is currently a local leader in sludge treatment. It is based in Belgium but is a wholly owned subsidiary of Singapore’s Keppel Corporation Limited. This company developed “dry pellets” technology that converts sludge into pellets that are 2-4 Milligram compact granules. The granules are odorless, bacteria and dust-free, and safe to handle and transport for reuse as a high calorific value fuel or as an organic fertilizer. Still, the primary method of treating and disposing of sludge in Belgium is incineration. However, incinerators have been politically unpopular because of their perceived negative impact on the environment and proximity to households. So, the next shift is discussing incineration in terms of “energy recovery” rather than waste disposal—again, viewing waste as a resource. Please see the new

market report “The Solid Waste Market in Belgium 2008” for more details on incineration and energy recovery.

IMPORT MARKET

The key to accessing the Belgian water treatment market is in equipment and supplies and through partnerships or joint ventures. Overall, there is little opportunity for American companies to procure directly to the regional governments in Belgium, unless they are established, registered in and operating in Belgium. Public tenders have administrative requirements making it difficult for new companies to enter the market. Additionally, the procurement process is highly politicized with the majority of contracts going to local companies. A few specialized, well-established Belgian engineering firms dominate the wastewater treatment market. However, this leaves an opening for American companies to supply competitive equipment and any additional services, since subcontractors have the discretion to purchase from companies of their choice. American companies and their distributors, representatives and agents should stay abreast of EU tenders as they may reveal important information about future supplies and equipment needs.

A niche market exists for supplying ozone generators for use in water treatment plants. Although there are many established Belgian aerator companies, there is an opening for companies that produce aerators for high-water towers and areas where there is a high concentration of biomass. Additionally, there is a need for dioxin atomizers to eliminate the smell produced by the water. Equipment should be competitively priced, as buyers must resell it as part of the water treatment plants they build.

There are also opportunities for companies that can safely treat and recycle sludge without incineration. Environmental decision makers are searching for new and innovative ways to address this problem—as highlighted by Project Neptune—and the market in sludge treatment remains open to competitors.

Belgian environmental companies usually are interested in working with American technology and services as part of a joint venture, but not as a sole provider. Often Belgian companies perceive the sales service of American companies as poor. Another concern is the ability of American products to meet EU electrical and measurement (metric system) standards without additional delays or increases in cost. Furthermore, there are many concerns over the cost and time involved in shipping equipment from the U.S. to Europe.

Over the past decade, the three regions in Belgium have focused on large-scale water treatment projects. Attention is now shifting toward residential water treatment (capacity of less than 2,000 PE). In Wallonia alone, there is a future need for over 500 such installations.

There is also a growing market in Belgium for potable water. Many Belgian companies are looking to expand into this area, but the market remains open to all companies. Membrane-based water treatment systems for drinking water are popular and American technology is perceived as superior in this field.

To summarize, the best prospects for American companies are in the following sectors:

- safe sludge treatment and disposal equipment including filter presses, dewatering tables, belt presses centrifuges;
- membrane filtration technology-- specifically membrane bioreactors (MBOs), microfiltration, and reverse osmosis technology, purification system components, including applications for the treatment of drinking water;
- water treatment system components (to be assembled by local engineering companies);
- ozone generators;
- aeration equipment for high-water towers where there is a high concentration of biomass;
- dioxin atomizers to combat odors from waste water treatment;
- domestic water saving technologies for shower and toilet applications;
- technologies that reduce water use as well as permit water reuse that recycle rainwater for domestic cleaning.
- Home and small commercial point of use water filtration systems

Project Neptune suggests that additional opportunities may arise in the future for

- Fuel cell applications
- New WWTP control strategies with online sensors
- effluent upgrading with oxidation
- activated carbon or wetland treatment
- safe sludge processing and reuse
- new oxidation processes
- Technologies for the production of polymer and phosphate from sludge

For U.S. companies established in and operating in the EU, they are authorized to compete directly for EU and EU member state tenders. For those not established, it would be necessary to partner with a European concern in order to compete for tenders. Stay up to date by regularly checking the EU tenders database at http://www.buyusa.gov/europeanunion/tender_search.html.

COMPETITION

There is intense domestic as well as international competition in the Belgian wastewater treatment market. Belgian companies specialize in the concept, design, engineering and construction of complete wastewater treatment systems and carry out projects around the world. Most equipment currently in the market was manufactured in Europe, primarily France, Italy, and the Netherlands with very little produced in Belgium.

Seghers Keppel Technology Group and Fifth Element dominate the Belgian water treatment market. Fifth Element is a 100% Belgian-owned parent company with four daughter companies specializing in drinking and industrial water treatment as well as thermal treatment, and desalination. It also is active in the brewery and soft drink industry. Fifth Element has domestic as well as international projects around the world through 50-50 joint partnerships.

There are numerous French wastewater treatment companies in Belgium, such as Suez and Eloy et Fils, many of which have bought or incorporated Belgian technology. These companies and their European counterparts have an advantage over American companies in the Belgian market due to the single market of the EU. Aquiris, headed by the French company Veolia Water, won the contract to design, build, and operate the Brussels-North treatment plant for the next 20 years. This plant will use Aquiris' technology to treat sludge involving digestion in anaerobic phase and wet oxidation. Many German companies are also successful in the Belgian market as suppliers of pipes, tubing, chemicals, and membrane units.

MARKET ACCESS

As a member of the EU, Belgium applies the EU common external tariff to goods imported from non-EU countries. Import duties range from 4 to 11 percent. In addition to EU import tariffs, a 21 percent Value Added Tax (VAT) is charged to the C.I.F. (Cost, plus Insurance & Freight) value plus duty. VAT applies to all imports as well as domestically produced products. Detailed information can be obtained through an international freight forwarder or from the Belgian Customs Office.

English is generally well accepted in most business and official circles. However, it is recommended that the local importer take responsibility for labeling and the translation of instructions as well as overall product literature. It is important for American manufacturers to use the European metric system. American manufacturers must present their product specifications according to the European model. Inquiries regarding EU directives, environmental standards, CE mark and eco-taxes can be directed to the U.S. Mission to the EU at www.buyusa.gov/europeanunion. Additionally, the EU Committee of the American Chamber of Commerce in Belgium regularly publishes an excellent, comprehensive "EU Environment Guide" (see "Key Contacts" section).

MARKET ENTRY

Under EU directives, major environmental procurement is tendered through EU public procurement, which is open to American companies. However, U.S. firms should be aware that contract awards for EU tenders involving large water projects are heavily driven by local politics and involve a significant amount of lobbying Belgian authorities. Municipalities in Belgium often work with established public and/or private partners. It is imperative that American companies interested in bidding for projects seek local partners or form joint ventures with local companies to enter the environmental sector. Additional means for investigating and entering the Belgian environmental market include contacting regional governments and public agencies, and working with local consulting and engineering firms. Another option is attending and participating in Belgian environmental trade shows (see "Upcoming Trade Shows" section). For additional information on Belgium's commercial environment, consult the Country Commercial Guide Belgium. A copy can be obtained at www.export.gov.

KEY CONTACTS

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Water Treatment Equipment and Services 6

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Upcoming Trade Events

These are the two main environmental technologies trade shows taking place in Belgium:

Name: **IFEST**
Date: October 21-23, 2008 (every two years)
Location: Flanders Expo - Maaltekouter 1 -9051 Gent
Tel: +32.9.241.9211
Fax: +32.9.241.9325
Email: ifest@flandersexpo.be
Website: www.ifest.be
IFEST is Belgium's main international fair on environmental technologies.

Name: **BEST ENVIRONMENT**
Date: October 2008
Location: avenue Maurice Denis 4, 4000 Liege
Tel: +32.8.122.8123
Fax: +32.8.122.9922
Email: bestenvironnement@fil.be
Website: www.bestenvironnement.be
Email: best.environnement@skynet.be
Website: www.bestenvironnement.be
BEST takes place in Wallonia every alternate year, rotating with IFEST.

For further information or advice on specific trade promotion services, please contact the author
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