

**Best Export Markets
For
U.S. Water Resources Equipment, 2008**

Best Export Markets for U.S. Water Resources Equipment was compiled by Bruce Yamada, under the supervision of Maurice Kogon, Director of the El Camino College Center for International Trade Development (CITD) in Hawthorne, California. The report is based largely on 2008 Country Commercial Guides (CCGs) prepared by United States Commercial Service (USCS) posts abroad. All CCGs include a standard chapter "Leading Sectors for U.S. Exports." This report drew from those CCGs which specifically recommended **Water Resources Equipment** as a best prospect for U.S. exports.

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I. Export Market Brief

A. Pumps for Liquids, with or without a measuring device; liquid elevators; parts thereof -- HS 8413

This Market Brief provides an overview of the world market for one category of Water Resources Equipment (HS 8413, Pumps for Liquids, with or without a measuring device), based on the latest trade statistics and market research.

Export growth: U.S. exports of Pumps for Liquids rose from \$3.7 billion in 2004 to \$5.5 billion in 2007, an increase of 49% over the four-year period.

Leading Export Markets: The leading markets for U.S. exports of Pumps for Liquids (all above \$131 million) were: Canada (27.67% of total), Mexico (10.67%), Germany (5.05%), United Kingdom (3.87%), China (3.81%), Singapore (3.46%), France (3.14%), and Brazil (2.36%). Other significant markets (above \$107 million) were: Korea (2.27%), Japan (2.26%), Venezuela (2.04%), Australia (1.98%), United Arab Emirates (1.94%) and Saudi Arabia (1.87%).

Fastest Growing Export Markets: The leading markets with both high and sustained growth rates for U.S. exports of Pumps for Liquids over the latest four years 2004-2007 and continuing in 2006-07 were: Mexico, Germany, United Kingdom, China, Singapore, and France. Other significant growth markets over the 2004-07 period were Brazil, Korea, Australia, and United Arab Emirates.

Leading Importing Countries: The top foreign importers of Pumps for Liquids, with or without a measuring device (HS 8413) in 2007 were Germany (\$3.5 billion, or 8.83% of total), France (7.34%), China (6.27%), United Kingdom (5.59%), and Canada (5.11%). Other significant importers (all above \$1.06 billion) were Italy (4.40%), Republic of Korea (3.43%), Spain (2.75%), and Belgium (2.69%).

World Market Size & U.S. Share: Total world exports of Pumps for Liquids, with or without a measuring device – HS 8413 by all countries reached \$44 billion in 2007. The U.S. had a 12.42% share of the total world market in 2007, topped only by Germany (22.85%). Other world suppliers with significant market shares were Italy (9.11%), Japan (7.85%), France (5.88%) and China (5.57%).

Best Market Prospects: The markets listed below appear to be particularly promising for U.S. exports of Water Resources Equipment products in the HS 8413 category over the next two years, based on recommendations of U.S. commercial specialists in these countries:

- Australia
- China
- Ecuador
- France
- India
- Indonesia
- Mexico
- Nepal
- Philippines
- Poland
- Saudi Arabia
- Spain
- Turkey

I. Export Market Brief

B. Water Filtering or Purifying Machinery and Apparatus -- HS 842121

This Market Brief provides an overview of the world market for one category of Water Resources Equipment (Water Filtering or Purifying Machinery and Apparatus, HS 842121), based on the latest trade statistics and market research.

Export growth: U.S. exports of Water Filtering or Purifying Machinery and Apparatus rose from \$610 million in 2004 to \$961 million in 2007, an increase of 58% over the four-year period.

Leading Export Markets: The leading markets for U.S. exports of Water Filtering or Purifying Machinery and Apparatus in 2007 (all above \$30 million) were: Canada (18.81% of total), China (7.06%), Mexico (6.30%), Japan (6.18%), Australia (4.04%), Korea (3.75%), France (3.36%), and Netherlands (3.15%). Other significant markets (above \$17.8 million) were: Taiwan (3.12%), United Kingdom (3.01%), United Arab Emirates (2.59%), Belgium (2.31%), India (2.09%), and Singapore (1.86%).

Fastest Growing Export Markets: The leading markets with both high and sustained growth rates for U.S. exports of Water Filtering or Purifying Machinery and Apparatus over the latest four years 2004-2007 and continuing in 2006-07 were: Canada, China, Mexico, Australia, Netherlands and Taiwan. Other significant growth markets over the 2004-07 period were United Kingdom, United Arab Emirates, Belgium and India.

Leading Importing Countries: The top foreign importers of Water Filtering or Purifying Machinery and Apparatus – HS 842121 in 2007 were Canada (\$224 million, or 6.33% of total), France (5.90%), Russian Federation (5.62%), United Kingdom (5.37%), and Spain (5.05%). Other significant importers (all above \$123 million) were China (5.03%), Saudi Arabia (4.24%), Germany (4%), and Australia (3.47%).

World Market Size & U.S. Share: Total world exports of Water Filtering or Purifying Machinery and Apparatus (HS 842121) by all countries reached \$4.5 billion in 2007. The U.S. had a 21% share of the total world market in 2007. Other world suppliers with significant market shares were Germany (16.85%), Italy (7.24%), Canada (6.11%) and France (5.10%).

Best Market Prospects: The markets listed below appear to be particularly promising for U.S. exports of Water Resources Equipment products in the HS 842121 category over the next two years, based on recommendations of U.S. commercial specialists in these countries:

- Australia
- China
- Ecuador
- France
- India
- Indonesia
- Mexico
- Nepal
- Philippines
- Poland
- Saudi Arabia
- Spain
- Turkey

II. Market Potential Indicators

Water Resources Equipment

A. Top 30 U.S. Export Markets. These tables show the leading and fastest growing export markets for U.S. Water Resources Equipment, by country, over the past four years . Source: U.S Census Bureau.

1. Pumps for Liquids (HS 8413)
2. Water Filtering or Purifying Machinery and Apparatus (HS 842121)

B. Top 30 World Importers. These tables show the leading and fastest growing world importers of Water Resources Equipment, by country, in 2007. Source: United Nations COMTRADE.

1. Pumps for Liquids (HS 8413)
2. Water Filtering or Purifying Machinery and Apparatus (HS 842121)

C. Top 30 World Exporters & U.S. Market Share, 2007, by Country. These tables show the U.S. and competitor-country shares of total world exports of US Water Resources Equipment in 2007. Source: United Nations COMTRADE.

1. Pumps for Liquids (HS 8413)
2. Water Filtering or Purifying Machinery and Apparatus (HS 842121)

D. Market Sizes & U.S. Share, 2004-2007, by Country. This table shows each “best prospect” country’s total market, total imports, and imports from the U.S., and the U.S market share for Water Resources Equipment. Source: U.S. Commercial Staff in each country.

II. Market Potential Indicators
II.A. Top 30 US Export Markets, 2004-2007

1. HS 8413: Pumps for Liquids, with or without a measuring device

Country	2004	2005	2006	2007	% Change	% Change	% Share
	<i>In 1,000 Dollars</i>				2004 - 2007	2006 - 2007	2007
Canada	1,193,792	1,394,757	1,543,391	1,535,309	28.61%	-0.50%	27.67%
Mexico	394,068	416,650	532,507	592,209	50.28%	11.20%	10.67%
Germany	145,449	153,880	176,724	280,028	92.53%	58.50%	5.05%
United Kingdom	163,337	156,268	167,336	214,754	31.48%	28.30%	3.87%
China	143,055	172,193	174,539	211,204	47.64%	21.00%	3.81%
Singapore	82,289	96,240	156,507	192,077	133.42%	22.70%	3.46%
France	145,309	128,364	159,087	173,967	19.72%	9.40%	3.14%
Brazil	75,835	68,617	99,466	131,028	72.78%	31.70%	2.36%
Korea	107,144	72,339	110,144	126,187	17.77%	14.60%	2.27%
Japan	139,740	109,308	104,796	125,172	-10.43%	19.40%	2.26%
Venezuela	46,058	62,731	114,358	113,181	145.74%	-1.00%	2.04%
Australia	89,973	92,979	97,317	110,071	22.34%	13.10%	1.98%
United Arab Emirates	29,085	42,130	49,415	107,591	269.92%	117.70%	1.94%
Saudi Arabia	48,535	63,570	84,266	103,903	114.08%	23.30%	1.87%
Belgium	55,649	45,019	79,086	95,500	71.61%	20.80%	1.72%
Sweden	44,309	52,927	49,343	85,000	91.83%	72.30%	1.53%
Netherlands	53,417	57,765	76,300	83,301	55.94%	9.20%	1.50%
Colombia	30,532	37,392	44,358	73,710	141.42%	66.20%	1.33%
India	33,071	44,331	37,008	68,213	106.26%	84.30%	1.23%
Russia	114,136	34,475	53,523	65,533	-42.58%	22.40%	1.18%
Italy	28,279	32,714	62,656	56,097	98.37%	-10.50%	1.01%
South Africa	17,196	20,112	28,626	53,707	212.32%	87.60%	0.97%
Taiwan	45,451	63,546	55,102	50,505	11.12%	-8.30%	0.91%
Chile	28,878	41,156	38,596	50,042	73.29%	29.70%	0.90%
Peru	12,228	17,022	26,465	44,916	267.32%	69.70%	0.81%
Qatar	7,042	19,266	16,943	42,615	505.15%	151.50%	0.77%
Egypt	17,467	24,924	27,700	42,202	141.61%	52.40%	0.76%
Argentina	15,084	18,001	22,764	36,743	143.59%	61.40%	0.66%
Israel	16,171	14,945	17,749	34,975	116.28%	97.10%	0.63%
Spain	25,312	27,948	20,620	33,085	30.71%	60.50%	0.60%
Subtotal :	3,347,890	3,581,569	4,226,693	4,932,823	47.34%	16.70%	88.90%
All Other:	370,401	408,167	489,239	616,046	66.32%	25.90%	11.10%
Total	3,718,291	3,989,736	4,715,932	5,548,870	49.23%	17.70%	100.00%

Source: UN Comtrade

II. Market Potential Indicators
II.A. Top 30 US Export Markets, 2004-2007
1. HS 842121: Water Filtering or Purifying Machinery and Apparatus

Country	2004	2005	2006	2007	% Change	% Change	% Share
	<i>In 1,000 Dollars</i>				2004 - 2007	2006 - 2007	2007
Canada	93,896	105,830	123,516	180,775	92.53%	46.40%	18.81%
China	48,879	47,975	46,511	67,823	38.76%	45.80%	7.06%
Mexico	37,574	46,087	48,993	60,545	61.14%	23.60%	6.30%
Japan	71,406	53,985	61,557	59,418	-16.79%	-3.50%	6.18%
Australia	12,350	26,294	22,419	38,781	214.02%	73.00%	4.04%
Korea	26,730	30,121	49,663	36,051	34.87%	-27.40%	3.75%
France	38,706	25,044	34,589	32,330	-16.47%	-6.50%	3.36%
Netherlands	10,916	19,728	26,403	30,256	177.17%	14.60%	3.15%
Taiwan	24,799	31,175	22,403	30,011	21.02%	34.00%	3.12%
United Kingdom	19,687	22,416	23,991	28,963	47.12%	20.70%	3.01%
United Arab Emirates	17,522	10,033	11,720	24,860	41.88%	112.10%	2.59%
Belgium	12,081	13,394	18,686	22,183	83.62%	18.70%	2.31%
India	5,137	11,105	11,957	20,118	291.63%	68.30%	2.09%
Singapore	15,751	16,867	30,221	17,863	13.41%	-40.90%	1.86%
Malaysia	8,987	10,840	10,412	16,912	88.18%	62.40%	1.76%
Italy	11,957	13,272	13,008	16,687	39.56%	28.30%	1.74%
Saudi Arabia	11,511	16,601	15,571	16,462	43.01%	5.70%	1.71%
Spain	5,293	8,418	9,656	16,328	208.48%	69.10%	1.70%
Thailand	10,261	23,141	13,054	15,511	51.16%	18.80%	1.61%
Hong Kong	11,921	12,292	12,453	12,973	8.82%	4.20%	1.35%
Chile	2,228	5,969	7,556	12,144	445.06%	60.70%	1.26%
Germany	9,077	6,832	7,800	11,681	28.69%	49.70%	1.22%
Israel	5,693	6,387	7,177	11,232	97.29%	56.50%	1.17%
Egypt	8,081	9,826	11,136	11,099	37.35%	-0.30%	1.15%
Dominican Rep	12,752	18,870	20,784	9,150	-28.25%	-56.00%	0.95%
Ireland	2,402	4,533	4,973	7,742	222.31%	55.70%	0.81%
Oman	351	772	828	6,841	1849.00%	726.30%	0.71%
Brazil	3,812	3,989	8,451	6,803	78.46%	-19.50%	0.71%
Colombia	914	1,385	4,234	6,537	615.21%	54.40%	0.68%
Indonesia	2,490	7,330	3,451	6,344	154.78%	83.80%	0.66%
Subtotal :	543,164	610,509	683,172	834,422	53.62%	22.10%	86.82%
All Other:	66,970	93,550	104,122	126,691	89.18%	21.70%	13.18%
Total	610,134	704,059	787,294	961,113	57.52%	22.10%	100.00%

Source: UN Comtrade

II. Market Potential Indicators

II. B. Top 30 U.S. Import Markets, 2007, By Country

(Values in US Dollars)

1. HS 8413: Pumps for Liquids, with or without a measuring device

Importing Country	2007	% Share
USA	\$6,393,391,036	16.07%
Germany	\$3,513,661,000	8.83%
France	\$2,919,120,930	7.34%
China	\$2,494,239,434	6.27%
United Kingdom	\$2,221,679,557	5.59%
Canada	\$2,034,380,745	5.11%
Italy	\$1,751,548,446	4.40%
Rep. of Korea	\$1,364,950,265	3.43%
Spain	\$1,093,552,573	2.75%
Belgium	\$1,069,834,616	2.69%
Russian Federation	\$1,025,604,741	2.58%
Japan	\$1,005,395,699	2.53%
Saudi Arabia	\$972,803,008	2.45%
Netherlands	\$879,364,359	2.21%
Poland	\$837,996,846	2.11%
Austria	\$824,828,341	2.07%
Czech Rep.	\$702,067,380	1.76%
Sweden	\$686,567,132	1.73%
Denmark	\$641,021,670	1.61%
Australia	\$612,201,328	1.54%
Brazil	\$581,383,551	1.46%
Singapore	\$559,698,800	1.41%
Turkey	\$485,487,365	1.22%
Thailand	\$473,100,259	1.19%
Hungary	\$432,741,000	1.09%
Switzerland	\$407,088,445	1.02%
Norway	\$348,100,168	0.88%
South Africa	\$312,329,690	0.79%
Romania	\$308,756,245	0.78%
Finland	\$296,142,255	0.74%
Top 30 Subtotal	\$37,249,036,884	93.64%
Other	\$2,529,835,060	6.36%
Total	\$39,778,871,944	100.00%

Source: UN COMTRADE

II. B. Top 30 U.S. Import Markets, 2007, By Country

(Values in US Dollars)

2. HS 842121: Water Filtering or Purifying Machinery and Apparatus

Importing Country	2007	% Share
USA	\$534,382,522	15.03%
Canada	\$224,895,935	6.33%
France	\$209,690,284	5.90%
Russian Federation	\$199,753,496	5.62%
United Kingdom	\$190,949,828	5.37%
Spain	\$179,331,970	5.05%
China	\$178,727,265	5.03%
Saudi Arabia	\$150,673,739	4.24%
Germany	\$142,335,000	4.00%
Australia	\$123,455,068	3.47%
Italy	\$106,095,999	2.98%
Japan	\$99,503,748	2.80%
Rep. of Korea	\$86,361,933	2.43%
Netherlands	\$74,033,878	2.08%
Belgium	\$71,713,190	2.02%
Singapore	\$65,775,166	1.85%
Poland	\$63,629,708	1.79%
Romania	\$59,209,896	1.67%
Switzerland	\$56,433,006	1.59%
Austria	\$55,469,274	1.56%
Turkey	\$53,533,668	1.51%
Israel	\$44,763,000	1.26%
Sweden	\$38,652,426	1.09%
Norway	\$36,302,927	1.02%
Thailand	\$32,884,025	0.93%
China, Hong Kong SAR	\$32,474,453	0.91%
South Africa	\$31,178,198	0.88%
Oman	\$30,782,559	0.87%
Portugal	\$30,283,749	0.85%
Finland	\$29,149,451	0.82%
Top 30 Subtotal	\$3,232,425,361	90.94%
Other	\$322,019,804	9.06%
Total	\$3,554,445,165	100.00%

Source: UN COMTRADE

II. Market Potential Indicators
II.C. Top 30 World Exporters, By Country, 2007
1. HS 8413: Pumps for Liquids, with or without a measuring device

Exporting Country	2007	% Share
Germany	\$10,206,519,000	22.85%
USA	\$5,548,869,627	12.42%
Italy	\$4,070,448,989	9.11%
Japan	\$3,506,190,976	7.85%
France	\$2,625,016,687	5.88%
China	\$2,488,364,196	5.57%
United Kingdom	\$1,800,178,154	4.03%
Czech Rep.	\$1,388,915,922	3.11%
Canada	\$1,229,778,376	2.75%
Netherlands	\$1,210,629,871	2.71%
Denmark	\$1,187,003,269	2.66%
Sweden	\$920,973,044	2.06%
Austria	\$763,734,926	1.71%
Norway	\$739,057,948	1.65%
Spain	\$686,486,033	1.54%
Hungary	\$686,095,000	1.54%
Belgium	\$653,787,981	1.46%
Rep. of Korea	\$629,416,968	1.41%
Brazil	\$568,588,611	1.27%
Singapore	\$564,776,332	1.26%
Switzerland	\$534,556,825	1.20%
Finland	\$271,811,396	0.61%
Thailand	\$266,405,373	0.60%
Russian Federation	\$250,437,477	0.56%
Australia	\$225,122,442	0.50%
China, Hong Kong SAR	\$198,566,633	0.44%
Poland	\$185,941,526	0.42%
Turkey	\$165,194,894	0.37%
Ireland	\$156,369,346	0.35%
South Africa	\$152,977,341	0.34%
Top 30 Subtotal	\$43,882,215,163	98.24%
Other	\$785,595,563	1.76%
Total	\$44,667,810,726	100.00%

Source: UN Comtrade

II.C. Top 30 World Exporters, By Country, 2007
1. HS 842121: Water Filtering or Purifying Machinery and Apparatus

Exporting Country	2007	% Share
USA	\$961,113,033	21.05%
Germany	\$769,291,000	16.85%
Italy	\$330,717,820	7.24%
Canada	\$279,048,056	6.11%
France	\$232,998,018	5.10%
Netherlands	\$217,187,784	4.76%
United Kingdom	\$203,967,487	4.47%
Japan	\$153,175,698	3.36%
Spain	\$146,322,257	3.21%
China	\$145,365,022	3.18%
Austria	\$130,163,517	2.85%
Sweden	\$118,810,607	2.60%
Belgium	\$114,327,792	2.50%
Switzerland	\$78,430,345	1.72%
Denmark	\$76,679,506	1.68%
Rep. of Korea	\$72,922,009	1.60%
Singapore	\$64,259,322	1.41%
Australia	\$60,902,778	1.33%
Israel	\$54,988,000	1.20%
Czech Rep.	\$46,112,864	1.01%
Poland	\$43,631,112	0.96%
China, Hong Kong SAR	\$29,135,894	0.64%
Hungary	\$26,828,000	0.59%
Finland	\$25,137,678	0.55%
Russian Federation	\$18,231,330	0.40%
Turkey	\$18,164,464	0.40%
South Africa	\$16,367,466	0.36%
Lithuania	\$15,644,228	0.34%
Brazil	\$14,341,926	0.31%
Ireland	\$12,569,210	0.28%
Top 30 Subtotal	\$4,476,834,223	98.06%
Other	\$88,602,083	1.94%
Total	\$4,565,436,306	100.00%

Source: UN Comtrade

II. Market Potential Indicators

II D. Market Sizes & U.S. Share, 2005-2007, by Country

The Table below provides comparative data on total market, import market, and imports from the U.S. for 8 countries considered “best prospects” for U.S. exports of Water Resources Equipment. The countries are listed in alphabetic order, not in rank order. The data are based on local sources and reflect best estimates of USCS commercial officers each country. Statistical accuracy and comparability to other sources (e.g., “USDOC Bureau of Census”) are affected by a number of factors, including lack of published figures in certain markets, variances in data collection techniques, sources of data, and industry definitions.

Water Resources Equipment (Values in \$ Millions)

Country	Total Market			Total Imports			Imports from US			% U.S. Share
	2005	2007	% Change	2005	2007	% Change	2005	2007	% Change	2007
Australia	1,173	1,300	10.83%	874	969	10.87%	131	145	10.69%	14.96%
Ecuador	85*	100	17.65%	51*	60	17.65%	18*	21	16.67%	35.00%
France	19,200*	21,943	14.29%	5,100*	5,829	14.29%	1,180*	1,349	14.32%	23.14%
India	600	700	16.67%	100	112	12.00%	40	45	12.50%	40.18%
Indonesia	170	180*	5.88%	160	170*	6.25%	20	21*	5.00%	12.35%
Mexico	5,665	6,200.9	9.46%	4,275.8	4,816.7	12.65%	3,206.8	3,517.9	9.70%	73.04%
Philippines	156*	164	5.13%	153*	160	4.58%	27*	29	7.41%	18.13%
Spain	21,936	23,823	8.60%	7,256	8,690	19.76%	2,867	3,339	16.46%	38.42%

* 2006

Source: U.S. Commercial Staff in each country.

III. Best-Prospect/Services Market Assessments

Following are overviews of “best prospect/services” markets for US Water Resources Equipment, based on observations of U.S. Commercial Service (USCS) posts in each country. The countries appear in alphabetical order. For more detailed market research on US Water Resources Equipment in these and other specific markets, see relevant Market Research Reports listed in Chapter VI. For general commercial and economic information on individual countries, see the relevant Country Commercial Guides (CCGs).

Australia

Australia spends an estimated \$4.2 billion on the water and wastewater treatment sector. Water collection and distribution accounts for about 70% of this spending. Product quality and treatment accounts for 30% of spending. Direct purchases of capital equipment accounts for 30% of that total spending.

Local firms manufacture the majority of pipes, fittings, and small-scale sewage treatment process equipment. Many local firms also manufacture under license. Imports supply approximately 60% of the market. France and Germany are the main suppliers, followed by the U.S.

A severe drought that began in 2002 has had the biggest impact on the Australian water and wastewater sector. While the crisis has eased over the last few months, water storage levels remain critically low in other cities and regional areas. Governments at all levels are grappling with strategies and projects aimed at securing future water supply.

Almost all of Australia's key industry sectors source water from the same catchment areas used to supply households. Some of these sectors are now developing a number of small water recycling projects. As the value of water increases, industries that are major users of water will find it more feasible to treat their own wastewater internally for re-use. Recycled water is also expected to affect households and a number of new housing developments are incorporating 3rd pipe reticulation to allow for recycled water.

Water authorities continue to spend significantly in the area of pipelines, storage, cleanup projects, pump stations and treatment plants. In addition, some water authorities servicing key cities such as Perth and Sydney have already commenced construction on major seawater desalination plants. Utilities are planning more large-scale desalination plants.

Best Products/Services

- Desalination technology
- Trenchless technology for pipeline replacement and nondestructive technology designed to detect and anticipate leakages and failures.
- Smart metering systems for remote and peak/off-peak measurement.
- Biofiltration systems
- Presses for conversion of water or sludge waste
- New oxidation systems for the removal of chemicals from industrial wastewater
- Filtration equipment for industrial waste applications
- Flow meters for wastewater measurement.

Opportunities

Companies are planning/considering the following projects:

Company	\$millions	Project
Wyong Shire Council	62	7,000 Megaliter Desalination Plant in Gosford
Melbourne Water	250	Upgrade of Eastern Treatment Plant
Gold Coast City Council	66	Raising the Hinze Dam, Stage 3
BHP Billion	250	Seawater Desalination Plant in Whyalla, SA
United Utilities	65	Desalination Plant to Esperance Goldfields, WA

Resources

- Australian Water Association: <http://www.awa.asn.au>
- Water Services Association of Australia: <https://www.wsaa.org.au>
- Water Industry Operators Association: <http://www.wioa.org.au>

U.S. companies seeking information on the Australian water industry are encouraged to contact John Kanawati at the U.S. Commercial Service in Sydney (email: john.kanawati@mail.doc.gov).

China

China continues to face severe water pollution and water scarcity problems. China generated 53.7 billion tons of wastewater; municipal wastewater and industrial wastewater account for 55% and 45% respectively. It is expected that total wastewater will continue growing due to rapid urbanization and industrialization, to reach 64 billion tons in 2010. The current wastewater treatment infrastructure is inadequate, and there will be continued construction of new facilities and upgrading of existing ones, resulting in a large demand for related technology and equipment. However, competition for projects is also fierce, both from foreign suppliers that can provide good technology, as well as from domestic suppliers that can offer competitive prices.

China's water situation has been an important issue on two fronts - water pollution and water availability. One third of China's river courses, lakes, and coastal areas are severely contaminated as a result of municipal, industrial and agricultural discharges. Over 17,000 counties and towns have no wastewater treatment plants, and nearly 300 million people are currently drinking contaminated water. In addition, China has very low water resources per capita (one quarter of the world average), and they are unevenly distributed (e.g. one tenth in northern and western areas). In 2006, 420 out of 669 cities suffered from water scarcity.

With rapid urbanization and industrialization, wastewater generation levels in China are continuously increasing. As the chart below shows, municipal wastewater generation grew much faster than industrial wastewater. This is because there is stronger government (central and provincial) enforcement and stricter penalties for wastewater discharge for industrial enterprises than for local authorities.

Best Products/Services

In the 11th Five-Year Plan, two major targets set by the central government are constructing a water-saving society and treating water pollution. It aims to provide safe drinking water to 100 million residents, and treat more than 60% of sewage, up from the current 55%. In order to meet the goals, 1,000 new WWTPs (representing investment of RMB 330 billion) will be constructed, raising total daily treatment capacity to 10,000 tons. China will begin to levy sewage treatment

fees throughout the country in the coming five years, with aims to decrease the total volume of primary pollutants by 10% by 2010.

It is anticipated that the following technology and associated technology transfer needs and product demand will provide the most opportunities:

- Biological de-nitrification and phosphorus removal technologies,
- Membrane separation and manufacturing technologies and equipment,
- Manufacturing technology of anaerobic biological reactor,
- High concentration organic wastewater treatment technology and equipment,
- Water saving technologies and equipment,
- Water treatment agents,
- Water and wastewater treatment facility operation and management service,
- Monitoring instrument,
- Natural water body rehabilitation technology, and
- Sea water desalinization

Opportunities

South-to-North Water Diversion Project The construction of the South-to-North Water Diversion Project will create a large water supply and wastewater treatment market. In the water destination areas, including Beijing, Tianjin, Hebei, Henan, Shandong and Jiangsu, the construction or expansion of water plants and piping systems will offer market opportunities worth \$6.09 and \$5.92 billion respectively. In addition, water pollution control will be a major part of the Eastern Route project. \$1.93 billion is the planned investment for the construction of municipal wastewater treatment plants. These projects are located in Jiangsu, Shandong, Hebei, Tianjin, Anhui and Henan Provinces.

Three Gorges Watershed Area The Three Gorges Area is located in Yichang, Hubei Province. To maintain water quality at a good level, wastewater treatment projects will be implemented in Hubei, Sichuan, Guizhou, Yunnan Provinces and Chongqing Municipality. From 2006 to 2010, 146 projects with a total budget of \$0.93 billion will be carried out. According to a recent report dated December 30, 2005, China plans to build 20 more sewage disposal plants in the Three Gorges Reservoir area in central Hubei Province on the Yangtze River to further improve water quality in the reservoir. These projects will be built in Zigui, Xingshan, Badong, Yuan'an, Enshi and Lichuan counties in the reservoir area. Meanwhile, the province will build 20 garbage-processing plants in the next five years with an additional daily handling capacity of 1,000 tons. Beijing 2008 Olympic Games Beijing, as the host city of 2008 Olympic Games, also has ambitious plans to develop its wastewater treatment infrastructure. According to the Beijing City Planning Department, nine wastewater treatment plants, 1000 km long wastewater main pipelines, nine wastewater reclamation and reuse facilities, and four sludge digesting facilities will be completed. The total investment will be \$1.45 billion.

Some updated bidding projects can be found at: www.chinabidding.com.cn

Resources

- State Environmental Protection Administration <http://www.zhb.gov.cn/>
- China Assn. of Environmental Protection Industry <http://www.cepi.com.cn/>
- China Environmental Daily <http://www.cenews.com.cn>
- World Bank – China Pollution Intensities <http://www.worldbank.org>

- U.S. Dept. of Commerce - China Environmental Market
<http://www.environment.ita.doc.gov/>
- U.S. Trade Development Agency <http://www.tda.gov>
- Asian Development Bank <http://www.adb.org/China/>
- FCS China Environmental Team:

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Ecuador

The total market for water resources equipment in Ecuador is estimated at \$100 million, of which \$40 million is served by domestic manufacturing. Growth is tied directly to the demand for water and sewage projects.

The U.S. is a major supplier. Third-country competition comes from China, Japan, Brazil, Mexico, Argentina and the European Union. Domestic manufacturing includes water meters, PVC pipes, iron gate valves, mechanical couplings and gibaults. The major end-user is the public sector, including the municipalities, water companies, and advisory groups in the smaller communities.

Best Products/Services

- Ductile iron pipes.

Opportunities

The Government of Ecuador will promote potable water and sanitation projects to comply with offerings made during the presidential campaign.

Resources

- Ministry of Urban Development and Housing www.miduvi.gov.ec
paguilar@sapsb.gov.ec
- Association of Municipalities of Ecuador (AME) www.ame.gov.ec
- State Bank (BEDE) www.bancoestado.com

France

The total French market for water treatment equipment and related services is estimated to be worth \$22 billion. A stable economy and financial institutions, stronger European Union (E.U.) regulations and the increasing costs associated with polluting have played a major role in an expanding market for water treatment equipment and services. In addition, greater interest in complying with environmental regulations by national and local government officials has stimulated this market. All these factors should contribute to continued growth in 2008 and offer market opportunities in a number of areas.

Best Products/Services

Best prospects include construction, operations, maintenance and repairs of small-to- medium-sized water treatment plants; wastewater sludge treatment; installation and maintenance of stand-alone sewage treatment tanks; remote monitoring technology; and membranes and water filters. Non point source pollution management and water conservation including leak detection and reclamation are becoming of major importance.

Opportunities

Storm water Management: Urban development, environmental concerns and water quality have brought non point source water and rainwater management to the fore in France. Consequently, progressive storm water management policies have been implemented to mitigate the environmental impact of urban development. While the main focus has been placed on treating and disposing of rainwater for environmental reasons, residential applications have been used for many years. In addition, industry has recently discovered the benefits of this vital resource for its own processes that can decrease operating costs and strengthen bottom lines. This is driving the market for rainwater capture, storage and reutilization technologies and include green houses watering, commercial and industrial water cooling, water jet cutting, car washing and other ultra-pure, low mineral content water applications.

Small- and Medium-Sized Plants:

In order to comply with EU directives, France will have to construct major water distribution and wastewater treatment facilities covering all of France. In most cases, all of France's regions had to comply by 2006. These EU directives are expected to help stimulate a growing market over the next few years as the market shifts to the development of small and medium-sized wastewater and sewage plants capable of servicing communities of 10,000 inhabitants – equivalent or less, offering some of the most promising opportunities in the near future. This market is expected to

continue to grow with a special emphasis on simple, flexible and low cost plants that conform to all European norms. However, due to the enormous outlays involved, many regions will be granted additional time to meet these higher standards. Moreover, an aging water and wastewater infrastructure will require billions of dollars in repairs, replacements and renovations of clean water and sewer lines over the next decade.

Wastewater Sludge Treatment:

Wastewater sludge treatment has remained a hot topic in France. Currently, 30% of sludge is incinerated, 31% goes to landfills, and 39% is used as fertilizer. Innovative technologies will focus on volume reduction and conditioning. The French government continues to recommend recycling and fertilizing as the primary disposal method for wastewater sludge. However, this practice has met resistance from the general public due to health and safety concerns and from the agriculture industry for pollution liability concerns. The government has consequently, strengthened its resolve to improve recycling techniques (e.g., composting, dehydration) and broaden the range of applications (e.g., farming, landscaping, revegetation) for recycled sludge. Sludge treatment technologies will continue to be in big demand into the foreseeable future.

Stand-alone Sewage Treatment Systems:

Currently there are 5.3 million non-municipal sewage treatment systems (4 million septic and stand-alone sewage treatment tanks) in France. According the French authorities over 90% of these systems do not conform to the French Water Agencies Directives (over half of the stand alone units do not comply with current or future environmental regulations). They will, therefore, need to be replaced or revamped. Approximately 200,000 septic tank units per year were expected to be installed by 2006. Managing and maintaining these installations has become a top priority for end-users. However, very few qualified companies are capable of providing this service. This is expected to continue to stimulate strong growth into the near future.

Remote Monitoring Technology:

With the arrival of broadband networks, remote monitoring technology has become extremely prevalent. The industry is continuously restructuring to leverage these new and evolving technological capabilities. Consequently, water and wastewater operators are in constant search of equipment and instrumentation that can increase operation efficiency and decrease total cost of ownership. Further, remote monitoring technology will offer solutions to the increasing costs to comply with evolving storm water management policies. Market players will be looking for technology with broader applications, easy installation and greater flexibility and autonomy.

Analytical Instrumentation:

The European Directive for water quality adopted in 2000, which requires all natural existing bodies of water to attain satisfactorily ecological state by 2015, is expected to drive the market for biological and toxic substances analytical instrumentation.

Filters, Membranes and Water Reclamation:

Organic membranes for urban wastewater treatment and reclaimed water is an emerging market. A growing interest and acceptance in reclaimed water has been driving the market for disinfection technologies such as UV, ozone and chlorination as well as other membrane technologies including nano-filtration, micro-filtration, ultra-filtration and reverse osmosis. Membranes capable of treating wastewater discharged into sensitive ecological systems are also in high demand. This offers an important opportunity for U.S. companies, which are generally market leaders in this sector.

Resources

- *Union des Entreprises et Industries de l'Eau et de l'Environnement*. The French Federation for the Water and Environmental Industries [http://www.french-water.com]
 - *Canalisateurs de France* (French Waterline Constructors Association) [http://www.canalisateurs.com]
 - *SNITER (Syndicat National des Industries du Traitement des Eaux)* National Association for the Water Treatment Industry
 - *IFEP (The French Institute for Storm water)*
 - *UAE (Union des Entreprises d’Affinage de l’Eau)* French Water Quality Association [http://french-water.com/uae/uae.html]
-
- U.S. Commercial Service Trade Specialist:
[Everett.Wakai@mail.doc.gov] – Phone: 33-1 43 12 70 45
Website: [http://www.buyusa.gov/france/en]

India

Overview

The total Indian water market is estimated to be over \$4 billion. While the government sector contributes above 50%, the private industrial sector provides the remaining business. The overall market is growing at 10-12% every year. The wastewater treatment market segment is highly fragmented and unorganized. Imports constitute approximately \$110 million of the \$690 million market for municipal and industrial water treatment equipment. The U.S. is India’s principal source of imports of water treatment equipment, with an estimated share of 40%.

A growing population has increased the demand for drinking water and rapid urbanization has required increasing sewage treatment. Many industries have been forced to adopt water-recycling systems due to the scarcity of water. Growing public concern, media pressure and renewed legislation has left industries with no option but to install water treatment equipment. There is also a compulsory requirement of environmental clearances from pollution control boards at the federal and the state government levels. Also, many existing treatment plants would need to be replaced or upgraded to meet with more stringent standards. The bottled water segment has recently established itself as a significant area of growth with a market size of \$280 million and growing at 25-30% per year.

Opportunities

India’s National Water Policy allocates water use priorities in the following order: drinking, irrigation, hydroelectric power, ecology, agricultural and non-agricultural industries, navigation and other uses. U.S. companies will find the best opportunities in sanitation, urban water supply improvement and municipal waste treatment. Additional opportunities exist in providing consulting and design services to the Indian water industry.

In 2003, the government announced a \$100 billion project to interlink all major river networks in India. This initiative would connect water-deficient areas to water-abundant ones by interlinking 37 Indian rivers. One of the largest projects anywhere in the world, it would transfer water through 30 links across 9,600 kilometers. It would connect 32 dams and use 56 million tons of cement and 2 million tons of steel. It would bring with it a huge requirement for water management, transmission and distribution.

India's water transmission and distribution networks are outdated and poorly maintained. The government has recently viewed privatization of these networks as the only option. Water companies from all over the world have established a presence in India to pursue an estimated 70 projects worth several billion dollars in 20 Indian cities spread over several states.

In the area of water treatment, U.S. companies can joint venture with Indian firms to offer integrated solutions in water treatment. These solutions could include performing feasibility studies, designing, technical consulting and providing operation and on-line maintenance services.

Indian companies have limited capabilities and technology for the design of water treatment plants. There is a distinct opportunity for U.S. companies to offer technical consulting through contractual and/or joint venture arrangements.

Resources

For more information about export opportunities in this sector contact US Commercial Service Industry Specialist Kamal Vora at: Kamal.Vora@mail.doc.gov

The Ministry of Water Resources is responsible for laying down policy guidelines and programs for the development and regulation of water resources. More information on this is available at: <http://wrmin.nic.in/>

The World Bank currently operates four projects in water supply and two in sanitation and sewage improvement with a total commitment of \$700 million. In the past few years, the World Bank has funded water resource consolidation projects in Haryana, Tamil Nadu and Orissa, aimed at improving productivity and sustainability of irrigation and multi-sector water planning, development and management. In addition, The Bank's commitment in India's water sector amounts to more than \$1.3 billion.

Indonesia

Overview

Indonesia's water resources sector faces increasingly complex long-term investment challenges and management problems, which, unless effectively addressed, will increasingly constrain the country's economic development and lead to a deterioration of food security, public health and irreversible damage to the environment. Indonesian imports of water resources equipment and service in 2006 were estimated at \$180 million, a increase of over 5% compared to 2005. The U.S. had the fifth largest market share of 12%. Its primary foreign competitor is Japan with an estimated market share of 40%. The water resources equipment market in Indonesia is competitive, with an increasing number of international suppliers trying to win projects. Japan, China and Korea dominate the machinery and equipment market.

Best Products/Services

U.S. products and engineering services have a good reputation for their quality and advanced technology in the field of water and wastewater treatment. U.S. products such as water filtration, water purification equipment and control systems, and water treatment chemicals enjoy a good reputation among local buyers. In general, products from the U.S. are highly regarded for their quality. The major hurdle to overcome in this market, however, is the initial cost of the product and service.

Opportunities

Opportunities abound in water resources technology for the commercial and industrial sector. The primary end-users of water resources equipment in Indonesia market are: government agencies, environmental engineering companies, industrial parks, companies involved in food processing, pharmaceuticals, industrial chemicals and electronic components industries.

Resources

Directorate General for Urban and Rural Development
Ministry of Public Works.

Tel: (62-21) 727-96158, Fax: 727-96155 Website: www.kimpraswil.go.id

Contact person: Ir. Agoes Widjanarko, MIP

Directorate General for Urban and Rural Development

The National Committee for the Acceleration of Infrastructure Provision (KKPPI)

Tel: (62-21) 351-1466, Fax: (62-21) 351 1644 Web Site: www.kkppi.go.id

Mexico

Overview

This sector includes the sub-sectors of Pollution Control Equipment (POL) and water resources (WRE) equipment and services. The National Infrastructure Program 2007- 2012, identifies several important water projects to be implemented in various major cities of in Mexico, therefore, the market is expected to continue growing. The total market reached an annual average growth of 3.7% during 2006-2007. Major competitors in this market are French, German, Spanish, Canadian, Great Britain and Japanese companies.

Best Products/Services

Best prospects in this sector include: water pumps; water supply and distribution systems; water meters; chlorinators; water leak detectors; primary clarifiers; irrigation equipment, liners for landfills; solid waste containers; solid waste recycling equipment; dust collectors; hazardous and toxic waste transportation equipment; autoclaves for medical waste; medical waste transportation equipment; bio-remediation technology; environmental engineering services; desalination plants; and design and engineering services.

Opportunities

The environmental sector, particularly with respect to water, is one of the priority sectors of Mexico's National Infrastructure Program. According to the National Water Commission which is part of the Secretariat for the Environment and Natural Resources –SEMARNAT, the priorities set for 2007 to 2012 will be centered on the construction of municipal wastewater treatment plants, potable water treatment plants, etc. SEMARNAT will also continue placing a high priority to have more sanitary landfills, to promote the remediation of soil contaminated sites and better medical waste treatment facilities. Among the projects to be announced are:

Closing of Mexico City's landfill; design and construction of a new landfill with a recycling facility, and a methane gas energy plant in Mexico City; construction of three potable water plants; construction of seven municipal wastewater treatment plants and construction of two pumping stations for Mexico City; for the State of Jalisco, construction of a 500 kilometers of sewage system; construction of a wastewater treatment plants for the Cities of Agua Prieta and El Ahogado; construction of a dam; construction of a potable water plant; construction of a 8 kilometers aqueduct; for the State of Tamaulipas, construction of a potable water plant; fro the State of Guanajuato, construction of a dam; a potable water plant, and construction of a 125 kilometers aqueduct, etc.

Resources

Francisco Ceron

Commercial Service

U.S. Embassy in Mexico City

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- Secretariat for the Environment and Natural Resources: <http://www.semarnat.gob.mx/>
- National Water Commission: <http://www.cna.gob.mx>
- National Institute of Ecology: <http://www.ine.gob.mx/>
- Attorney General for Environmental Protection: <http://www.profepa.gob.mx/>
- Mexican Institute for Water Technology: <http://www.imta.gob.mx/>
- National Council of Environmental Executives: <http://www.conieco.org/>
- National Bank for Public Works: <http://www.banobras.gob.mx/>
- National Bank for Imports and Exports: www.bancomext.gob.mx
- National Infrastructure Plan: <http://www.infraestructura.gob.mx>

Nepal

Overview

Nepal's large hydropower potential represents enormous opportunity for U.S. investors for direct foreign investment or joint ventures with Nepalese private as well as public sector enterprises. While Nepal has some 83,000 megawatts in hydroelectric potential, less than one% of this potential has been developed. On the other hand, the northern states of India bordering Nepal have chronic power shortages with limited domestic sources in the form of costly thermal power generating plants to meet the ever increasing internal demand. Despite agreements struck with India in 1996 and 1997, which define the terms for joint development of hydropower projects (the Mahakali Treaty) and sanction cross-border trade in private electric power, the Indian power market has not yet significantly opened up to producers in Nepal.

In a positive development, India's Electricity Act of 2003 has removed major impediments and created potential power-trading opportunities with Nepal. On December 18, 2006, the Department of Electricity Development, Nepal invited offers for 3 potential hydropower projects, 300 MW - Upper Karnali, 402 MW-Arun III, and 600 MW-Budhi Gandi projects for development through foreign investment. On January 24, 2008, the Ministry of Water Resources decided to award the 300 MW Upper Karnali project to an India power developer GMR Energy Ltd. A government team is currently negotiating on the 402 MW Arun III project with another India company. When developed, these projects would offer a huge opportunity for equipment sales.

Best Products/Services

- Hydropower projects
- Hydropower generation machines
- Turbines, generators
- Power control machineries
- Surveying instruments
- Transmission wire

Opportunities

Nepal has a variety of public and private hydroelectric projects. The \$453 million, 144 MW Kali Gandaki A Project, constructed with financing by the Asian Development Bank, started commercial production in April 2002. The first fully private power development project -- the

\$100 million, 36 MW Upper Bhothe Koshi Project involving two U.S. firms, Harza Engineering and Panda Energy -- started commercial production in January 2001. These and other projects developed by state-owned power producer Nepal Electricity Authority (NEA) offer substantial opportunity for equipment sales. While there are a number of large-sized hydropower projects, including Pancheshwore and Karnali- Chisapani, waiting for foreign investment, current prospects for equipment sales include the 750 MW West Seti Project, which is being developed by an Australian consortium. On December 18, 2006, the Department of Electricity Development, Nepal invited offers for 3 potential hydropower projects (300 MW - Upper Karnali, 402 MW, Arun III, and 600 MW Budhi Gandi projects) for development through foreign investment. When developed, these projects would offer a huge opportunity for equipment sales.

According to India's Electricity Act of 2003, Indian consumers can enter into a direct commercial relationship with a generating company or trader in Nepal. In such cases the State Regulatory Commission will not regulate the price of power. The Electricity Act also granted customs and excise duty waivers on imports of power, and a 10-year tax holiday. Nepal's Department of Electricity Development grants licenses for projects developed by both foreign and domestic private sector investors. Nepal Electricity Authority (NEA), the state-owned corporation, has been granted a license by the government to develop the 309 Megawatt Upper Tamakoshi hydropower project, which again has the potential to offer significant equipment sales opportunities. In another development, the GON has consented to divide the NEA into three companies for generation, transmission, and distribution within a year. This would open additional investment opportunities for U.S. companies.

Resources

Information pertaining to projects offered for private development, policies and regulations can be obtained from the regulator, Department of Electricity Development, via email: doed@pshdp.wlink.com.np, or access further information via website at <http://www.doed.gov.np>. For opportunities in projects developed by the Nepal Electricity Authority, U.S. businesses may wish to contact: nea_misd@info.com.np, or access further information via website at www.nea.org.np.

For additional information and assistance businesses, please contact the Commercial Specialist at U.S. Embassy Kathmandu, Mr. Tapas Gupta, at: GuptaTK@state.gov.

Philippines

The Philippine market for water resource equipment/services is expected to grow by about 5% yearly in view of the following:

(1) On-going and upcoming projects that address increasing water demand and pressing water, sanitation, and wastewater-related problems such as:

- Limited access to potable water through water supply and distribution operations. Roughly 30 million of the country's 80 million people do not have access to potable water through public or commercial water supply and distribution operations;
- Large amounts of "unaccounted-for-water" due to leaks in distribution pipes, inefficient metering, and poor administration;
- Lack of sanitation and sewage systems. Almost 13 million out of 87 million Filipinos do not have access to sanitation facilities. Sewerage is virtually non-existent in many areas. Most use open drains, septic tanks, and pit latrines to dispose of liquid and human waste. Centralized municipal wastewater treatment plants are also virtually non-existent;

- Extensive water pollution due to discharge of domestic and industrial wastewater and agricultural runoff.

(2) The Philippines' Medium Term Philippine Development Plan 2004-2010 states the following objectives:

- Provide potable water to the entire country by 2010;
- Develop technology options for water supply (e.g., solar desalination for isolated islands, windmill technology, etc.);
- Promote private or public sector investment in the provision of water to waterless areas;
- Ensure clean water resources for the Philippines through full implementation of the Clean Water Act of 2004.

Government entities fund water- and sewerage-related projects through a mixture of national/local government budgets and foreign (governments, multilateral and bilateral agencies) loans/grants. Build-Operate-Transfer (BOT) schemes will also be used in some projects. Private entities finance water and wastewater treatment projects through internal funds or loans.

Best Products/Services

- Drinking water treatment equipment/processes
- Products/equipment for the construction and development of additional water resources and water supply systems
- Products/equipment for water supply rehabilitation
- Products/equipment/accessories for sewerage, seepage and combined sewerage septage projects, including packaged or modular wastewater treatment equipment
- Products/equipment for industrial wastewater treatment and recycling

Opportunities

(1) Projects of water districts – There are 612 water districts all over the Philippines that embark mostly on construction, development and maintenance of water supply systems in provinces and municipalities. The Local Water Utilities Administration (LWUA) is the government entity that provides financial, technical, institutional developmental and regulatory service to local water utilities. It likewise raises funds to finance the improvement and expansion of provincial and municipal water supply systems. In 2007, LWUA completed Pesos1.2 billion (\$0.03 million) water supply projects using LWUA's internal cash generation or funds from official development assistance coming from the Asian Development Bank (ADB), Kreditanstalt fur Wiederaufbau (KfW) and Japan Bank for International Cooperation (JBIC). The projects involved the development of water sources; construction of pumping and storage facilities; and installation of chlorination/treatment facilities, transmission and distribution pipelines, fire hydrants and metered household water service connections.

(2) Projects of Manila Water Company (MWC) and Maynilad Water Services, Inc. (MWSI) – MWC and MWSI are the concessionaires of the government-owned Metropolitan Waterworks and Sewerage System (MWSS) under a 25-year concession agreement. Both companies are expanding, modernizing and improving water and sewerage services. MWC reportedly plans to pursue a Pesos177 billion (\$4.4 billion) expansion program over a 10-year period, starting in 2008. MWSI, on the other hand, is set to implement its Pesos26 billion (\$0.65 million) capital expenditure program for 2008-2012.

(3) Water and wastewater projects of industrial plants

Resources

- Asian Development Bank – <http://www.adb.org>; <http://www.buyusa.gov/adb>
- Department of Environment and Natural Resources: <http://www.denr.gov.ph>
- Department of Interior and Local Government: <http://www.dilg.gov.ph>
- Environmental Management Bureau: <http://www.emb.gov.ph>
- Local Water Utilities Administration: <http://www.lwua.gov.ph>
- Manila Water Company – <http://www.manilawater.com>
- Maynilad Water Services, Inc. – www.mayniladwater.com.ph
- National Economic and Development Authority: <http://www.neda.gov.ph>
- World Bank: <http://www.worldbank.org.ph>

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Poland

Overview

According to OECD assessments, Poland has made remarkable environmental progress in recent years, meeting most of its environmental objectives to date. Nevertheless, the road to environmental convergence within the EU will be a long one. As stated by the Polish Ministry of Environment, Poland will have to invest 2.3 – 2.8 billion Euro annually until 2015 to meet remaining EU environmental standards.

Water abstraction has decreased over the past decade and there has been significant progress to connect both rural and urban populations to water supply and sewage systems. While the introduction of water metering, reduction of leakage, charging for water abstraction and wastewater discharges show signs of progress, surface water quality is still unsatisfactory and large investments in wastewater treatment plants have not lead to corresponding improvements in surface water quality. Major expenditures for water management infrastructure are necessary to ensure that water supply and wastewater related infrastructure comply with European directives. Under EU regulations, all towns with populations over 2,000 must have such facilities.

Municipal wastewater treatment plants are slated for construction, extension and modernization. According to the National Wastewater Treatment Plan until 2015, \$8 billion is to be spent for modernization and construction of wastewater treatment facilities and piping systems. Currently almost 200 new wastewater treatment plants are under construction or modernization. Most in demand are wastewater treatment facilities for regions inhabited by less than 15 thousand citizens.

Poland has full access to structural funds from the European Union that are available to finance the rehabilitation of the water/wastewater treatment infrastructure in Poland. Access to EU funding may be subject to substantial EU content proportions, which may require U.S. suppliers to partner or sub-supply. Starting from January 1, 2007 capital for financing water/ wastewater projects can be sourced from the 2007 – 2013 Structural Funds, within framework of Operational Program Infrastructure and Environment. Total amount of funds designated for environmental infrastructure will reach 4.2 billion Euro.

Best Products/Services

Code HS Name of equipment

- 8413 81 90 0 Submersible pumps to be used in sewage treatment plants
- 8414 80 90 0 Air blowers to be used in sewage treatment plants with the efficiency of more than 15,000 m³/day
- 8414 90 90 0 Components of equipment used in deep aeration of sewage
- 8421 19 99 0 Sludge water centrifuges with an output of more than 1500 m³/day
- 8421 29 90 0 Filtration presses and sewage screens for sludge drainage
- 9026 10 91 0 Portable automatic flow meters
- 9026 80 99 0 Kits for fluid collection - liquids, gases
- 9027 80 19 0 Measuring devices for biological oxygen demand (BOD)
- 9031 80 39 0 Equipment for the automatic collection and analysis of sewage samples

Opportunities

The market for water/wastewater equipment has grown steadily over the last few years and is expected to increase rapidly. U.S. exports of water/wastewater equipment to Poland have grown significantly over the past few years. While U.S. products are considered to be of the best quality, they face strong competition from European suppliers, especially from Germany, Sweden and France. The competitiveness of products offered by European producers is based on lower shipping costs and lower tariff rates for EU suppliers. The best investment prospects in Poland for the next few years exist for companies offering the latest technology and equipment for chemical and biological treatment of waste water, technology for safe sludge disposal, for desalination and disposal of residuals (including marketing of salts), water recycling in industry, etc. Polish authorities are intent on reaching European Union standards for effluents and drinking water quality. Imported equipment must meet quality standards required by the Polish certification law. Projects approved by the EU for financing from cohesion and structural funds can be viewed at the Ministry of Environment Center for Environmental Information web site
<http://www.cios.gov.pl>

Resources

- Ministry of Environment <http://www.mos.gov.pl>
- EcoFund Foundation <http://www.ekofundusz.org.pl>
- Center for Environmental Information <http://www.cios.gov.pl>

Commercial Specialist at the U.S. Commercial Service Warsaw, Poland:
Ania.Janczewska@mail.doc.gov

Saudi Arabia

Overview

In order to meet expected demand growth in water the kingdom will have to invest three billion dollar a year in infra-structure development over the next twenty year. The Kingdom has established 30 desalination plants on the Red Sea and Arabian Gulf coasts at a total cost of \$17 billion. Saudi Arabia is rapidly depleting is 2.2 billion cubic meters of proven groundwater. 95% of water comes from aquifers, 4% from desalination and 1% from wastewater reclamation. 80% of water has been used in questionable agriculture projects, such as the world's most heavily subsidized wheat production. 30% of household water comes from desalinating. Saudi Arabia is the biggest user of desalinated water in the world (26% of world's total), and demand is growing be at least 2% year. While the cost of desalination is falling, is still cost \$1.33 to process, deliver and remove the waste form one cubic meter of such water, while a Saudi consumer pays only .04.

The Ministry of Water and Electricity announces study after study to rationalize water tariffs and privatize the state owned Saline Water Conversion Corporation (SWCC).

With the budget surplus, Saudi Government is working on a number of large projects, primarily in the water and sewage system, in an attempt to meet the needs posed by population growth and industrial growth. The new planned major infrastructure projects include the construction of a 20 new water distribution network, and 20 new desalination plants. The refurbishment of the Jeddah desalination plant, the expansion of Asir II desalination plant, Yanbu/Medinah III desalination plants, and the expansion of wastewater treatment plants In Jeddah, Riyadh, and Dammam.

In July 2001, the new Ministry of Water was created. It was carved out of the water departments of the Ministries of Agriculture and Municipal and Urban Affairs, and given responsibility for developing a comprehensive water and sewage systems for the Kingdom. In 2001, the Royal Commission for Jubail and Yanbu founded the Power & Water Utility Company for Jubail and Yanbu known as (Marafiq). This company is responsible for planning and developing power and water utilities in Jubail and Yanbu industrial cities.

Another major development took place in May 2003 with the establishment of a new company, Water & Electricity Company (WEC), between the Saline Water Conversion Corp. (SWCC) and Saudi Electricity Co. (SEC) to carry out the independent Water and Power Project (IWPP) in partnership with the developer. There are three IWPP projects under bidding at Shuqaiq (Phase 2), Ras Al-Zour, and Jubail (Phase 3). The three projects will have desalination water capacity of 1870 million cubic meters of desalinated water per day.

In 2006, the new National Water Company (NWC) was founded. It will in the short term facilitate privatization process and oversees the regional operations under PPP contracts. In the long term, NWC will oversee most water and wastewater operations of the Kingdom of Saudi Arabia. National Water Company will include regional business units (RBUs) and a core to manage and provide strategic guidance to RBUs.

Independent Water Projects (IPPs): Private sector investment is emerging as a key component in the upgrading and expansion of Saudi Arabia's water infrastructure. The IPP concept is also gaining ground among Saudi Arabia's leading companies, including Ministry of Commerce & Industry, Ministry of Water & Electricity, PCA, and Saudi Aramco, which are contracting local and international private companies to build desalination plants for their mega projects.

Saudi Aramco IWP: In June 2003, a consortium led by US Company Aquatech, and including the local Rabigh Desalination Co., was awarded a \$20 million contract to build a desalination plant for the Saudi Aramco Rabigh refinery complex. The project, which stipulates a 20-year water conversion agreement, is expected to come on stream by 2006.

In August 2005, a consortium led by Marubeni and Itochu, and including the local ACWA Power Projects, was awarded a \$1.1 billion contract to build a co-generation and desalination plant for the Rabigh integrated petrochemical and refining complex jointly owned by Saudi Aramco and Sumitomo Chemical. An engineering, procurement, and construction (EPC) contract for the co-generation and desalination plant has also been awarded to Mitsubishi Heavy Industries Ltd. on a turn-key basis. The project, which stipulates a 25-year water and energy conversion agreement, is expected to come on stream by 2008.

WEC: In October 2005, Shuaiba IWPP was awarded to a Saudi Malaysian consortium: The \$2.4 billion project involves a 20-year power and water purchase agreement to produce 900 MW of

electricity and 880 cubic meters of desalinated water per day. The Shuaiba IWPP is expected to come on stream by the third quarter of 2006.

Marafiq: In December 2006, Marafiq Jubail was awarded to French-Belgian Utility consortium: The \$3.3 billion project involves a 20-year power and water purchase agreement to produce 2,800 MW, and 800,000 cubic meters of desalinated water per day. The project would start production in the second half of 2009.

Best Products/Services

Saline water Conversion Corp. (SWCC) is recently studying the introduction of 20 new saline water conversion projects to be implemented in the near future to meet the demand increase on drinking and civil used water. The new 20 projects will include constructing new plants and expanding existing ones. SWCC would like to see more U.S. companies involved in those projects due to their high tech and good reputation in this market. Also, there are several large opportunities in the wastewater treatment plants; several major projects are under the tendering, such as North Jeddah wastewater treatment, Hair wastewater treatment in Riyadh, Medina wastewater treatment, and Dammam wastewater treatment.

- Consulting and engineering services
- Anti-scaling Chemicals
- Operations and Maintenance services
- Ro Membranes
- Filters
- Steam & Gas Turbines
- Boilers
- Wastewater Treatment Equipment
- Treatment Chemicals
- Pumps

Opportunities

The government now has more than sufficient resources to embark on long-planned improvements and a long awaited expansion of water infrastructure, transport and wastewater treatment plans. Over the next five years, Saudi Arabia will require 4,500 km of new pipeline for freshwater transport and over 22,000 km for wastewater disposal pipes. Also, major business opportunities will be forthcoming as the sector opens up for privatization. Industry sources expect that the Saudi Government will be building more new desalination plant, water pipeline, and wastewater treatment plants on a BOO/BOT basis with the newly-established company, Water & Electricity Company (WEC), taking the lead toward that aim. Initially, WEC plans to set up the second group of three IWPP projects with an investment potential of \$6.12 billion. These IWPP projects will provide desalinated water and power to their respective regions.

On January 1, 2003, the Power and Water Utility Company for Jubail and Yanbu (MARAFIQ) was established to undertake the operation, management, expansion and construction of seawater cooling systems, water desalination plants, sanitary and industrial wastewater systems and electric power systems, thus providing essential utility services to industrial, commercial and residential customers in the industrial cities of Jubail and Yanbu.

In 2006, the new National Water Company (NWC) was founded. It will in the short term facilitate privatization process and oversees the regional operations under PPP contracts. In the long term, NWC will oversee most water and wastewater operations of the Kingdom of Saudi

Arabia. National Water Company will include regional business units (RBUs) and a core to manage and provide strategic guidance to RBUs.

Resources

- Royal Commission for Jubail and Yanbu
- Power & Water Utility Company for Jubail and Yanbu
- Water & Electricity Company
- National Water Company

Spain

Overview

The world environmental market is concentrated in three main areas: the United States, Europe and Japan. The United States represents 40% and Europe 32% of the market. This high percentage is mainly due to the early development of European environmental norms and complementary administrative control. In Spain, as in all European Union (EU) countries, the environmental sector is governed by EU regulations. The Spanish environmental market is worth almost three% of the worldwide environmental market and nine% of the European environmental market.

Spain has one of the fastest-growing economies in the European Union, and over the last two decades has become the eighth largest economy in the OECD. This growth has placed even greater pressure on the environment in use of natural resources (e.g. water and oil) and pollution. Other European countries respect Spain for its economic prosperity, shown by the 3.5% economic growth in 2005. Spanish government policy includes increasing the environmental budget to promote environmental protection. The 2008 environmental budget increased nine% from the previous year, to nearly \$ 5.9 billion.

Best Products/Services

Demand for equipment, technology and services is high from both the government and private sector. To meet growing water demand, the Spanish Government is undertaking a large public works program to change its national water system and significantly increase the number of desalination plants. This multi-billion euro program will be partly funded by the European Union. Opportunities exist for U.S. engineering and water treatment equipment and service firms. Fines are imposed on contaminating industries through central, regional and local governments. These penalties force Spanish industries to look for environmentally safer technologies and pollution-control equipment to treat emissions and industrial waste. As a result, opportunities exist for U.S. environmental companies in this market.

Opportunities

Resources allocated during recent years underscore Spain's commitment to this sector. The Spanish Government's environmental budget is almost \$ 6 billion. The Spanish Ministry of Environment estimates that the environmental market in Spain has grown an average of 14% in recent years.

Public investment will concentrate on water projects. Investment in conventional water infrastructure is decreasing, counterbalanced by increases in treatment, re-use and desalination projects as well as protection of the natural environment. Highest priority is given to urban and agricultural uses, followed by the ecological needs of aquatic ecosystems.

The previous Spanish national water plan, the 2001 “Plan Hidrológico Nacional” (National Hydrological Plan), intended to bring water from well-supplied northern areas of Spain to areas most affected by drought and expansion of demand. This plan was partially revised when the Spanish government changed in 2004. Some environmentalists had objected to the 2001 plan, which entailed building dams in untouched areas of the Spanish countryside. Moreover, the European Parliament opposed funding, arguing the original plan contradicted existing objectives of the European Union pertaining to water usage.

The present government developed a new program called “Programa A.G.U.A.” (Actuaciones para la Gestión y la Utilización del Agua - Water Management and Use Actions), which will replace some of the actions initially planned in the 2001 Hydrological National Plan. The A.G.U.A. Program plans to obtain water from rivers and the ocean, as well to better re-use treated wastewater. More than 20% of the projected actions under this program are desalination projects. Almost 50% of the water resulting from the A.G.U.A. Program will come from desalination, more than 20% from wastewater re-use actions, 15% from irrigation systems modernization and 15% from other efficiency improvements. The A.G.U.A. Program’s predicted costs for these interventions are Euros 3.9 billion (\$5.4 billion), out of which the European Union will finance 33%.

A National Irrigation Plan (PNR) for 2001 to 2008, has a budget of Euros 5 billion (\$ 6.9 billion) for improving water efficiency. Irrigation accounts for 80% of total water consumption in Spain, which has the largest irrigated acreage of any EU country (33,400 km²). Therefore, it is logical that efforts to increase more sustainable use of water are being made. This plan addresses the modernization of existing irrigation systems, involving 2,400 km² of disadvantaged rural areas, infrastructure and equipment. In each autonomous region, the regional government will decide the new location of irrigation land. One PNR objective is to reduce water losses by 2.7 billion m³ per year, to counteract the current total growth water demand of 23,5 billion m³.

Spain has also taken many steps to deal with air pollutant emissions and to reinforce its air quality management system. The Ministry of Environment has approved the “Vehiculos Fuera de Uso (VFU)”, 2007-2015 plan, continuing and improving methods of the previous 2001-2006 plan. The Ministry’s goal is to establish suitable management of vehicles, decontamination, reusability and automobile-waste recycling. By 2015, 85% of vehicles are to be recycled. To achieve this, investments of Euros 325 million (\$448 million) are anticipated. The VFU Plan fulfills both Spanish and EU legislative mandates in this area. Most of this investment will be undertaken by the private sector, in application of the principle of responsibility of the producer and the regulating European Directive 2000/53/CE re management of this type of waste.

The European Union has restricted use of certain dangerous materials in electrical equipment, and Spain passed echoing legislation regarding Waste Electrical and Electronic Equipment (WEEE) and Restriction of Use of Certain Hazardous Substances (RoHS) on January 25, 2005. This legislation applies to manufacturers, importers, distributors and users of all categories of electric and electronic equipment. It requires safe elimination or reusability of electrical equipment. The directive went into full effect on July 1, 2006, banning lead, mercury, hexavalent chromium, cadmium, polybrominated biphenyls (PBBS) and polybrominated diphenylethers (PBDES), all of which are deemed to present risks to the environment and public health during manufacturing or final elimination of the product. Many companies will be forced to make their products with substitute materials.

Concerning nature and biodiversity management, Spain is intent on following the new Red Natura 2000” (Natura 2000 Network) program applicable to all EU members. This program foresees 25% of the territory of Spain and Europe being protected. In the case of Spain,

municipalities will be in charge of nature management, leading to an increase in the total amount of protected areas. Protected areas in Spain represent 9.6 % of the territory, in comparison with the OECD average of 14.6%. Although Spain increased protected areas by more than 50% between 1994 and 2001, this new plan will increase Spanish nature conservation.

Spain has adopted environmental plans and developed ecological laws and regulations in line with EU environmental directives since 1993. In addition to the central government, 17 Spanish autonomous or regional governments issue environmental laws and regulations that are mandatory for their territories. The regional governments incorporate laws issued by the central government as well as EU directives. Giving responsibility to autonomous regions and municipalities should facilitate implementation of environmental policies and help build public support. It should also increase cost effectiveness by allowing differentiation in standards to reflect differences in ecosystems and use of natural resources.

Resources

- Spanish Ministry of the Environment: www.mma.es
 - Ambientum (on-line environmental B2B portal) <http://www.ambientum.com/>
 - Environmental on-line publication: www.infoambiente.com/
 - Gateway to the European Union: www.europa.eu.int
 - Spanish environmental foundation: www.empresasostenible.info
 - EU on-line news bulletin: www.aquieuropa.com
 - On-line environmental consultations: www.lineaambiental.com
 - Spanish waste organization: www.isroer.org
 - Institute for Energy Saving and Diversification: www.idae.es
 - Fundación Entorno: www.fundacionentorno.org
 - Ecovidrio (glass recycling organization): www.ecovidrio.es
 - Center for Hydrographic Studies: www.cedex.es/hidrograficos/presentacion.html
 - Spanish Water Information System (HISPAGUA): www.hispagua.cedex.es
 - Spanish Association of Urban and Environment Equipment (AMEC URBIS): www.urbis.amec.es
 - Spanish Desalination and Water Reuse Association (AEDYR): www.aedyr.com

Commercial Service Spain: www.buyusa.gov/spain

- International Senior Commercial Specialist, Environmental Sector: Carmen Adrada, carmen.adrada@mail.doc.gov

Turkey

Overview

There is a potentially big market for U.S. environmental technology products in the rapidly developing Turkish market. Turkey, despite having a relatively effective environmental law, has not been able to implement environmental protection measures until recently, due to the scarcity of resources and the developing nature of the economy. However, with the start of the accession talks with the European Union, Turkey has adopted a new environmental law to initiate the harmonization of its environmental regulations with EU standards. Alignment with the EU standards is creating an environmental infrastructure and technologies market that will ultimately be worth €70.5 billion. The alignment is planned for completion by 2024.

According to the Ministry of Environment and Forestry, €68 billion of this volume would be spent on capital investment and the rest would be on technical support programs and personnel

expenses. The total investment value may increase to €90 billion when the investments required by the 'chemicals directive' are added to the total picture.

The amount that would be spent by the state on the capital investment is expected to be around €50 billion, whereas private sector would spend €18 billion. The largest portion of this chain of investment, €35 billion, would be for wastewater and drinking water facilities. This would be followed by investment in solid waste management and prevention of air pollution. As urbanization and industrialization take their toll, problems and needs related to better and more efficient usage of water resources will become more critical.

Currently, annual water use per capita is around 1,500 m³, but in 20 years as the population approaches 90 million people, this amount is expected to go down to 1,042 m³; internationally, 1,000 m³ is accepted as the threshold for the alarm bells to ring. An increase of around 33% in the amount of water drawn from surface and groundwater resources between the years 1995 and 2002 shows that there will be increased pressure on resources in order to meet water demand.

There are some bottlenecks in the water sector that hinder development:

- Overlap in the responsibilities of different institutions in issuing, monitoring and controlling permits,
- Deficient technical and legal knowledge in local administrations and municipalities,
- Insufficient means to monitor the levels of pollution, and thus, lack of benchmark indicators and numerical environments to devise sound plans,
- Billing problems due to leaks and losses in water pipeline systems,
- Illegal and excess drawing off of groundwater,
- Insufficient sanctions and inspections, and
- Pollution originating from pesticides and fertilizers.

Discharge of sewage and wastewater into surface water without treatment by industrial facilities is also a major problem. There are 87 organized industrial zones in Turkey, but only 41 of them have operating water treatment systems. Seventeen of these zones have connected their sewage systems to the system of the municipality and thus have partially reduced the negative impact they have on environment.

There are 16 metropolitan municipalities with populations greater than 500,000 people, 3,200 municipalities with populations lower than 500,000 people, and over 37,000 small towns and villages with populations lower than 2,000 people. The social and economic conditions of their residential units demonstrate wide differences.

According to the results of a survey done by the Turkish Institute of Statistics in 2004 on 1,911 municipalities, it was noted that 1,421 of them had established sewage systems. In that year, 47% of 2.77 billion m³ of waste water drained through these systems was discharged into rivers, 39.3% to sea, 4.2% to dams, 1.9% to lakes and ponds, 1.3% to fields, and 6.3% to other environments. 1.68 billion m³ of this discharged amount was treated in the treatment plants.

The methods used for treatment have been as follows:

- **Biological treatment** (treatment implemented through the use of microbe-size organisms for the removal of organic contaminants in wastewater) – applied to 58.2% of the wastewater treated,

- **Physical treatment** (treatment implemented through filters, sedimentation tanks etc) – applied to 28.3% of the wastewater treated, and
- **Advanced treatment** (treatment implemented through advanced methods like biofilters, hybrid reactors, ion exchange, membrane processes etc)– applied to 13.2% of the wastewater treated.

There are 138 treatment plants in Turkey in which secondary and advanced treatment techniques are used, according to the data of 2004. In order to fulfill the requirements of the Urban Wastewater Treatment Directive, approximately 2,942 new treatment plants with various capacities must be built for towns with populations over 2,000. Additionally, in small towns and villages whose population is less than 2,000, appropriate treatment and disposal methods will be implemented as part of the EU acquis.

Agriculture is another important source of water contamination. There are 8.5 million hectares of irrigable land in Turkey. As of January 2005, 4.9 million hectares of this were irrigated. The most important problem with regard to agricultural irrigation in Turkey is lack of drainage systems. The infiltration of fertilizers and plant protection chemicals into the soil through surface irrigation systems could be reduced by treatment of wastewater drained into rivers, the sea etc., by the installation of covered drainage systems, or by the utilization of pressurized irrigation techniques.

Best Products/Services

Development of municipal water/wastewater treatment is taking place more rapidly than the other areas of environmental protection. There are still thousands of municipalities that do not have proper water/wastewater treatment systems. Some of the smaller towns, due to their limited financial capability, may not be able to undertake large projects with international players, but there are still cities with 250,000 + populations without a treatment facility.

As far as the treatment of industrial wastewater is concerned, a small portion of industry fully complies with the rules and regulations on treatment of the wastewater generated at their own facilities. U.S. consultancy or equipment manufacturers may find business in this area as well.

Some product groups having potential in the Turkish market are:

- Water pumps/filters/pollution control equipment (Turkey has a strong pumps and valves manufacturing base; high-end products could have a better chance in the market),
- SCADA systems,
- Design and operation of water/wastewater plants,
- Sludge treatment technologies,
- Leakage detection systems,
- Reverse osmosis,
- Membrane technology,
- Industrial wastewater remediation systems, and
- Metering devices

Opportunities

Turkey needs to invest in almost every aspect of environmental technology in the years to come but most heavily in water and wastewater treatment. The fact that government's and municipalities actions towards controlling and preventing pollution creating sources at both municipal level and industrial level will trigger demand for solutions at both service and equipment procurement levels. Especially the following sectors will need to make wastewater treatment investments:

- textile industry
- cement industry
- Iron/steel industry
- chemicals industry
- food processing industry
- automotive industry

Resources

- **Ministry of Environment and Forestry** <http://www.cevreorman.gov.tr>
- **Istanbul Metropolitan Municipality** Department of Environmental Protection & Development <http://www.ibb.gov.tr>
- **Istanbul Water and Sewerage Authority – ISKI** <http://www.iski.gov.tr>
- **Ankara Water and Sewerage Authority – ASKI** <http://www.aski.gov.tr>
- **Izmir Water and Sewerage Authority – IZSU** <http://www.izsu.gov.tr>

IV. Trade Events

Trade events, such as trade shows, trade missions and catalog shows, offer excellent opportunities for face-to-face interaction with foreign buyers and distributors. Of the many U.S. and international events held throughout the year, some are vertical (single industry theme) and some horizontal (many industries represented). The events organized or approved by the U.S. Departments of Commerce or Agriculture can be especially useful for first-time or infrequent participants – they require less lead time to register and typically involve more handholding.

The Trade-Event Scheduling Web sites listed below allow selective searches for upcoming events by industry, location, type and date. They typically provide the event organizer, event descriptions and costs, and people to contact for more information. To find upcoming events for U.S. Water Resources Equipment, use industry search terms relating to Water Resources Equipment, Pollution Control Equipment, or Water Resources Equipment/Services

Schedules for U.S. Government Organized or Sponsored Events

Domestic USDOC Events: http://www.export.gov/comm_svc/us_event_search.html

International USDOC Events: http://www.export.gov/comm_svc/us_event_search.html

USDA (Food & agriculture) Events:

<http://www.fas.usda.gov/scripts/agexport/EventQuery.asp>

Schedules for Commercially Organized Events

BizTrade Trade Show Directory (<http://www.biztradeshows.com>)

TSNN (<http://www.tsnn.com/>)

ExpoWorldNet (<http://www.expoworld.net/>)

Exhibition Center - Foreign Trade Online (<http://www.foreign-trade.com/exhibit.htm>)

V. Available Market Research

U.S. Water Resources Equipment

The reports listed below are country-specific market surveys relating to US Water Resources Equipment written by resident U.S. commercial staff in each country. Many of these reports analyze demand trends, the competition, business practices, distribution channels, promotional opportunities, and trade barriers.

All the reports can be obtained on-line at no cost from
<http://www.buyusainfo.net/adsearch.cfm?loadnav=no>

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Water Resources Equipment and Services	Argentina	05/31/2006
Municipal Water and Wastewater Management	Austria	05/29/2008
The Water and Wastewater Markets in Belgium	Belgium	06/05/2008
Developments in the Brazilian Sanitation Sector	Brazil	11/27/2007
Water Reuse in Brazil	Brazil	09/06/2006
Water Filtration Equipment Industry	Canada	08/27/2008
Ontario Water Treatment (Potable) Market	Canada	04/18/2007
Sewerage Systems - Collection and Treatment of Rural Waste Waters	Cyprus	12/11/2006
Water and Waste Water Treatment	Denmark	06/03/2008
Water Supply and Wastewater Disposal	Germany	08/28/2008
Water Distribution and Supply Equipment	Germany	09/08/2006
Waste Management Technologies	Greece	02/22/2007
Water Resources Equipment	Hong Kong	03/24/2008
Water and Wastewater Industry	Hungary	09/09/2008
Water Resource Equipment/Services	India	03/08/2007
Water Supply and Distribution Systems Industry	Indonesia	09/29/2008
Water & Industrial Pumps	Indonesia	09/28/2007
Water & Wastewater Industry	Kenya	06/04/2007
Water & Wastewater Treatment	Malaysia	09/25/2008
Water Pollution Control Equipment	Malaysia	05/22/2007
Water Industry Update	Malaysia	10/11/2006
Environmental Technologies Market in Malaysia	Malaysia	03/16/2006
Water and Wastewater Equipment and Services Industry	Mexico	05/24/2007
Water and Wastewater Industry	Netherlands	06/15/2007
Water and Wastewater Treatment Products and Equipment Market	Philippines	06/03/2007
Overview of the water industry	Romania	02/29/2008
Water & Wastewater Market Brief	Saudi Arabia	07/25/2007
Water Treatment & Wastewater Recycling Systems	Singapore	06/03/2008
Opportunities in Water Treatment	Slovakia	06/09/2008

Opportunities for Wastewater Equipment and Services	South Africa	05/10/2006
Water and Wastewater Technologies Market in Turkey	Turkey	08/10/2007
Water Supply and Treatment	Ukraine	09/08/2008
Opportunities in Municipal Waste Management	United Kingdom	12/13/2006
Water Supply Sector	Uzbekistan	02/14/2008
Drinking Water Treatment Technologies	Vietnam	03/02/2006

APPENDIX
Products in Water Resources Equipment
by Schedule B Code HS 8413 - 43 Items

Schedule B Code	Description
841311	Measuring and dispensing pumps, fuel or lubricant
841311	Pumps for dispensing fuel or lubricants, type used in filling stations or garages
841311	Pumps for liquids, measuring and dispensing
841311	Pumps, lubricant, filling station or garage use
841319	Pumps, liquid, measuring and dispensing, other than filling stations or garage use
841320	Hand pumps, other than those fitted or designed to be fitted with a measuring device
841330	Fuel injection pumps, internal combustion piston engine
841330	Fuel pumps, except fuel injection for internal combustion piston engine
841330	Pumps, fuel injection, automotive internal combustion
841330	Pumps, liquid, except fuel injection, for internal combustion piston engine
841330	Water pumps, automotive
841340	Concrete pumps
841350	Diaphragm pumps, reciprocating positive displacement
841350	Drainage pumps, (oil cushion) reciprocating positive displacement
841350	Irrigation pumps, (oil cushion) reciprocating positive displacement
841350	Oil field pumps for liquids
841350	Oil well pumps for liquids
841350	Pumps, diaphragm, reciprocating positive displacement
841350	Pumps, for swimming pools
841350	Pumps, oil well and oil field
841350	Pumps, reciprocating, positive displacement
841350	Reciprocating positive displacement pumps
841360	Hydraulic fluid power pumps, rotary, positive displacement
841360	Pumps, roller, positive displacement
841360	Pumps, rotary, positive displacement
841360	Roller pumps, rotary, positive displacement
841360	Rotary positive displacement pumps
841370	Centrifugal pumps for liquids, n.e.s.o.i.
841370	Stock pumps for use with machines for making cellulosic pulp, paper or paperboard
841370	Submersible pumps, centrifugal
841381	Household water systems, self-contained pump
841381	Hydraulic fluid power pumps
841381	Hydraulic fluid power pumps, other than rotary
841381	Pumps, household water, self-contained
841381	Pumps, turbine
841381	Pumps, windmill
841381	Windmill pumps
841382	Liquid elevators
841391	Fuel injection pump parts, for compression-ignition engine
841391	Hydraulic fluid power pump parts
841391	Parts, n.e.s.o.i., for pumps
841391	Pumps parts
841392	Parts, n.e.s.o.i., for liquid elevators

APPENDIX

Products in Water Resources Equipment by Schedule B Code HS 842121 - 11 Items

Schedule B Code	Description
842121	Desalters, for water
842121	Dialysis equipment
842121	Filter apparatus, swimming pool
842121	Filtering and purifying machinery and apparatus for liquids
842121	Filtering apparatus, water
842121	Filtering or purifying machinery and apparatus for liquids
842121	Purifying apparatus, liquids
842121	Water desalters
842121	Water filtering apparatus
842121	Water purifying apparatus
842121	Water softening machines