Market Analysis Report
China's Water Sector

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EXECUTIVE SUMMARY

With only about 6% of global freshwater resources, China has to manage water supply to 20% of the world's population, as well as the unprecedented growth of its manufacturing based economy and traditional agricultural needs. All of these factors have brought enormous challenges to China's water sector.

- The per capita water volume in China is only one-fourth of the world average.
- 400 out of 600 cities in China are facing water shortages to varying degrees, including 30 out of the 32 largest cities.
- Groundwater tables are depleting rapidly at a speed of about 1 meter/year due to overexploitation.
- Lack of municipal wastewater treatment is still a big driver of water pollution throughout China.
- 20.8% of rivers in China are worse than grade V, which is not suitable for any usage; 71% of lakes and 50% of urban groundwater is also heavily polluted.
- Chinese water prices do not reflect its scarcity and are significantly below prices in countries with adequate water per capita.

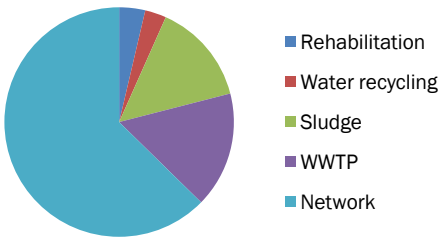
To cope with these challenges, the Chinese government has expended a great deal of resources and effort to seek solutions to expand water supply, improve water use efficiency and promote environmental protection and enforcement in China. Water sector policymakers are increasingly looking to economic tools such as proper pricing mechanisms and the elimination or modification of subsidies to support the sustainable management of China's limited water resources.

For example, in the municipal wastewater treatment sector, China has invested enormous sums of money to build new facilities across China over the past 20 years (with significant acceleration in the past 5 years), and according to the national plan, China will continue this investment momentum for at least another 10-15 years.

Investment in municipal water sector 1991-2010

	Total investment 1991-2005		Estimated investment 2006-2010	
Currency	USD billion	RMB billion	USD billion	RMB billion
Water supply	25	200	20	160
Wastewater	29	230	34	270
Total	54	430	54	430

Investment in wastewater sector 2006-2010



These investments and the continuous upward adjustment of water prices have caused China's water sector markets to increase dramatically over the past few years. Although the markets may be very fragmented due to the nature of the

water sector, foreign players have gained reasonable market shares as providers of technology, equipment and service in China.

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To summarize the potential market opportunities for Israeli companies, we classify the market in the following sectors:

Water supply (extraction, treatment and distribution): China's municipal water supply has stabilized to around 50 billion m^3 /year in the past few years. As a comparatively mature market sector, the major opportunities here will be linked to the technologies, equipment and services in daily operation and maintenance, such as:

- Integrated monitoring systems;
- Network leakage detection and repair;
- Advanced water measuring technologies;
- High efficiency pumps;
- Water quality control systems; and
- GIS-based water monitoring systems.

A major point of growth will likely be linked to efforts to expand water sources (mainly for industrial usage). For example, the desalination industry has great potential for a market boom in the next few years. In 2009, China's desalination capacity was about 240,000 tons/day; the government target for 2020 could potentially be as high as 4 million tons/day.

Water use: Another comparatively mature and fragmented market, the main opportunities in this sector will be in areas such as: water-saving technologies and equipment for both industrial and residential use, and advanced irrigation technologies and equipment.

Wastewater treatment and recycling: The wastewater treatment sector will see strong continuous market growth with a projected market growth rate of 20%. Many new wastewater treatment plant (WWTP) projects for municipal and industrial use will create increased opportunities for wastewater treatment technologies and equipment, including:

- Biological denitrification and phosphorous removal technologies;
- Immobilized microbe technologies;
- Membrane manufacturing technologies; and
- Sludge treatment and disposal equipment.

Wastewater recycling is still in its infancy in China. With China's water recycling rate at only about 5%, there is great market growth potential in this sector for advanced treatment technologies and equipment such as membrane separation devices.

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The key influencing stakeholders and potential customers of Israeli technologies, equipment and services are:

- Ministry of Water Resources;
- Water bureaus/authorities at the provincial and municipal level;
- Ministry of Housing, Urban and Rural and Development and its local surrogates at the provincial and municipal level;
- Ministry of Environment Protection and its local surrogates;
- Urban construction entities;
- Top-tier international and local water companies operating in China; and
- Selected industrial clients in sectors such as power generation, iron and steel, etc.

China's procurement process for water projects usually consists of three phases:

- Feasibility studies and government approval;
- Project design, which is typically done by the local design institute; and
- Selection of a construction company, equipment suppliers and engineering supervisors through tender or appointment.

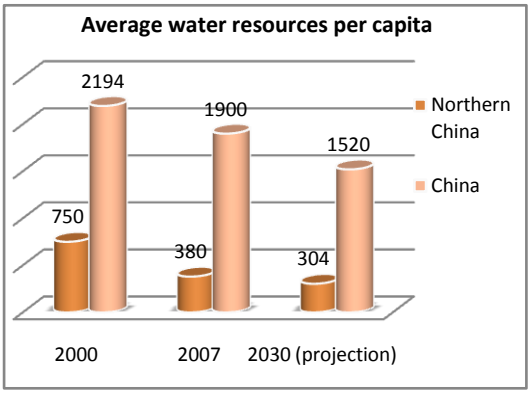
Israeli companies have several options to sell technology and equipment in China, including:

- Direct export;
- Representative offices;
- Trading companies and local agents;
- Chinese subsidiaries as wholly-owned branch for marketing/sales or local manufacturing purposes; and
- Technology licensing.

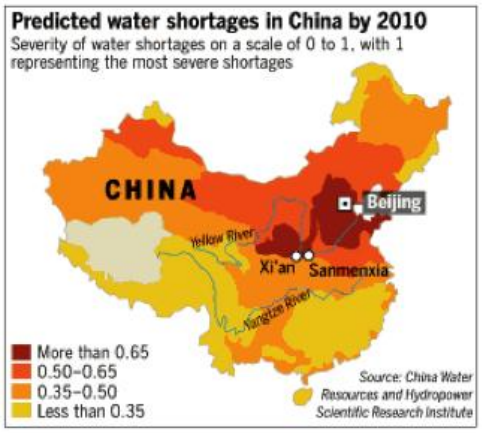
General Water Sector Overview

1.1. Market Context

China has an estimated 2,812 billion m³ (BCM) per annum of naturally-available water from surface and underground sources, ranking it sixth behind Brazil, Russia, Canada, Indonesia and the U.S. On a per capita basis however, China's naturally available water flow per annum is one of the lowest levels in the world and is only one-fourth of the world average.



With its population and urbanization growth as well as economic development, China's supply of fresh water has been put under increasing pressure in the past three decades. From 2000 to 2007, China's per capita water resources decreased from 2,194 m³ to 1,900 m³, and it is projected that by 2030 this figure will drop by an additional 20%. The water shortages are most severe in northern China, where surface water diversion is excessive and groundwater is being depleted.



Despite the implementation of the one-child policy in China, the population continues to grow, with the country's total population expected to exceed 1.4 billion by 2010. 43% of the population was urban in 2008, and this percentage is expected to continue growing over the next decade. This will lead to an increased need to develop more effective methods of providing water for consumption to this population, as well as techniques for treating sewage and other wastewater.

The record-setting rate of economic growth in China has lead to a spike in demand for water for industrial use as well, including areas such as fabricating, processing, washing, diluting and cooling, to name a few.

Over the next two decades, agriculture will continue to utilize the majority of China's water resources. Currently, agriculture accounts for 65% of China's total demand for water. However, industrial and domestic water usage will account for the majority of demand growth over the same period, with agriculture's share of water use projected to decline to 50% by 2030.

However, supply has not kept up with demand and is not expected to in the future. Over 400 cities in China face water shortage issues, with the nation's largest cities, such as Beijing and Tianjin, often subject to the most severe shortages.

Projections have estimated that China's demand for water may reach 832.3 billion m^3/year by 2030 exceeding the country's theoretical maximum supply by 48%. The World Bank has estimated that water shortages cost China about 1.3% of its annual economic output, with a further 1% lost to water pollution. This indicates an immediate need to develop more efficient water distribution and wastewater treatment systems as one way to combat ongoing water shortages.

Additionally, China's rising use of water on all three fronts, domestic use, industrial use, and agricultural use, directly translates to higher volumes of wastewater that require treatment and makes the "quality adjusted" supply-demand gap even worse, China's industrial and domestic water users annually discharge in excess of 50 billion tons of wastewater into China's lakes, rivers and reservoirs. Much of this wastewater continues to be inadequately treated, leading to as much as 70% of those water bodies suffering dangerous levels of water contamination, 21 percent of available surface water resources nationally are unfit even for agriculture, and leaving up to 300 million people without access to safe drinking water.

As China has been increasingly paying attention to its water scarcity, which leads to increasing supply-demand gaps as well as the environmental issues associated, more effective water monitoring, management, extraction, treatment and distribution as well as wastewater treatment technologies are coming into great demand.

1.2. Market Drivers

In 2008, China's tap water production and supply industry, which includes the collection and purification of natural raw water (extraction), treatment, and supply of treated water to residents, corporations, and other end-users (distribution), recorded total revenue of USD 9.687 billion. A total of 1,629 enterprises were reported to be engaged in these sectors.

In 2008, the sewage treatment, processing, and recycling industry (wastewater treatment) sector recorded total industry revenue of USD 1.137 billion, with a total of 1,050 enterprises engaged in this sector.

China's water technology sector is driven largely by the country's growing demand for more efficient means to access, deliver and dispose of water. This has grown as a result of increased demand for water for consumption, industrial and agricultural uses, as well as the government's recognition that it is essential to develop systems that can more effectively deal with the dual issues of water scarcity and water pollution.

As direct market drivers, the Chinese government's 11th Five Year Plan (FYP), which ran from 2006-2010, the anticipated 12th FYP (2011-2015), and the economic stimulus package after the 2008 world financial crisis all contain elements aimed at increasing government spending in the water industry.

The 11th FYP laid out an estimated RMB 1 trillion total investment from 2006 to 2010. Included in this was RMB 300 billion investment in sewage and water reclamation projects, and RMB 100 billion for the upgrading of the current water supply network infrastructure. The plan also made way for larger investments in projects designed to divert water to cities experiencing water shortages.

In late 2008 the Chinese government unveiled its RMB 4 trillion stimulus package, created to combat the impact of the global slowdown on China's domestic economy. The package included RMB 20 billion for rural water conservation projects aimed at reinforcing water reservoirs, conserving key irrigation areas and improving drinking water safety. RMB 370 billion was earmarked for rural infrastructure, which includes water supply, and RMB 350 billion was earmarked for environmental protection projects, including municipal water and wastewater treatment projects.

Currently the government is in the process of drafting its 12th FYP, which will run from 2011-2015. Government investment in the water industry is expected to remain strong. Current estimates put total spending on environmental protection to more than double under the plan, reaching over USD 450 billion. This increase will certainly benefit the water industry, specifically the wastewater treatment sector.

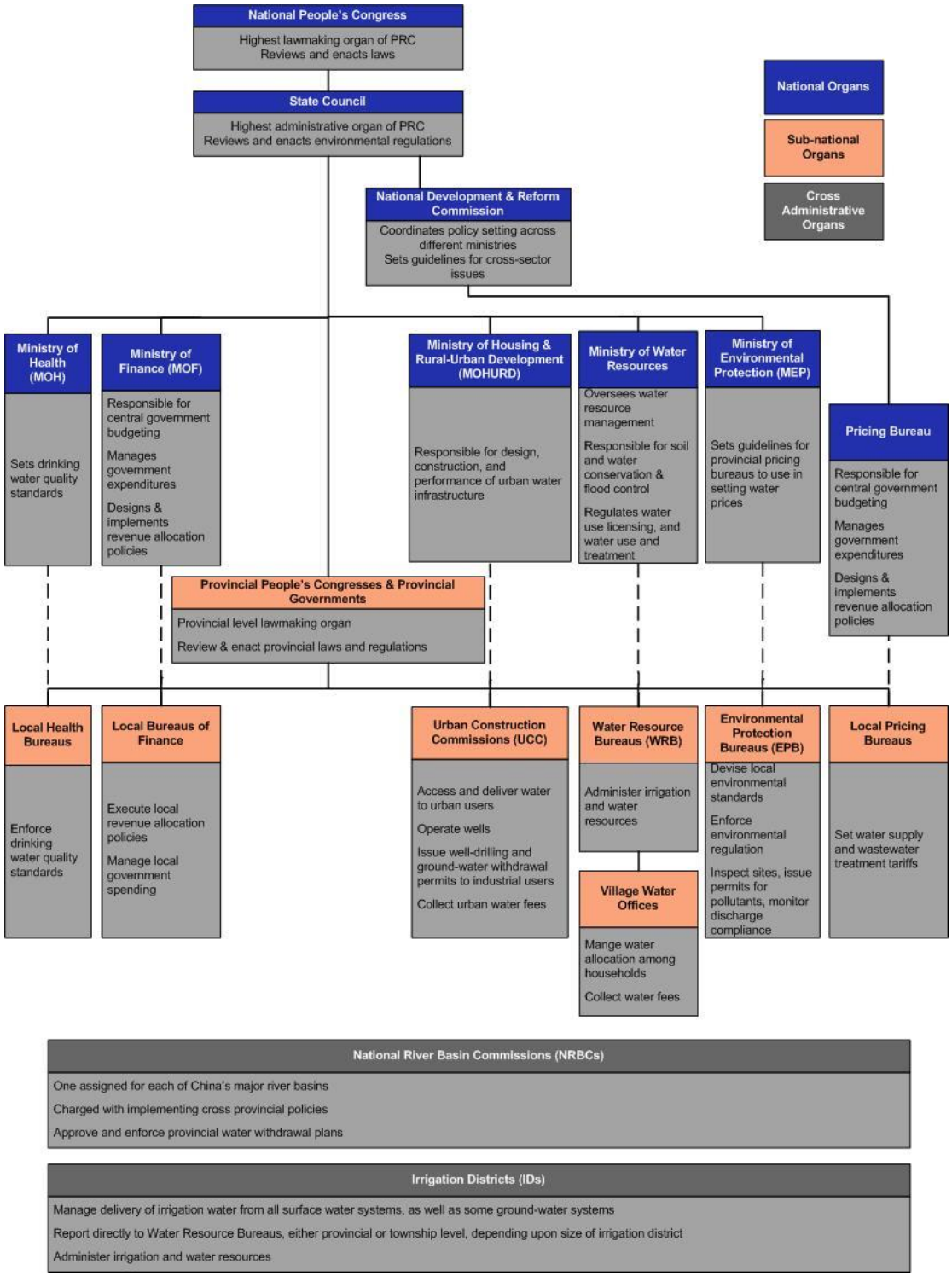
Meanwhile, the Chinese government is also in the process of drafting a Strategic Emerging Industry Development Plan to promote sustainable development. Environment protection and clean water supply will be one of the government-endorsed strategic growth sectors for which the government will introduce more incentive policies, such as tax exemptions, to boost sector development.

Last but not the least, the government began a new round of water price adjustment in 2009. At the beginning of the year, major cities such as Shanghai and Tianjin raised water prices. Many other cities plan to follow suit and have held public hearings on the issue. According to the National Development and Reform Commission (NDRC), the central government agency in charge of controlling water prices, this increase in water prices is an effort to promote water conservation and the sustainable use of water resources. Rationalizing water prices will definitely have a positive impact and boost China's water sector development.

1.3. Regulatory Overview

China's water industry spans a broad value chain, impacting a range of areas in Chinese society, including health issues, pollution, natural resources, budgets, and more. As such, the industry is regulated by a range of government organs, both at the national and sub-national level.

The below diagram illustrates the key regulators of the water industry, and their relevant responsibilities



The water industry is subject to a number of laws that impact the extraction, distribution, use, and treatment of water in China. A summary of the key laws is provided below:

Laws Relevant to China's Water Industry

Water Law (2002)

- Clarifies water rights belong to the state
- Prioritizes municipal water supply over water for agricultural and industrial use
- Specifies ministries and regional governments' roles and responsibilities in water resource management

Clean Production Law (2002)

- Defines means of clean production
- Sets forth incentives for clean production, in the forms of tax cuts and subsidies

Appraising Environmental Impact Law (2002)

- Makes environmental impact reporting and mitigation planning a mandatory prerequisite to receiving approval for urban-rural planning and construction projects.

Urban Rural Planning Law (2007)

- Makes water source planning and water systems planning a compulsory element of general urban and rural planning
- Gives water supply and sewage systems the highest priority in rural town construction

Water Pollution Control Law (2008)

- Highlights local government and enterprises accountability for pollution
- Formalizes the national water quality mechanism
- Requires local governments to establish centralized municipal wastewater treatment facilities

Circular Economy Law (2009)

- Establishes requirements for quantitative water use management and water saving facilities in industrial plants
- Establishes the principles of encouraging water conservation in mining, construction, and irrigation, utilizing tax cuts

In addition to the above laws, a wide range of regulations, and other legal instruments, orders and standards issued by various central and local ministries and government agencies guide water sector actors in the implementation of high-level policies. A non-exhaustive list of these regulations is provided below:

- Regulations for Water-taking Licensing and Water Resource Fees;
- Water Volume Allocation Method (Temporary);
- Several Comments on Water Right Transfer by Ministry of Water Resources;
- Temporary Administrative Method of Water Volume Allocation;
- Implementation Details of the Water Pollution Control Law;
- Regulations on Huaihe Basin Water Pollution Control;
- Regulations on Yellow River Basin Water Pollution Control;
- Regulations on Preventing Sea Pollution From Land Pollution Sources;
- Regulations on Natural Reservation Area Management;
- Regulations on Medical Waste Management;
- Quality Standards for Drinking Water;

- Quality Standards for Surface Water; and
- Quality Standards for Municipal Water Supply.

1.4. Market Challenges

1.4.1. Water Pricing Mechanism

China's water pricing mechanism is far from market-oriented, and water prices have been kept artificially low, which industry experts agree generally limits the healthy growth of the industry.

Furthermore, the individual components of water prices do not include all the components present in more developed countries. In the late 1980s, China's water tariffs were solely comprised of water supply fees. In 1997, a wastewater treatment fee was added, and a water resource fee was added in 2002. Currently however, water distribution, sewage and water management costs are not explicitly covered by China's water end-user payments.

However, China has seen a general trend of water price hikes over the past year. In January 2010 Beijing raised residential water rates by 8%, following proposed or implemented water price hikes in Shanghai, Lanzhou, some cities in Heilongjiang, and others. China is continuing to study ways to establish the optimal water pricing mechanism in order to more effectively manage water scarcity.

1.4.2. Geographic Disparity

While China as a whole faces severe water scarcity problems rooted in rapid industrialization, its solution to the water problem must be explored at the basin or sub-basin level due to China's huge geography and extreme regional differences.

In southern China's Yangtze and Pearl River basins where there is sufficient surface runoff, surface water levers that can help capture the areas' plentiful resources will dominate as water supply solutions. In northwest and northeast China, groundwater levers will be the main drivers of supply, although over-extraction in the regions has already put pressure on groundwater supplies. In the most water-scarce regions, the Hai, Huang and Huai basins will require significant water transfers (from Southern China), wastewater recycling and seawater usage solutions to fill the demand gap.

Case study

South-to-North Water Transfer Project: Northern China is home to 538 million, one-fourth of the country's grain production and half of its produce production, but only 20% of Southern China's water resources per capita. In comparison, areas south of the Yangtze River, which account for only 36.5% of the country's total territory, have 80.9% of its total water resources.

To solve the problem, the government is building a massive project to artificially divert water from regions along the Yangtze River to northern China. This water diversion project includes three routes—eastern, central and western. The nearly 1,500-kilometer-long eastern route runs from Jiangsu to Shandong Province. The central route is more than 1,400 kilometers long, and stretches from Hubei Province to Beijing and Tianjin. The western route, proposed to run through the Qinghai-Tibet Plateau, is still being researched and assessed due to potential negative environmental impacts. The terms of the original plan approved by the State Council in 2002 specified that water from the Yangtze River should flow along the eastern and central routes by 2007 and 2010, respectively. But in 2008, project officials postponed the deadlines until 2013 and 2014 based on further evaluation.

Starting this year, the government will speed up construction of the project over the next three years. This year alone, more than RMB 50 billion will be invested in the project. (The government has already pumped more than RMB 60 billion, about USD 9 billion, into the project as of the end of 2009.)

But some experts say the water diversion project will not fundamentally solve the water shortage problem. They believe that the country should also put more effort into water conservation and preventing water pollution because the diverted water may be not economical to use—the water that will be diverted from the Yangtze River to Beijing will cost about RMB 5-6/m^3, while purified wastewater costs only RMB 3/m^3.

1.4.3. Wastewater Treatment Woes

Wastewater treatment plants are generally paid on the basis of water volume intake only, with little quality control over the degree to which the wastewater is effectively treated. This current system encourages wastewater treatment plants to take in as much wastewater as possible and perform the minimum treatment required.

Generally speaking, the wastewater treatment sector continues to be unprofitable, which further discourages investment in the sector and limits the introduction of much-needed technologies that could improve the overall quality of service in the sector.

1.5. Market Trends and Opportunities

Because the greatest drivers of water demand growth in China are industrial and urban demand, China's major solution to deal with the water supply-demand gap

should be based on managing rapidly growing demand from industrial and urban sources and improving water usage efficiency in industry and municipal systems.

In the Chinese agricultural sector, the high demand for water is driven in part by China's use of flood irrigation as the main irrigation approach. Sprinkler and drip-irrigated farms make up less than 5% of the total for wheat, corn, vegetable and oil crops.

Hence, cost effective innovation in water technology – everything from supply (such as desalination) to industrial efficiency (such as more efficient water recycling) to agricultural technologies (such as crop protection and irrigation controls) could play a major role in closing the supply-demand gap.

In order to introduce new technologies and expand project-funding channels, the Chinese government began to explore cooperation with private corporations and financers, including foreign players, in 2000. Water officials have explicitly encouraged foreign participation in China's water markets, especially in wastewater treatment projects.

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In 2007, a large wastewater treatment plant developed as a "public-private partnership" opened in Guangzhou. This plant was built by the Guangzhou Wastewater Treatment Co., Ltd, a partnership between the provincial government and Earth Tech, a subsidiary of Tyco International. The plant was built as part of a broad effort to reduce the flow of untreated sewage into the Pearl River and is a build-operate-transfer (BOT) agreement in which the plant will be transferred to the government in 17 years.

Veolia, another leading international water company, has been aggressively seeking joint ventures in China and now has more than 20. They have announced that their Asian business, which currently accounts for less than 2% of its global activities, could grow to as much as 20% in coming years. Veolia projects are being developed in Beijing, Shanghai, Tianjin and Shenzhen. One project, a renovated water supply plant in Tianjin, now supplies drinking water to 1.8 million people. In another agreement, Veolia set up a joint French-Chinese venture to build a series of water projects, including urban and industrial wastewater treatment plants, desalination facilities, water treatment equipment, and water management services in Teda Economic Development Zone. The joint venture, called the Tianjin Teda Veolia Water Co., Ltd., is aimed at providing the Chinese with management expertise and project financing. Total expenditures may grow to nearly RMB 2 billion.

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In order to expand the water supply, China is also beginning to explore desalination as a source of coastal water supply. Large facilities have been proposed along the coast of cities and provinces such as Tianjin and Zhejiang.

The government promulgated a regulation in 2004 to prohibit new thermal power stations from using underground water for cooling in China's coastal regions, which has became one of the major drivers for the boom in desalination projects in recent years.

The desalination plant proposed for Xiangshan, Zhejiang province is to be the largest in China, with a production capacity of 100,000 m^3/day. Unlike most desalination plants currently in development, which use reverse osmosis membranes, the Xiangshan facility will use multi-stage flash distillation, using heat from an existing power plant.

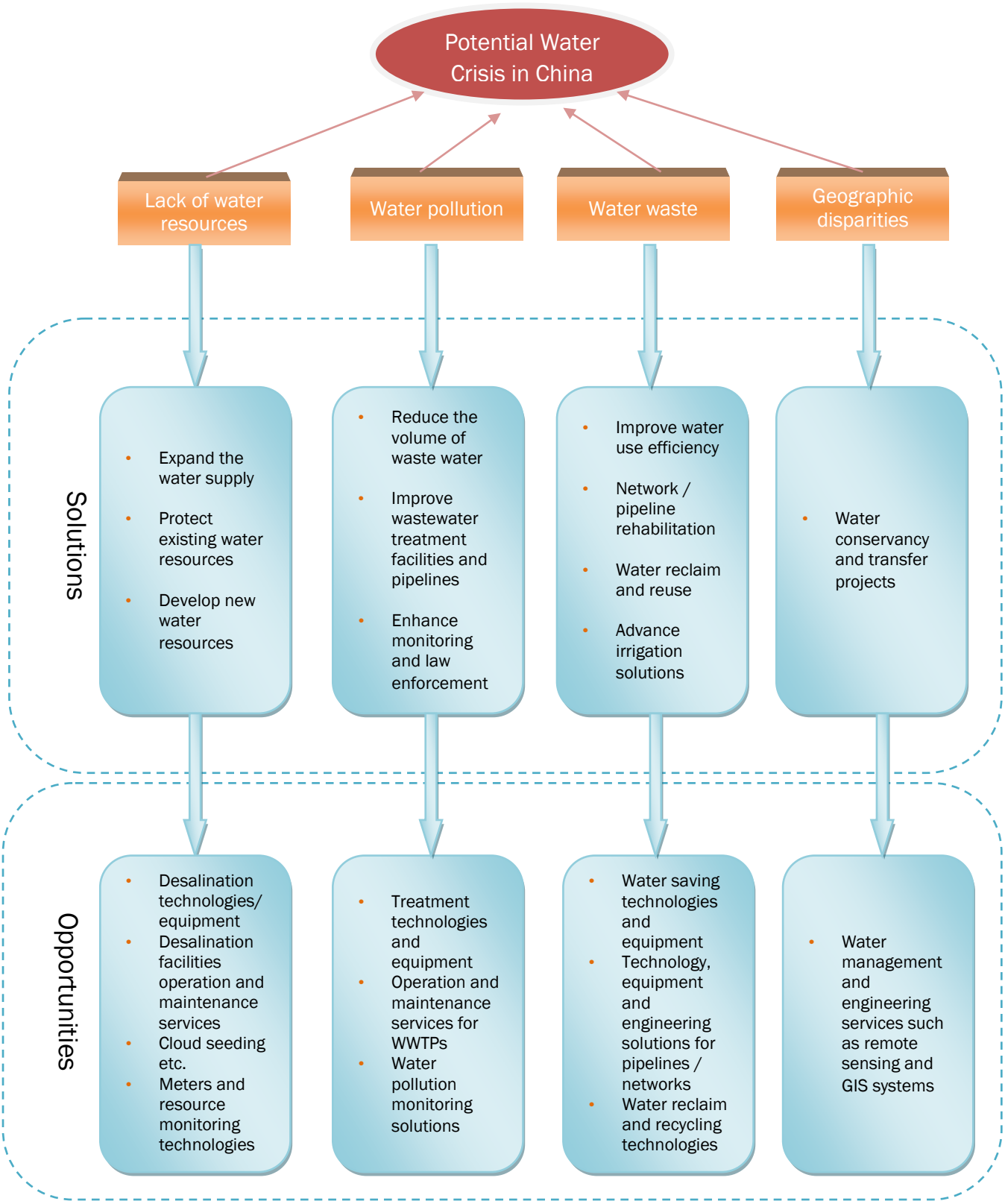
Initial estimates are that the plant will cost RMB 1.1 billion and the cost of water will be around RMB 6/m^3. The water will be blended with local water supplies and will be sold for RMB 2.5/m^3, with the government bearing the cost of the subsidy.

Although there are still many economic subsidies in China that encourage water inefficiency, many Chinese cities have begun raising the price of water significantly since 2009. The government also announced that rationalizing water price will be one of the top priorities for its resource price mechanism reform agenda in the next 2-3 years in order to encourage more efficient water use. There are therefore vast opportunities to provide technologies and equipment to improve the efficiency of water use in China.

Case study:
In China, there is significant need to reduce municipal water leakage. With a technical potential of 9.2 billion m^3 per year, the market size could be as large as $1.8 billion per year. With a 22% rate of return, this opportunity to improve efficiency will be attractive for municipal utility entities. The biggest constraint to broader network rehabilitation and pipe replacement is currently a lack of awareness among utilities of the benefits of leakage reduction.

Any innovative technologies or equipment aimed at detecting and repairing leaks should be welcomed by utility companies in China, especially since these solutions are becoming cheaper and easier to implement. Utility companies may particularly open to service providers that offer them solutions for a share of the achieved savings, rather than through fixed technology and equipment payments.

Meanwhile, the Chinese government has also been actively introducing more severe rules and penalties to change the status quo, adapting new water standards and enhancing its environmental law enforcement. All of these moves will drive market demand for new technologies and equipment in the wastewater treatment sector. Membrane technology, for example, is still 2-3 times more expensive in China than traditional treatment technologies, but as the need for high-quality water treatment increases, especially for potable or high-quality industrial use or recycling, low pressure membrane technology could develop a market potential of up to 85 billion m^3 by 2030, 56 times its volume in 2005.


Potential Water Crisis in China
Lack of water resources
Water pollution
Water waste
Geographic disparities
Solutions
Expand the water supply
Protect existing water resources
Develop new water resources
Reduce the volume of waste water
Improve wastewater treatment facilities and pipelines
Enhance monitoring and law enforcement
Improve water use efficiency
Network / pipeline rehabilitation
Water reclaim and reuse
Advance irrigation solutions
Water conservancy and transfer projects
Opportunities
Desalination technologies/ equipment
Desalination facilities operation and maintenance services
Cloud seeding etc.
Meters and resource monitoring technologies
Treatment technologies and equipment
Operation and maintenance services for WWTPs
Water pollution monitoring solutions
Water saving technologies and equipment
Technology, equipment and engineering solutions for pipelines / networks
Water reclaim and recycling technologies
Water management and engineering services such as remote sensing and GIS systems

2. Water Extraction

2.1. Overview

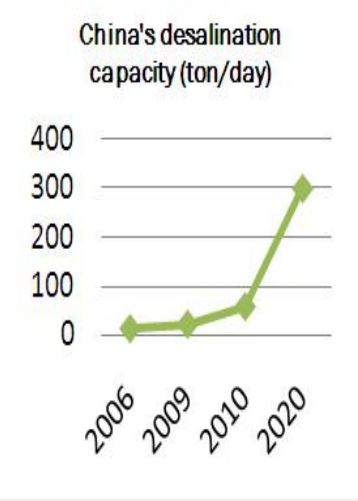
Water in China is extracted from a variety of sources, including surface water, groundwater, rainwater and seawater. Surface water and groundwater supply the majority of China's domestic, industrial and agricultural water consumption needs. China's total water supply in 2008 amounted to 582.8 billion m^3, with surface water and groundwater respectively composing 81.2% and 18.3% of total water consumption. Other water extraction sources include rainwater and seawater, which together make up just 0.5% of the national supply.

Faced with severe surface water scarcity and the groundwater overdraft problem, the Chinese government has shown an increasing interest in promoting the utilization of other water sources. In fact, pilot projects for rainwater and seawater utilization have already been conducted across the country.

Pilot Attempts on Rainwater and Seawater Utilizations

Rainwater Utilization: Rainwater has long been considered as a key solution to the aridity in Gansu Province in Northwest China, and the provincial government has in recent years initiated a series of projects collecting rainwater. The province's "121" rainwater collection project, which started in 1995, is said to have provided drinking water to 15 million residents and irrigation water to 10,000 hectares of agricultural land.

Seawater Utilization: Till 2009, China already has 72 seawater desalination system in operation with total capacity of 240,000 tons/day, and there are another 56 seawater desalination facilities either under construction or project preparation phase, amongst there will be 10 projects have capacity of 100,000 tons per day each, and the largest one will be located in Tianjing with a capacity of 400,000 tons per day. This recent booming of seawater desalination projects is mainly drove by the government's policy to control the thermal power plants (new and expansion projects) from using underground water. Lots of China's mega thermal power plants are building up or considering to build the seawater desalination facilities.



All water resources in China are by law owned by the state. The central government grants water extraction rights to local organizations and entities,

which then extract water for self-use. For a long period of time, the water rights system was inflexible, with very vague provisions governing the transfer of water extraction rights in China's regulatory system. This together with the low water resource fee charged for water extraction led to the lack of economic incentives for water conservation. Water rights owners had limited interest in water conservation unless the total volume extracted came near exceeding the pre-allocated quota.

In the past few years, the Chinese government has begun to codify the water rights market by introducing formal processes for water rights sales and related government supervision. This has resulted in the emergence of water concession rights markets at the provincial, municipal and end-user levels. However, significant obstacles still remain. One key difficulty faced by these markets is accurate monitoring and measurement of the volumes extracted at individual levels, which is crucial for the prevention of unauthorized water use.

Water extraction, with the exclusion of seawater desalination, which currently supplies a minimal portion of China's water consumption needs, is the least expensive stage of the water use cycle (the others being water treatment, water distribution, water use and wastewater treatment). This is largely due to the low water resource fee charged to water rights owners and the comparatively small capital investment required for setting up and operating the extraction points. Due to the low end-user water prices set by local governments, water extraction is generally not a profit-generating business and depends heavily on government subsidies.

2.2. Market Structure

Water extraction in China is mainly controlled by state-owned enterprises with some direct involvement of foreign and private players. However, **private and foreign companies are in general quite active in the provision of technologies, services and equipment to water extractors**. Typical examples of these include *underground source identification services*, *extraction technologies*, and *water source measurement*.

The water extraction industry is highly fragmented in terms of geographic allocation, which is a direct result of the geographically based administrative allocation of water rights to market participants in China. Higher degrees of concentration are found in the components and services markets serving the extraction industry, such as *well-drilling* and *high pressure pump manufacturing*. Concentration will also likely be seen in industries providing *desalination technologies and equipment* as China continues to promote seawater utilization at the larger industry scale.

2.3. Emerging Industry Trends and Opportunities

Due to China's enormous population, a major contributor to China's low water resource per capita, the Chinese government has historically placed water supply at the core of its work priorities. As overall water consumption needs continue to increase along with China's rapid economic development, water scarcity will

continue to be a major problem impacting all aspects of the society despite the increasing emphasis of the Chinese government on water pollution control.

In 2008, China's water resource-related fixed assets investments totalled RMB 71.42 billon, up 72.1% from 2007. This upward trend is expected to continue in the coming years. At the same time, regulators have begun providing incentives to increase water supply by promoting the utilization of alternative water sources to supplement China's supply of surface water and groundwater. Therefore, increased opportunities will be presented for technology, services and equipment providers specializing in water extraction from alternative sources, namely rainwater (including cloud seeding) and seawater. Growth is also expected in surface water and groundwater-related sectors, including deep well drilling, water monitoring, etc.

Provided below is a brief list of potential growth areas in China's water extraction market.

Opportunities

Groundwater Exploration: Location identification and measurement of underground water sources should become increasingly important as China's water use intensifies.

Drilling & Pumping: Increased water use often causes water tables to recede to greater depths, which drives increased need for in-depth drilling and high-pressure pumping technologies.

Cloud Seeding: As a form of weather modification that is used to increase precipitation, cloud seeding is actively applied across China. Yet, both materials and processes used for cloud seeding are expensive, which creates room for the development of more cost-effective solutions.

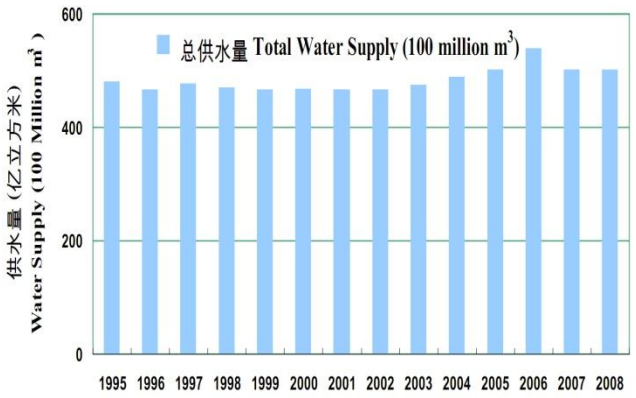
Desalination: Despite the government's interest in promoting seawater use, the current high cost of desalinated water has encumbered the promotion of seawater use on a large scale. Thus, technologies reducing energy use, the most expensive part of the desalination process, will be increasingly important.

GIS (Geographic Information System)-based Water Monitoring System: This includes software programming, pollution sensors and flow volume measurements that can improve regulators' ability to track and control pollution in China's water sources.

3. WATER TREATMENT

3.1. OVERVIEW

From 1996 to 2007, China's urban water supply volume was maintained at about 460 billion m^3/year with a compound annual growth rate of 0.68%. Despite the slow increase in the total volume of water treated, industry sales jumped from RMB 40 billion in 2003 to RMB 62.4 billon in 2007, with a compound growth rate of 11.78%. This rapid increase was largely due to the government's attempt to increase water treatment fees. However, with the low price of water at the consumption end, which directly impacts all upper stages of the water supply chain, water treatment plants are still operating on low profit margins. Profitability is expected to improve in the coming years with regulators beginning to roll out a new round of water pricing reform, which is aimed at increasing water prices to effectively reflect water supply costs and address environmental concerns.



China's current drinking water standards, which were introduced in 2007 and contains 106 water quality indicators, are generally in line with international standards, with looser requirements on a few contaminants such as 1,2-dichloroethane, arsenic and tetrachloroethylene. However, it is not yet compulsory in China for all water treatment plants to fully comply with these standards. For selected contaminants, provincial governments are given the discretion to decide their own implementation timelines based on local considerations with the date of full compliance set at no later than July 1, 2012.

Comparison Between Chinese and International Standards (for selected contaminants)

Category	Contaminant	WHO	EU	US EPA		Japan	China
		(mg/L)	(mg/L)	MCLG (mg/L)	MCL or TT (mg/L)	(mg/L)	(mg/L)
Organic Chemicals	Acrylamide	N/A	0.0001	0	0.0005	0.0005	0.0005
	Benzene	N/A	0.001	0	0.005	0.01	0.01
	Benzo(a)pyrene (PAHs)	N/A	0.00001	0	0.00002	N/A	0.00001
	1,2-dichloroethane	N/A	0.003	0	0.005	0.004	0.03
Inorganic Chemicals	Antimony	0.005	0.005	0.006	0.006	0.015	0.005
	Arsenic	0.01	0.01	0	0.01	0.01	0.05
	Cadmium	0.003	0.005	0.005	0.005	0.01	0.005

	Chromium (total)	0.05	0.05	0.1	0.1	0.05	0.05
Others	Tetrachloroethylene	N/A	N/A	0	0.005	0.01	0.04
	Aluminum	0.2	0.2	0.05-0.2	N/A	N/A	0.2
	Chloride	250	250	250	N/A	N/A	250
	Copper	2	2	1	1	N/A	1

The 2012 deadline is considered a real challenge for the industry given the current low levels of technology used by most water treatment plants in China. These plans depend heavily on mechanical water treatment technologies, a treatment method that is relatively inexpensive but cannot be used in isolation to produce potable water. This will thus drive the need for more *advanced water treatment technologies and equipment*, which represents a significant opportunity for foreign companies.

With respect to point-of-use water treatment, the most common method used in China is boiling, an effective method of water purification. With increasing living standards however, Chinese consumers are placing increasing value on healthier water, driving greater adoption of more advanced point-of-use systems. This will be especially true for systems that consume less energy or are more cost-effective than boiling.

3.2. Market Structure

Similar to the water extraction industry, the water treatment industry also features a high degree of fragmentation. Many cities have their own primary water treatment plant, which is directly affiliated with the local government. As a result, even the largest participants in the water treatment industry have single digit shares of the national market.

In the past, water treatment was considered to be a sensitive sector by the Chinese government, which has led to state-owned entities dominating the industry. However, many private and foreign players are also involved in the market as designers, builders, operators and technology suppliers of water treatment plants. The build-operate-transfer (BOT) model was once the most popular vehicle for private and foreign players to access the market. Under this model, non-state-owned entities invest, design and construct the water treatment plants, after which they operate the plants for specified periods of time to recover investment costs before the plants are transferred back to the state.

However, this has changed in recent years with the government in 2007 lifting the restriction on ownership of water treatment plants, which has resulted in a wave of industry participation by foreign and private entities. Public-private partnerships for water treatment are becoming increasingly common in first and second-tier cities.

3.3. Emerging Industry Trends and Opportunities

China's existing water treatment infrastructure was developed with substantial capital. Construction of water treatment infrastructure averaged about 0.4% of

national GDP from 1990 to 2005. However, the coverage rate of China's treated water supply is still low, especially in rural areas where only 43.7% of the population has access to treated water (as of the end of 2008). Thus, a significant amount of investment is still required to construct new water treatment facilities.

Another major driver of water treatment industry development is technological upgrade. Considering the government has set July 2012 as the deadline to achieve full nationwide compliance of its newly introduced drinking water standards, water treatment plants are under increasing pressure to upgrade their technology. According to an estimate by KPMG in 2008, *around 1,500 water treatment plants will have to invest in technology upgrade in order to meet China's new water quality standards*.

As mentioned above, with the Chinese population becoming increasingly concerned with personal health, there has been a trend for domestic households to adopt more advanced point-of-use water treatment systems to replace the traditional boiling method, thus creating a new market with significant potential.

Provided below is a brief list of potential growth areas in China's water treatment market.

Opportunities

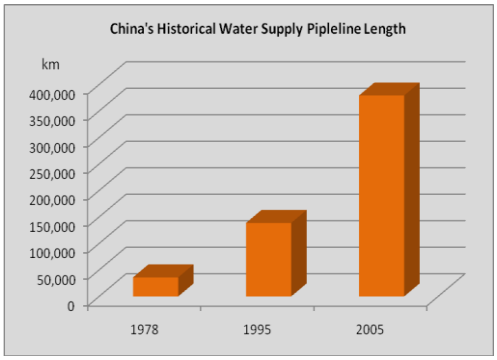
Biological Flocculation and Aeration: Flocculation and aeration remove organic pollutants that simple filtration technologies cannot. With China's new drinking water standards introduced in 2007, flocculation should play an increasing role in China's wastewater treatment market.

Point-of-Use Water Treatment Systems: Point-of-use water treatment solutions that provide healthier water and consume less energy than heat boiling is expected to gain increasing popularity among domestic households in China.

4. Water Distribution

4.1. Overview

Water distribution systems represent the link between water treatment and water use, with pipes and bottling being the two most common methods of distribution. The bottling method is used in the bottled water market and is not closely related to water service infrastructure. Therefore, for the purposes of this report we will focus on pipeline-based water distribution networks, the most basic form of water transfer.



The past two decades have seen an acceleration of water distribution infrastructure construction in China. By 2005, the total length of China's water

supply pipelines was 379,332 kilometers, more than 10 times the total length in 1978. With China's ongoing urbanization, the demand for continued water pipeline growth will certainly continue in the next 5 years at least.

Despite the rapid construction of pipelines, China's water distribution systems are often unprofitable. Major reasons for this include:

- Distribution networks in many cities are old and regularly leak substantial volumes of water;
- Non-revenue water (RNW) issues, where treated water is distributed but no payment is received; and
- Water meters are often inaccurate, which complicates payment for distribution.

Among the three problems mentioned above, water leakage perhaps damages profitability the most. As revealed by a water distribution survey conducted by the Ministry of Housing and Urban-Rural Development in 2009, which covered 408 Chinese municipal water distribution systems, an average of 21.5% of pipes had leakage problems with the annual leakage volume exceeding 10 billion m^3.

The leakage problem is partly due to the vague and incomplete regulatory system for water distribution. Although current regulations specify that municipal water administrations have the ultimate authority over construction of new water supply systems, no explicit responsibility is allocated with respect to the maintenance and repair of leaking pipes. In addition, challenges related to monitoring pipeline conditions and locating decaying pipeline segments have also contributed to the severe leakage problem.

4.2. Market Structure

Water distribution systems in China are operated by state-owned enterprises, which also dominate system design and construction. There have been limited cases in top-tier cities of foreign participation in the development or operation of water distribution networks. Although regulations allow foreign investment in water distribution through minority interest (up to 49%) in joint ventures with state-owned utility companies, low profit potential limits the inflow of private and foreign capital.

China's water distribution industry also features a high degree of fragmentation, with very few operators holding stakes in multiple water distribution systems around the country. Low industry concentration is also present in the basic materials and components (namely pipes and valves) sectors. Primarily due to the relative lack of high-tech elements embedded in the production of pipes and valves, as well as the local protectionism that is widely employed by local government officials and SOEs, local producers have generally been the preferred suppliers for local water distribution projects.

4.3. Emerging Industry Trends and Opportunities

With China's ongoing urbanization process and the Chinese government's continued interest in driving economic growth through infrastructure investment,

high-paced development is expected to continue for water distribution networks across China. This will lead to rapid growth in the water distribution equipment industry, especially the pipes and valves markets. As previously discussed however, the water pipes and valves markets are dominated by domestic players, leaving foreign companies with limited access to the market.

As with most other industries in China, the greatest opportunities for foreign players in the water distribution market exist in areas that require advanced technologies or deep experience and expertise, which most small Chinese players cannot offer. We have listed below potential areas of opportunity for foreign companies:

Opportunities

High-Efficiency Pumps: Although pumps are widely used in buildings and industry infrastructure, only 2-4% of pumps in China are highly energy efficient, which creates significant additional cost for water distribution. Upgrading to high-efficiency pumps will require upfront costs, but will generate long-term energy cost-savings. There is also potential cost-saving in ensuring the correct pump size and design for specific applications.

Advanced Water Measurement Technologies: Accurate water measurement in conjunction with volumetric pricing provides an incentive for conservation, which is seen by regulators as one solution to the country's water scarcity problems. Accurate measurement can also help detect leaks in distribution networks, providing a basis for the reduction of non-revenue water.

Network Leakage Detection and Repairs: By building up awareness among utilities of the benefits of leakage reduction, there is great market potential for the introduction of pipeline leakage detection and repair technologies and equipment to address China's estimated water leakage of 9-10 billion m^3/year.

Integrated Monitoring Systems: Integrated water distribution monitoring systems allow management companies to use computer-based modelling and simulation to predict the outcomes of different management scenarios by projecting sensitivities on variables such as conservation methods, population growth and consumption rates. It can also be used to track the location and condition of water mains, valves, hydrants, meters, storage facilities, sewer mains and manholes, which in turn helps to minimize the problems caused by leakage and non-revenue water.

5. WATER USE

5.1. OVERVIEW

China's water consumption is dominated by agriculture, but industrial and domestic consumption are expected to grow in importance. Industrial water use is projected to grow faster than total water use. Total annual water consumption is projected to increase from 554 billion m^3 in 2005 to 832 billion m^3 in 2050. Over

the same period, industrial consumption is expected to grow from 128 billion m^3 to 344 billion m^3.

Water intensive industries include industrial sectors that rely on water as a raw material, solvent, coolant, transport agent, and/or an energy source.

5.2. Market Structure

In China, many domestic players are involved in the irrigation market, one of the primary agricultural uses of water. Opportunities in this market, however, are complicated by the market's regionalism and fractured nature, making it difficult to develop national distribution channels.

Agricultural water use is more dominant in western China, while industrial and domestic use is more prevalent in eastern China. Foreign firms currently have little involvement in China's agricultural water use sector.

5.3. Emerging Industry Trends and Opportunities

Market demand for water-saving technologies is growing, driven partly by regulatory requirements. In big cities, population growth continues to drive demand for drinking water and water for industrial use. China's push for a green and sustainable economy provides an opportunity for firms to promote use of high technology in this sector to help conserve water resources.

One area with particular potential is irrigation improvement, which can conserve water, reduce environmental problems and boost food production. For example, China invested USD 23 million in 2008 in drip irrigation in Xinjiang and deployed sprinkler irrigation technologies for winter wheat crops in the North China Plain in 2006.

In addition, technologies to decrease domestic water use are growing in importance. For instance, there is growing demand for low-flow shower heads, water-saving toilets and faucet aerators. Also, point-of-use water treatment devices will become increasingly important with the ongoing implementation of China's new drinking water quality standard.

As with the other sectors, the greatest opportunities for foreign players exist in providing advanced technologies and equipment. We have listed below potential areas of opportunity for foreign companies:

Opportunities

Water-saving Technologies and Equipment: There is particular opportunity in promoting those suitable for various industrial water users, such as water-saving technologies and equipment for steel mills, power stations, chemical factories, etc; Huge markets also exist for innovative and cost effective water-saving technologies and equipment for residential users.

Advanced Irrigation Technologies and Equipment: In China, there is still great room for market expansion in the water-saving and high-efficiency irrigation solutions sectors. Although the market may be fragmented and cost-sensitive, the Chinese government is pushing hard to deploy more water-saving irrigation systems across the country.

6. WASTEWATER TREATMENT

6.1. OVERVIEW

According to the World Bank, China implemented roughly half of privately-funded water projects in low and middle-income countries from 1998 to 2008, which totalled nearly USD 8.6 billion in investment commitments.

More than 60% of the private water projects in China are sewage treatment plants, consisting of 181 of the 291 projects from 1998 to 2008.

This is due to the government's focus on the wastewater treatment sector, as well as the overall need to clean up the pollution and waste that was traditionally released directly into China's waterways. But the wastewater treatment has still lagged behind the growth of water supply, leaving substantial volumes of wastewater untreated.

Chinese government has a stated goal in its national 5 year development plan (2006-2010) of achieving 70% wastewater treatment for all cities with municipal governments by 2010. However, current wastewater treatment charges are set substantially below costs, making it unprofitable and lack of economic driver.

148 Chinese cities still do not have sewage treatment plants by end of 2009, Sewage treatment is also serious lacking in the rural areas, with only 29.1% of rural county wastewater treated by end of 2009.

6.2. MARKET STRUCTURE

In the larger population centers, like Chongqing, Shanghai, Beijing and Guangzhou containing a greater number of wastewater treatment plants. Major waterways, such as the segment of the Yangtze River upstream from the Three Gorges Dam, have also seen extensive public and private investment in wastewater treatment plants. For instance, Chongqing municipality has invested heavily in wastewater treatment in order to help clear the Yangtze River of pollutants.

According to the World Bank, most private water projects in China are implemented through joint ventures between a local municipal utility and a private company. Of the 291 projects between 1998 and 2008, 179 of the private companies were Chinese, 42 were from Singapore, 36 from France, 30 from the U.S., 25 from Malaysia and 11 from Germany. The largest foreign sponsors were Veolia with 19 projects, Suez with 16, Golden State Environment with 14, Asia Environment Holdings with 10, and Asia Water Technology with 8. A law passed in 2002 allowed these foreign investors to participate in the market, but they must have a Chinese JV partner that holds a majority share. These foreign firms are often involved in China's wastewater treatment market as technology providers, plant builders and facility operators.

		Total	Treatment plants	Water utilities
1	China	179	165	14
2	Singapore	42	39	3
3	France	36	25	11
4	U.S.	30	28	2
5	Malaysia	25	21	4
6	Germany	11	10	1
7	Spain	3	3	0
8	Canada	2	2	0
9	Australia	1	1	0
10	Japan	1	1	0
11	Korea	1	1	0
12	Saudi Arabia	1	1	0

Sponsors' home countries ranked by number of water projects in China, 1998–2008

6.3. EMERGING INDUSTRY TRENDS AND OPPORTUNITIES

The Chinese government has aggressive targets for the wastewater treatment sector, and China's high volume of untreated wastewater suggests more investment will be needed to achieve policy objectives.

More than 1,000 new WWTPs (representing an investment of RMB 330 billion) will be constructed by the end of 2010, and a focus on wastewater treatment is expected to continue in the 12th Five-Year Plan. In addition the government has earmarked RMB 370 billion for rural infrastructure construction including water supply, and RMB 350 billion for environmental protection, including wastewater treatment

China has also strengthened pollution regulations, which are being much more stringently enforced. For example, an increasing number of fines are being levied on firms that contaminate rivers and lakes. Also, all cities are required to levy wastewater treatment tariffs to help fund the construction and operation of WWTPs. Polluters will be placed on a 'black list', which will be made public by local media outlets, and companies that are in compliance with pollution regulations will be placed on a 'green list'.

Many types of wastewater treatment technologies are used in China. Physical wastewater treatment technologies are cheap, but fail to remove most harmful pollutants, while biological technologies can substantially increase effluent contamination. The majority of municipal and industrial plants treat settled sewage liquid using aerobic biological processes. Chemical treatment processes are necessary for China to meet water pollution reduction targets, but also contribute to pollution.

According to a report by *companiesandmarkets*, by the end of 2009, 148 cities in China (over 20%) still lacked sewage treatment plants. Moreover, although sewage treatment plants have been constructed in some cities, they are currently not operating. Over 70% of towns in China do not own sewage treatment plants. The Chinese Ministry of Housing and Urban-Rural Development requires that all of the 655 cities in China and 473 counties (towns) must establish urban centralized sewage treatment facilities. Therefore, towns with low sewage treatment capacity will provide opportunities for investment in the following years. With the improvement in Chinese sewage treatment standards, most sewage treatment plants will be upgraded and reconstructed, which will spur demand for investment.

Although rapid construction of sewage treatment plants will continue in 2010, the total demand for urban sewage treatment will not be satisfied. With China's strengthened energy-saving and emission reduction policies, Chinese large and medium-sized cities will see a decrease in the growth rate of sewage discharge, creating a more balanced supply and demand structure of urban sewage treatment. The demand for new sewage treatment plants in cities will therefore likely decrease after 2011. Meanwhile, Chinese government bodies at all levels have placed stricter requirements on the acceptable amount of sewage discharge, creating a huge demand for sewage treatment facilities in small Chinese cities, towns and rural areas.

The government had planned to build over 150 new wastewater treatment plants along the Yangtze by 2009, but over half of the planned facilities had not yet been built by early 2008. Opportunities for private investment exist along major waterways for projects of all sizes in smaller cities without developed wastewater treatment capabilities.

Although private Chinese and foreign firms compete as wastewater treatment technology providers, plant builders, and facility operators, the advanced

technologies and equipment, especially those specifically adapted for China, are very welcome. Below are some examples of the market needs in this area:

Opportunities

Municipal Wastewater Treatment:

- Biological denitrification and phosphorus removal technologies;
- Immobilized microbe technologies;
- Membrane manufacturing technologies;
- Sludge treatment and disposal equipment; and
- Automatic control equipment for water treatment.

Industry Wastewater Treatment

- High-concentration organic wastewater treatment technologies and equipment;
- Membrane separation technologies;
- Wastewater deep treatment and recycling technologies and equipment in industry sectors such as surface treatment, coal and mining, pulp and paper, metallurgy, petroleum exploitation, electronics, machining and chemicals.

Wastewater Pipeline Network Operation, Maintenance and Monitoring Technologies: These help to improve operational stability, reduce maintenance costs and deliver accurate monitoring information.

Wastewater Recycling: This sector is still in its infancy in China, so the required advanced treatment technologies and equipment, such as membrane separation devices, are much needed. In general, operational and maintenance technologies and equipment that are highly- efficient, low-cost and convenient to use have the greatest sales potential in China.

THE MOST INFLUENTIAL WATER COMPANIES OPERATING IN CHINA

北京首创股份有限公司 BEIJING CAPITAL CO., LTD http://www.capitalwater.cn Address: 7/F JingAn Center, 8 North Third Ring Road East, Beijing Tel:+86-10-64689035 Fax:+86-10-64689030	**Beijing Capital Co., Ltd.** A public company listed on the Shanghai Stock Exchange (Beijing Municipal Government is the majority shareholder) with total assets of RMB 12.9 billion, the company's main business is water supply and wastewater treatment. • Operates 17 municipal waste water treatment plants in 15 cities across China. • Water treatment capacity in 2009: 10 million m^3/day. • Target water treatment capacity in 2010: 15 million m^3/day.
BEWG 北控水务 http://www.bewg.com.hk Address: Room 4301, 43/F Central Plaza, 18 Harbour Road, Wanchai, Hong Kong Tel: (852) 2796 9963 Fax:(852) 2796 9972	**Beijing Enterprises Water Group, Ltd.** A public company listed on the Hong Kong Stock Exchange with market value of HKD 8 billion, the company's majority shareholder Beijing Enterprises Group is owned by the Beijing Municipal Government and is one of China's top utility companies. • Operates 50 water supply and wastewater treatment plants in Beijing, Guangdong, Zhejiang, Shandong, Hunan, Sichuan, Guangxi, Hainan, Guizhou and northeastern China. • Total water supply and wastewater treatment capacity at the end of 2009: about 7 million tons/day. • Wastewater treatment market share in China is about 6.5%. • Entered Malaysia market in 2009 to invest, build and operate 27 WWTP and pipeline networks in Malaysia with total contractual value of approximately USD 2 billion.
桑德集团 sound group http://www.soundgroup.com/ Address: Majuqiao National Environment Protection Industry Zone, Tongzhou, Beijing Tel: +86-10-60504736 Fax: +86-10-60505525	**Sound Group** Sound Group is a private company with listed arms on the Hong Kong Stock Exchange (Eguard Resources Development Co., Ltd.) and Singapore Stock Exchange (Epure International), and is the leading turnkey water and wastewater treatment solutions provider in China. As the top EPC contractor is the water sector, Sound Group has developed 40 water supply and wastewater treatment plants across China. The Group is also moving into the operational services sector based upon its EPC capabilities. In 2009, Sound Group entered into the Middle East market

	by winning a contract in Saudi Arab to upgrade the No.9 wastewater treatment plant in Tareeq Al-Mater with a total contractual value of RMB 560 million. The Group is aiming to further penetrate international markets in the coming years with a plan to have 40% of the Group's turnover be from international markets within the next 3 years.
www.sinofrench.com Address: 718, Avenida do Conselheiro Borja, Macau Tel : (853) 2822 0440 Fax : (853) 2823 4900	**Sino French Water Development Co. Ltd.** A JV established in 1992 between Suez Environnement and Hong Kong NWS Holdings, the company's core businesses across China include water production, full services, municipal sewage treatment, industrial water treatment services and investment. • 22 joint ventures in 16 Chinese municipalities. • Serving a population exceeding 14 million. • Full water and municipal sewage treatment services delivered in Northern Chongqing. • Industrial water and wastewater services provided to Shanghai Chemical Industrial Park (SCIP) - one of Asia's largest industrial parks.
http://www.veoliawater.cn Address: Room 1601-1608, Citic Square, 1168 Nan Jing Road West Shanghai 200041 Tel: +86 21-6193-8088 Fax: +86 21-6193-8000	**Veolia Water China** Veolia Water entered the China market in 1997. Today, Veolia Water operates in 20 Chinese provinces, municipalities, autonomous regions and special administrative regions, with over 11,000 employees in China. • Total population served by contracts in China: over 30 million people. • Total population served through a full management contracts (water production, water distribution, customer relations): over 21 million people. Veolia Water also has a JV with Beijing Capital Co., Ltd.
http://www.generalwater-china.com/ Address: A28/F, General International Center, 3 E Yonganli, Jianwai, Beijing Tel: +86-10-59254288	**General Water of China Co., Ltd.** JV established in 2003 between China Energy Conservation Investment Corporation(CECIC, a State Owned Enterprises HQ in Beijing) and Shanghai Industrial Holding Limited (public company listed in Hong Kong controlled by Shanghai municipal government).

Fax: +86-10-58795530	• Operates 16 water projects across China. • Capacity in 2009: 4.543 million tons/day.
http://www.chinahho.com Address: Water Plaza 16 Baiguanglu Bei Er Tiao, Xuanwu, Beijing Tel: +86-10-63203399	**China Water Investment Co, Ltd.** A state-owned water investment and management company under the Ministry of Water Resources. The company mainly engages in water industry investment and relevant value-added services, ranging from the exploitation and provision of raw water, inter-region water transfer, city water supply and drainage, and desalination. • Capacity in 2009: 4 million m^3/day.
http://www.sz-water.com.cn Address: Wande Plaza,1019, M Shennan Rd.Shenzhen Tel:86-755-82137777	**Shenzhen Water Investment Co., Ltd.** Investment arm of Shenzhen Water Group (holdings), which is controlled by the Shenzhen municipal government. • Capacity in 2009: Water supply of 7.71 million tons/day; wastewater treatment capacity: 2.04 million tons/day. • Operates 18 projects in 7 provinces and municipalities, serving 18 million people.
http://www.tjcep.com/ Address: 76 South Weijing Rd., Tianjin Tel: +86-22-23930126 Fax: +86-22-23930100	**Tianjin Capital Environmental Protection Limited** A public company listed in the Shanghai and Hong Kong Stock Exchanges, the majority shareholder is Tianjin municipal government. The company's core business is its WWTPs operating in Tianjin with capacity of approximately 1.49 million m^3/day. The company started to expand to other cities in China in 2003, and now has projects in southern, eastern and western China. It also began expansion into the water supply sector in 2005.
Address: 1 Longjiawan, Yuzhong, Chongqing Tel: +86-23-6386-0827 Fax: +86-23-6386-0827	**Chongqing Water Holding (group) Co., Ltd.** A public company listed in Shanghai Stock Exchange, the majority shareholder is Chongqing municipal government. • Operates 28 water supply plants and 36 wastewater treatment plants in Chongqing. • Capacity in 2009: water supply 1.439 million m^3/day; wastewater treatment 1.683 million m^3/day.

KEY INDUSTRY EVENTS

- Water Expo China
  - 2010 Nov 17-19, Beijing, China National Convention Center
  - Sponsored by Ministry of Water Resources
  - Website: http://www.waterexpo.cn/expo/djb.asp
- 2010 China International Environmental Protection Exhibition
  - 2010 June 24-26, Dalian
  - Sponsored by Chinese Ministry of Environmental Protection and the Dalian Municipal Government
  - Website: http://hjxf.net/expo/2009/1102/article_99.html
- Aquatech in China
  - 2010 June 2-4, Shanghai
  - Sponsored by waterex.cn
  - Website: http://www.waterex.cn/
- Western China (Chengdu) Water Supply, Drainage and Water Treatment Technical Equipment Exhibition
  - 2010 May 20-22, Chengdu
  - Sponsored by China Chengda (an engineering company)
  - Website: http://www.water-west.cn/index.html

MAJOR RIVER BASINS IN CHINA